Do they practice what they preach? The presence of problematic citations in business ethics research

Alexander Serenko
Faculty of Business and IT, University of Ontario Institute of Technology, Oshawa, Canada

John Dumay
Department of Accounting and Corporate Governance, Macquarie Business School, Sydney, Australia;
Department of Management, University of Bologna, Forlì, Italy;
Center for Corporate Reporting, Finance and Tax, Nyenrode Business Universiteit, Nyenrode, The Netherlands and
Department of Business and Management, Aalborg Universitet, Aalborg, Denmark

Pei-Chi Kelly Hsiao
Waikato Management School, University of Waikato, Hamilton, New Zealand, and

Chun Wei Choo
Faculty of Information, University of Toronto, Toronto, Canada

Abstract

Purpose – In scholarly publications, citations play an essential epistemic role in creating and disseminating knowledge. Conversely, the use of problematic citations impedes the growth of knowledge, contaminates the knowledge base and disserves science. This study investigates the presence of problematic citations in the works of business ethics scholars.

Design/methodology/approach – The authors investigated two types of problematic citations: inaccurate citations and plagiarized citations. For this, 1,200 randomly selected citations from three leading business ethics journals were assessed based on: (1) referenced journal errors, (2) article title errors and (3) author name errors. Other papers that replicated the same title errors were identified.

Findings – Of the citations in the examined business ethics journals, 21.42% have at least one error. Of particular concern are the citation errors in article titles, where 3.75% of examined citations have minor errors and another 3.75% display major errors – 7.5% in total. Two-thirds of minor and major title errors were repeatedly replicated in previous and ensuing publications, which confirms the presence of citation plagiarism. An average article published in a business ethics journal contains at least three plagiarized citations. Even though business ethics fares well compared to other disciplines, a situation where every fifth citation is problematic is unacceptable.

Practical implications – Business ethics scholars are not immune to the use of problematic citations, and it is unlikely that attempting to improve researchers' awareness of the unethicality of this behavior will bring a desirable outcome.

Originality/value – Identifying that problematic citations exist in the business ethics literature is novel because it is expected that these researchers would not condone this practice.

Keywords Citation analysis, Problematic citations, Inaccurate citations, Plagiarized citations, Mis-citations, Academic journals, Business ethics

Paper type Research paper

Introduction

Citations play a vital epistemic role because they enable communities of researchers to collectively construct knowledge by extending the work of previous scholars. As such, the

role and impact of citations are unarguable. However, several studies have discovered patterns of problematic citation behavior detrimental to the epistemic role of selecting and including citations. For example, Harzing (2002) notes that references in organizational behavior research are subject to academic myths and are perpetuated by misquotations and careless copying of citations. In ecology, Todd *et al.* (2007) report that more than 18% of citations do not support the original assertions. In marine biology, one in four citations is inappropriate (Todd *et al.*, 2010). In the knowledge management research, 30% of all citations are considered problematic (Serenko and Dumay, 2015). As anecdotal evidence, one of the authors of this study, when reading or reviewing the works of others, frequently comes across citations to his papers that make him shake his head because "I have never said that!" or "The title/volume/issue/page numbers are wrong!" In many cases, he noticed that such misinterpretations and errors have been replicated in multiple publications and do not appear to be mere coincidences. This situation likely resonates with many readers.

Regrettably, prior studies on citation behavior raise perplexing questions about the use of citations in a way that can impede the growth of knowledge. We refer to these practices collectively as *problematic citation behavior*. In this study, we focus on two types of problematic citations: inaccurate citations and plagiarized citations. Inaccurate citations refer to mistakes in citation entries, such as wrong author names, publication venues, years, titles, volumes, issues and page numbers, most of which appear due to trivial oversight and negligence. Plagiarized citations represent a distinct category of problematic citations because these occur when authors copy and paste erroneous citation entries from other publications, carrying forward the errors in their own work. It is possible that offending authors may not have consulted the original work as we would expect obvious errors, such as omission of words in article titles, to be avoided if one has consulted the original document. As such, plagiarized citations represent an extreme category of problematic citations. Both inaccurate and plagiarized citations hamper the development of science.

There are several drivers of problematic citations. Some authors may be negligent when inputting citations in their manuscripts or in their citation software (e.g. EndNote), leading to errors that resulted from a mere oversight, typos or poor habits of not verifying citation entries for accuracy. It is also possible that some authors have not consulted the original work, perhaps due to no access to the required publication, the constantly growing "publish or perish" pressure that favors sheer output over accuracy, or pure laziness. Many authors erroneously assume that other researchers always correctly interpret and cite other people's works, and therefore, they may copy arguments and citations from secondary sources with impunity instead of reading the original publication. The peer-review process does not always flag these issues as busy reviewers have no time and incentive to verify all cited sources. A problem with inaccurate citations is that they break the links between the original work and citing studies, making it difficult for researchers to locate the original source and distorting bibliometric indices. Of graver concern is when plagiarized citations result from failure to consult the original source, as this may lead to propagating mis-citations in subsequent publications, distorting original ideas to confirm the citing authors' line of reasoning, misapplying theories and methods and developing erroneous propositions and harmful recommendations (Sanz-Martín *et al.*, 2016; Smith and Banks, 2017; Hassan and Serenko, 2019).

Previous studies have documented the presence of inaccurate and plagiarized citations in various scientific disciplines (e.g. see Broadus, 1983; Prabha, 1983; Moed and Vriens, 1989; Drake *et al.*, 2013; Wilks *et al.*, 2017; Klitzing *et al.*, 2019; Logan, 2021; Montenegro *et al.*, 2021). However, there is a category of scholars that has yet to be investigated – the ones who conduct their studies in the domain of business ethics – who are supposed to be fully aware of the unethicality of using inaccurate and plagiarized citations. Business ethics scholars study, discover, improve and disseminate moral and ethical principles guiding people's decisions in various circumstances. As a result, they are expected to hold high ethical values and "practice

what they preach." In other words, business ethics authors are supposed to refrain from this pernicious behavior. If business ethics researchers do not participate in problematic citation behavior, it may be concluded that improving scholars' research ethics may be an effective way of addressing this problem. However, if, in contrast to expectations, business ethics researchers' problematic citation behavior is similar to that of scholars in other domains, it may be suggested that other avenues should be explored.

To investigate the topic of problematic citation behavior, this study empirically assesses the presence of problematic citations in the published works of business ethics scholars. By analyzing 1,200 randomly selected references in three leading business ethics journals, it presents empirical evidence on the citation behavior of business ethics researchers. The purpose is to remind and re-sensitize researchers and authors to the epistemic role of selecting and including citations and to raise their awareness of how the epistemic value of citations can be diluted or destroyed by problematic citation behavior.

Literature review

Citations play a key role in contemporary scholarly research. Citation practices gradually gained importance as the body of knowledge accumulated and research traditions evolved (Cronin, 1984; Nicolaisen, 2007). The origin of referencing the work of others can be traced to the 12th century (Grafton, 1997), but, initially, citations were rather an exception. Prior to the 16th century, scholars generally utilized previously documented knowledge and facts without formally acknowledging their origin (Williams, 2011). With the advent of academic journals, this situation drastically changed, and authors were expected to acknowledge the source of the facts, concepts and examples mentioned in their published work to convince the reader that these were credible and interpreted correctly. For example, the back matter of the inaugural volume of Philosophical Transactions of the Royal Society, the world's oldest English-language academic peer-reviewed journal founded in 1665, which is still in-print (Oldenburg, 1665; da Costa Andrade, 1965) [1], contains a bibliography that may be considered the earliest instance of formally institutionalized citation practices in the English-language scholarly literature. In 1675, in a letter to English philosopher Robert Hooke, Isaac Newton described the process of extending the work of previous scholars as *standing on the shoulders of the giants who have gone before* (Turnbull, 1959). In 1743, citation indexing of legal cases was invented, followed by the introduction of a full-fledged legal citation index in 1860 (Shapiro, 1992). Eventually, citations have become an irrevocable part of scholarly documentation (Price, 1961, 1963; Small, 2010) and are currently considered "a structurally embedded component of the primary communication process" (Cronin, 1998, p. 49).

For over half-a-century, scientometric scholars have tried to understand the role of citations in academic publications. In his pioneering work, Garfield (1965, p. 189) identified 15 functions of citations:

(1) Paying homage to pioneers;

(2) Giving credit for related work;

(3) Identifying methodology and equipment;

(4) Providing background reading;

(5) Correcting one's own work;

(6) Correcting the work of others;

(7) Criticizing previous work;

(8) Substantiating claims;

(9) Alerting to forthcoming work;

(10) Providing leads to poorly disseminated, poorly indexed or uncited work;

(11) Authenticating data and classes of fact;

(12) Identifying original publications in which an idea or concept was discussed;

(13) Identifying original publication or other work describing an eponymic concept or term;

(14) Disclaiming work or ideas of others; and

(15) Disputing priority claims of others.

A large volume of empirical work on researchers' citing behavior attests to the important role of citations in contemporary academic publications. Such empirical attempts may be classified into two general streams: (1) content analysis of publications to understand the role of cited sources in the context of a particular citing work and (2) surveys and interviews of scientists to comprehend their citing behavior (Bornmann and Daniel, 2008; Willett, 2013). As a result, Garfield's list has been modified and extended. For example, Peritz (1983) introduced a comparative category of citations that are used to contrast one's arguments with those in previous studies. Moravcsik and Murugesan (1975) and Cano (1989) proposed and validated a taxonomy of citations based on their function (conceptual vs operational; organic vs perfunctory; evolutionary vs juxtapositional; confirmative vs negational). Lipetz (1965) identified 29 unique citation types grouped into four general categories, and Harwood (2009) combined the functions of citations into 11 clusters where each was further split into multiple sub-categories.

Scholars' citing behavior may be explained from the perspectives of normative theory and social constructivist theory (MacRoberts and MacRoberts, 1987; Nicolaisen, 2007; Bornmann and Daniel, 2008). Normative theory posits that citations serve symbolic and instrumental functions in the dissemination and expansion of knowledge (Merton, 1988, 1993; Merton and Sztompka, 1996; Small, 2004). The symbolic function serves as an attribution of intellectual credit to the author whose work is being used to develop further ideas. A citation is similar to a socially patented incentive provided by the peers for those who contribute to the body of knowledge. According to the instrumental function, a citation is not merely a grace note, it informs the reader about the work he or she had not been aware before. Normative theory also assumes that authors select and cite the most relevant sources that influence the development of their intellectual thought and, as a result, the citation selection process is based solely on the merit and contribution of each cited work.

By contrast, the social constructivist view on citation behavior doubts the assumptions behind normative theory and questions the use of citations as a proxy for quality, impact, intellectual debt and recognition (Knorr-Cetina, 1981, 1991). It suggests that the cognitive content, quality and influence of a published work has little impact on how it is perceived and utilized by prospective citers because "scientific knowledge is socially constructed through the manipulation of political and financial resources and the use of rhetorical devices" (Baldi, 1998, p. 830). Instead of giving an intellectual credit to the most relevant work they used, authors exhibit various personal biases and use citations as a tool of persuasion to advance their self-interest (Gilbert, 1977).

In a utopian academic world, normative citation behavior should be the gold standard and the only standard existing in scholarly literature. Unfortunately, a growing volume of empirical evidence demolishes such an idealized portrait of the contemporary academia because the citation selection process is often influenced by political, interpersonal and social factors independent of the quality, relevance and fit of the cited work (Case and Higgins, 2000; Liu and Rousseau, 2013). A number of previous studies have concluded that citing behavior is

very unpredictable, complex, multidimensional and prone to external and internal biases (White and Wang, 1997; Erikson and Erlandson, 2014), which supports the social constructivist perspective. Thus, the social constructivist view represents a useful lens of analysis to understand the nature of problematic citation behavior.

There are two types of problematic citations: inaccurate citations and plagiarized citations. *Inaccurate citations* refer to mistakes in citation entries, such as wrong author names, publication venues, titles, years, volumes, issues and page numbers (Logan, 2021). Inaccurate citations appear when authors are *merely negligent* when entering citation information and, as a result, make mistakes. For example, they may get distracted when entering citation information in their reference software and lists of cited works or make accidental typos. Some may not verify their citation entries as they consider compiling a list of cited works a trivial exercise not worthy of their time, cognitive resources and physical effort. In fact, many researchers create reference lists after completing their manuscripts when they are exhausted and would like to get these works off their desks as soon as possible. While it is common practice to copyedit the entire manuscript by securing help from colleagues and professional copyeditors, the verification of the accuracy of citation entries and reference lists has not received due attention. For instance, the issue of citation accuracy is rarely emphasized in North American doctoral programs. As a result, a number of empirical studies have reported the alarmingly high error rates in citation lists of academic publications in various disciplines (e.g. see Stull *et al.*, 1991; Wilks *et al.*, 2017; Montenegro *et al.*, 2021). However, such inaccurate citations are a result of a mere oversight rather than a deliberate research misconduct.

Plagiarized citations appear when authors take shortcuts and copy a citation to a primary source (e.g. a theory) from a secondary source (e.g. a paper discussing this theory) without consulting the former and paste this citation into their own text, which creates a false impression that they actually studied the original document (Rekdal, 2014a). Regrettably, both empirical research and anecdotal evidence attest to the existence of citation errors that are reproduced in multiple independent publications. The most logical explanation for the existence of repeated (i.e. identical) errors in citation entries in works of independent authors is that these authors do not read the documents they cite and copy the entire citation entry from a secondary source (i.e. from someone else's reference list) (Ramos *et al.*, 2012; Liang *et al.*, 2014) – a behavior commonly referred to as *citation plagiarism* (Rekdal, 2014a) or secondary/tertiary citing (Hoerman and Nowicke, 1995; Klitzing *et al.*, 2019). Several previous empirical investigations reveal the abundance of plagiarized citations in academic literature. For instance, Moed and Vriens (1989) observed that 5% of all citations are plagiarized, and that the errors propagate for several years. Moreover, many authors make use of the same plagiarized citations repeatedly in multiple publications. Eventually, the error rate attenuates because some authors realize and correct the mistake. Broadus (1983) discovered that the proportion of plagiarized citations may be as high as 23%. Prabha (1983), who surveyed 19 faculty members of the department of business administration on their citing behavior, showed that researchers tend not to directly consult the sources that play a peripheral role in their papers. Drake *et al.* (2013) state that 8% of the original sources cited by ecology researchers were not read. More recently, Klitzing *et al.* (2019) documented the citation behavior of 112 researchers from experimental psychology, educational sciences and social psychology and concluded that around one-third of them take shortcuts by citing secondary sources without reading or with only partial reading – an astonishingly high number. Simkin and Roychowdhury (2005) go as far as to conclude that up to 90% of citations in scientific publications are copied from the reference lists of other papers.

There are several factors that can explain authors' engagement in citation plagiarism. First, some of them may be simply too lazy to check the original source and read it in detail. Instead, it is much easier to skim through someone else's summary of the findings,

paraphrase it and copy the corresponding citation – the phenomenon referred to by Gavras (2002) as the *lazy author syndrome*. Second, many works may be unavailable due to subscription restrictions of the researchers' institutions, and they choose to engage in citation plagiarism instead of ordering and obtaining access to a personal copy. Third, due to a recently growing trend of the "quantification of science" where the expectations of faculty research output are borderline realistic and are measured in the number of articles placed in certain journals (Cuellar *et al.*, 2019; Serenko, 2019), scholars simply have no time to read each source they cite. Fourth, the truth-default theory posits that when people interact with others, they assume that what the others communicate to them is generally true (Levine, 2014). This truth-default mode facilitates efficient communication and cooperation because most people are honest most of the time. Thus, when researchers read other scholars' works, they assume that all statements, including those supported by cited sources are generally correct and, to save time and mental effort, they can fully rely on the secondary source because it is likely to be as correct as the original work. Moreover, they may assume that all citation entries are also accurate and may be, therefore, copied with no repercussions. In most cases, issues resulting from plagiarized citations are never corrected during the peer-review process because reviewers, who are continuously bombarded with review invitations, never have time to deliberately check the accuracy of citations unless they recognize their own or familiar works, which they may correct from memory.

Problematic citations that result from both negligence and plagiarism are detrimental to the growth of science. It is for this reason, the seventh (most recent) version of the *Publication Manual of the American Psychological Association* (i.e. APA 7) states that "[a]uthors are responsible for all information in their reference lists," and they must "check each reference carefully against the original publication" (APA, 2020, p. 285). The consequences of problematic citations for the growth of science may be truly devastating. Inaccurate citations make it difficult for the reader to locate and access the cited works. Further, inaccuracies in author names, publication venues, years, titles, page numbers, etc. break the links between the original work and studies that cite it, resulting in automated citation indexes and databases, including Scopus and Web of Science, omitting or misclassifying citations to their indexed publications (Li *et al.*, 2010) with the error rate as high as 7% (Buchanan, 2006). These errors bias various metrics, such as the journal impact factor, coveted and advertised by many journals on their homepages as a third-party quality endorsement (e.g. see Del Giudice, 2020). Meta-analysis studies and structured literature reviews may produce inaccurate reports simply because their authors are not able to locate all relevant works. Individual researchers may not be able to accurately calculate their citation impact metrics, such as the *h*-index and the *g*-index, which are frequently needed for reporting, hiring, and promotion and tenure purposes. In some cases, researchers' citation counts may be overstated when they are undeservingly given credit for others' contributions (Teixeira *et al.*, 2013). The reader of articles containing inaccurate citations may spot the problem and question the credibility of the entire work, including its findings and recommendations. This reflects poorly not only on the authors but also on the journals accepting such manuscripts (Davies, 2012).

The use of plagiarized citations further impedes the growth of scientific knowledge (Hassan and Serenko, 2019). Because citation plagiarists do not consult the original work, they infer others' interpretation of the source and thereby replicate previous mistakes or introduce new misunderstandings of the initial idea (MacRoberts and MacRoberts, 1986; Wetterer, 2006). The literature is rife with examples of "academic urban legends" where the original meaning was distorted to such a degree that it hindered the development of science (Rekdal, 2014b). For instance, the South African education policy formally contains the "Gibbons' list" of skills that are necessary in the 21st century, but the problem is that Michael Gibbons, who is cited as the list's developer, never created it. Instead, the list of skills emerged as a result of multiple misquotations of his work when others relied on secondary citations

and further extended them, making the original message completely unrecognizable (Masters, 2005). In marine ecology, the empirical works on the state of jellyfish population were misconstrued to such a degree that a proposition that jellyfish blooms "appear to be rising in some areas" turned into a definitive assertion that there is a "global rise in jellyfish" (Sanz-Martín *et al.*, 2016, p. 1040). For several decades, the quote "let food be thy medicine and medicine be thy food," which was fabricated by medical researchers and erroneously attributed to Hippocrates of Cos, a Greek physician who is generally considered the father of Western medicine, has been propagated through plagiarized citations and mistakenly helped scientists conflate food with medicine (Cardenas, 2013). The distortion of scientific evidence through plagiarized citations may also incorrectly influence public policy, overlook a government action that is needed and trigger an unnecessary intervention (Smith and Banks, 2017).

On the one hand, the magnitude of offences involving problematic citations is disproportionately small compared to outright fabrication, blatant large-scale plagiarism and data falsification, which have plagued academia since the birth of science (Hamblin, 1981). Having a few incorrect citations or statements in a paper is unlikely to warrant a formal retraction or trigger a research misconduct investigation. On the other hand, the presence of problematic citations is still detrimental to the scientific progress, and, as shown above, the unanticipated consequences of the use of inaccurate and plagiarized citations may be more far reaching than the offenders envisioned. While a discussion of the legality of such practice is beyond the scope of this study, it is apparent that such behavior is, at a bare minimum, highly unethical.

There is a group of scientists who presumably hold a high ethical standard and, therefore, are unlikely to engage in immoral practices of using inaccurate and plagiarized citations: such researchers may be found in the field of business ethics. Business ethics is a formal business administration discipline that took its root in the 1970s when a small group of academics became concerned with various organizational ethical issues (Paul, 2004). As the volume of business ethics research has accumulated, peer-reviewed management journals solely devoted to various business ethics issues emerged (Serenko and Bontis, 2009). Based on the recommendation of the Association to Advance Collegiate Schools of Business (AACSB International), a required business ethics component was integrated into the business school curriculum, and the discipline attracted much attention of both academics and practitioners after the 2008 global financial crisis (Chan *et al.*, 2010). Currently, business ethics exhibits the attributes of a healthy academic discipline, including a place in academic programs (Owens, 1998; Moore, 2004), a set of journals (Beets *et al.*, 2016), popular research topics (Liu *et al.*, 2019) and influential institutions and scholars (Calabretta *et al.*, 2011).

The reason why business ethics scholars are more likely to refrain from the use of inaccurate and plagiarized citations than their colleagues from other research domains may be explained from the perspective of Rest's (1986) conceptual model of ethical decision-making. It suggests that one's ethical decision is an outcome of four distinct, sequential steps: (1) recognizing moral issue, (2) making moral judgment, (3) establishing moral intent and (4) engaging in moral behavior. This model is simple yet robust, and it has been extended and applied in various areas of human activities (e.g. see Jones, 1991; Butterfield *et al.*, 2000). Of particular importance is the first step because people's ability to identify a moral issue is related to the degree of their moral awareness (Reynolds, 2006), defined as "a person's recognition that his/her potential decision or action could affect the interests, welfare, or expectations of the self or others in a fashion that may conflict with one or more ethical standards" (Butterfield *et al.*, 2000, p. 982). During their routine teaching and research activities, business ethics scholars are continuously exposed to various ethical concepts, theories and scenarios and, as a result, they learn how to both consciously and subconsciously recognize them and use the related information in subsequent ethical

decision-making. As a result, they should be highly sensitive and alert when they face ethical dilemmas.

The negligent use of citations and citation plagiarism represent a form of ethical dilemma. On the one hand, engaging in such behavior may save researchers' time, resources and mental effort. On the other hand, such practice is formally considered unacceptable because it impedes the development of science (Hassan and Serenko, 2019), and business ethics scholars are expected to automatically recognize this issue and denounce such conduct. By contrast, their counterparts from other disciplines are likely to exhibit a lower degree of moral awareness and are less likely to condemn and abstain from such pernicious behavior. Thus, in the context of the present study, it seems reasonable to assume that business ethics scholars who conduct research in ethics and teach ethics courses are more likely to behave ethically than researchers from other disciplines. As such, they are expected to avoid engaging in various questionable and illicit practices, including problematic citation behavior, exercise due citation diligence and always consult the original sources. However, to the best knowledge of the authors of this study, the notion of problematic citations has never been explored in the business ethics domain. So, do business ethics scholars practice what they preach? As Albrecht *et al.* (2011, p. 581) argue, "we scholars of business ethics have not devoted much empirical scrutiny to our field itself." Thus, this study empirically investigates the issue of negligent citations and citation plagiarism in business ethics research.

Methodology

In total, 400 unique references were selected from each of the three top business ethics journals – *Business and Society*, *Business Ethics Quarterly* and *Journal of Business Ethics* (Beets *et al.*, 2016) – referred to as BEJ1, BEJ2 and BEJ3, non-respectively (i.e. BEJ1 may not correspond to *Business and Society*). Thus, the dataset included 1,200 unique references in total. Only references to peer-reviewed journal articles were selected because these can be traced to the publisher's website, which enabled the assessment of the officially published PDF document. For each journal, two references were selected from each article's reference list, starting from articles published in 2005 until 400 references were collected (up to the year 2014). This range allowed for the assessment of the behavior of business ethics authors over a longer time and minimized the impact of potential outliers appearing in one particular article, journal issue or journal volume. This range also helped to identify other works containing identical title errors that were published before and after the examined article.

Each reference was selected by means of an automatic number generator in MS Excel. For example, if an article contained 50 references, two random integers between 1 and 50 (inclusive) were generated. If the same number was obtained twice in a row, or if the number corresponded to a non-peer-reviewed journal article, the procedure was repeated. Each selected reference was assessed based on three general criteria: (1) referenced journal errors (journal name/volume/issue, publication year, page numbers), (2) article title errors and (3) author name errors (first/last names, missing/additional (i.e. non-contributing) author(s), author order). The correct article data were obtained directly from PDF versions of the officially published articles downloaded from the publisher's website.

Two types of article title errors were analyzed: minor grammatical errors that do not change the article's meaning, such as common typos, and major errors, such as missing, additional or completely incorrect words. For each title error, two additional tests were done. First, all other academic works (articles, books, book chapters, conference proceedings papers) containing exactly the same title error in their reference lists were identified by entering the problematic title into the Google Search engine in quotes, and each entry was carefully examined. The purpose was to count how many other references in academic works contain exactly the same error. Second, the year of the earliest work containing the same

incorrect title was recorded and compared with that of the examined BEJ article. The rationale is that if the work containing the incorrect entry was published before the BEJ article, it is likely that BEJ authors copied it from the previous publication instead of reading and consulting the original.

Analysis and results

On average, 21.42% of references contained at least one error – BEJ1 (26.75%), BEJ2 (20.25%) and BEJ3 (17.25%) as per Table 1. The most common error pertained to the referenced journal (13.83%), with incorrect page numbers (6.83%) being the leading error. Other errors included incorrect publication year, volume and issue numbers. Of the references, 7.5% had title errors. Out of them, half contained minor title errors (i.e. typos), and half had major title errors, such as missing or additional words that changed the title's meaning. Two-thirds of minor title errors were repeated in other publications (range: 1–20; mean = 7; median = 4). Many publications containing the same minor errors as in the examined article were published before the examined BEJ articles. For example, the article titled "International diffusion of ISO 14000 certification" published in *Production and Operations Management* was mis-cited as "International diffusion of ISO 14001 certification" 14 times since 2001, and the examined BEJ article was published in 2011. It is extremely unlikely that 14 individual researchers, including the authors of the examined BEJ article, accidently made the same mistake.

A similar pattern was observed in references containing major title errors. Almost two-thirds of all major title errors were mirrored in other publications (range 1–30; mean = 6; median = 4), and many of the papers containing major title errors appeared before the examined BEJ articles. For instance, one article published in BEJ2 in 2010 cited the following

	BEJ1	BEJ2	BEJ3	Average
Referenced journal errors (%)				
Incorrect page numbers	7.00	6.50	7.00	6.83
Incorrect year of publication	2.25	2.00	1.00	1.75
Incorrect journal volume	2.25	0.50	1.50	1.42
Incorrect journal issue	2.50	0.00	1.50	1.33
Missing journal volume	0.75	2.25	0.00	1.00
Incorrect journal name (missing or incorrect words, excluding misplaced/inconsistent commas, ampersands, colons, semicolons and hyphens)	1.00	0.50	1.00	0.83
Missing page numbers	0.50	1.00	0.50	0.67
Total	*16.25*	*12.75*	*12.50*	*13.83*
Article title errors (%)				
Minor title errors (minor grammar errors, such as typos that do not change the title's meaning, excluding misplaced/inconsistent commas, ampersands, colons, semicolons, hyphens and added/missing articles)	5.75	3.25	2.25	3.75
Major title errors (missing or additional words)	4.75	5.50	1.00	3.75
Total	*10.50*	*8.75*	*3.25*	*7.50*
Author names errors (%)				
Incorrect author(s) first name(s)	2.50	1.25	1.00	1.58
Incorrect author(s) last name(s)	2.75	1.50	2.25	2.17
Missing or additional (i.e. non-contributing) author(s)	1.25	0.25	0.50	0.67
Incorrect author order	0.25	0.50	0.00	0.25
Total	*6.75*	*3.50*	*3.75*	*4.67*
References with at least one of the errors above	*26.75*	*20.25*	*17.25*	*21.42*

Table 1.
A list of errors

work "Loyalty and identity: Reflections on and about a theme in Fletcher's loyalty" as "Loyalty and identity: On and about a theme in Fletcher's loyalty" (i.e. omitting the word "Reflections"). Out of four citations to the original work, three also contained the same error, with the first erroneous work published in 2007. In another example, the article "Is greener whiter yet? The sustainable slopes program after five years," which appeared in *Policy Studies Journal* in 2006, has been often mis-cited as "Is greener whiter? The sustainable slopes program and voluntary environmental performance of Western ski slopes" since 2011, whereas the examined BEJ2 article was published in 2012. This suggests that the BEJ2 authors possibly copied this citation from a previous publication without verifying the original source, as did the authors of the subsequent publications.

Discussion

In 1942, Katherine Frost Bruner published an article titled "Of psychological writing: Being some valedictory remarks on style" offering some advice to writing scholars, emphasizing, among other things, the importance of consulting and correctly citing all primary sources (Bruner, 1942). Ironically, even many scholars who also wrote on the same topic did not practice what they preached by relying on the secondary citations of her work, instead of reading the original publication (Rekdal, 2014c), which was difficult to access electronically. Similarly, our analysis of 1,200 random references from three leading business ethics journals confirms that business ethics researchers do not exercise due diligence when citing their sources, and they are not immune to the problem of citation plagiarism.

It was observed that 21.42% of citations in business ethics journals have at least one error. In the other academic disciplines, the following rates of citation errors in articles published in peer-reviewed journals have been reported: sport science – 12% (Zasa, 2015); astrophysics – 12.2% (Abt, 1992); medicine – 26.8% (Samad *et al.*, 2013), 29.7% (Vargas-Origel *et al.*, 2001) and 41% (Luo *et al.*, 2013); public health – 31% (Eichorn and Yankauer, 1987); biomedical informatics – 34.3% (Aronsky *et al.*, 2005); dentistry – 42% (Doms, 1989); library and information science – 45.3% (Davies, 2012); and psychology – 77.24% (Harinarayana *et al.*, 2011). On average, the rate of citation errors reported in all other studies was 35.79%. In general, business ethics fares well compared to the other disciplines because its researchers exercise more due diligence than their colleagues from many other scholarly domains. However, a situation when every fifth citation may be considered problematic is still unacceptable. The incorrect author names, years, volumes, issues and page numbers are not trivial mistakes and, as discussed earlier, the presence of such errors in academic publications impedes the growth of knowledge.

Most importantly, two-thirds of minor and major title errors were replicated in other publications, many of which had been published before the examined business ethics articles. It seems extremely improbable that such inaccuracies were duplicated in independent publications due to sheer negligence or trivial oversight. Instead, it is likely that these errors occurred when business ethics scholars used (inaccurate) secondary sources to reference such mis-cited works. Recall that 3.75% of the examined articles contained minor title errors, while another 3.75% displayed major title errors – 7.5% in total. Since two-thirds of other works contained the exact title error and many of them had appeared before the examined article, this corresponds to an estimated rate of citation plagiarism of 5% (7.5% × 2/3) based on article titles alone. While it is possible to insist on the non-plagiarism origin of the other types of errors (e.g. wrong volumes, issues and page numbers), repeated title errors represent a definite case of citation plagiarism. Thus, if an article contains 60 citations, it can be concluded that, on average, at least three of them are likely to be plagiarized by business ethics authors. Thus, when one posts a question "Do business ethics scholars practice what they preach?," a likely answer would be "not really."

This study does not rule out the role of normative theory, which posits that scholars select and cite the most relevant works that contribute to the development of their intellectual thought (Merton, 1988, 1993; Merton and Sztompka, 1996; Small, 2004), as an explanation for researchers' citing behavior. However, the findings strongly support the social constructivist perspective, which contradicts normative theory and emphasizes the influence of various external factors on the citation process (Knorr-Cetina, 1981, 1991). Such external factors may pertain to the inaccessibility of a required source, the "publish or perish" culture, reviewers' inability to check all cited sources and researchers' erroneous belief that other authors always correctly cite other people's work. As a result, they occasionally engage in citation plagiarism by manipulating cited sources in order to persuasively convey a desired message (Baldi, 1998).

The perplexing question – how to eliminate or reduce problematic citation behavior in the contemporary academic environment? – remains unanswered. Initially, we assumed that if business ethics researchers refrain from engaging in problematic citation practices, sensitizing researchers on relevant ethical issues may offer a potential solution. In contrast to expectations, our study showed that this course of action is unlikely to eradicate or substantially reduce this problem. Similarly, previous studies also failed to establish a link between ethical judgments and unethical behaviors (Mudrack and Mason, 2013). For instance, some studies documented no relationship between people's ethical disposition and their intention to infringe copyright (e.g. see Lysonski and Durvasula, 2008; Bateman *et al.*, 2013). Others reported that individuals who possess a high degree of ethical ideology do not always denounce unethical actions (e.g. see Davis *et al.*, 2001), and that moral philosophies have a very minor, if any, impact on ethical decision-making (e.g. see Vitell and Patwardhan, 2008). A possible explanation is that such behaviors are driven by implicit cognitive processes, which become automatic and take place beyond researchers' conscious awareness (Serenko and Turel, 2019, 2020). For some authors, negligent and plagiaristic citation behavior may have a low degree of moral intensity, which means that they consider referencing a trivial exercise not worthy of their attention and deliberate assessment (Morris and McDonald, 1995). Such authors do not pay attention to their action when they get sloppy entering citation information or when they mechanically copy and paste citations from other publications. This proposition, however, merits further investigation.

Like most academic endeavors, this study is not without limitations. First, there are many business ethics-centric journals (Beets *et al.*, 2016) that were not included in this study's empirical analysis. Second, many business ethics scholars publish their works in journals catering to other disciplines, e.g. general management and corporate governance. Thus, it would be beneficial to expand the selection of journals in future investigations. Third, this study documented the presence of problematic citation behavior in business ethics journals, but it did not explain why it takes place which may be achieved by conducting surveys and interviews. Fourth, there are other types of offences that involve the misuse of citations, such as coerced, flattery and recycled citations (White, 2001; Frandsen and Nicolaisen, 2011; Wilhite and Fong, 2012; Sugimoto and Cronin, 2013; Wren *et al.*, 2019), citation amnesia (Ginsburg, 2001; Garfield, 2002; Maes, 2015) and citation cartels (Perez *et al.*, 2019), which may be explored in follow-up studies. Nevertheless, this work sensitizes researchers on the importance of this issue and offers avenues for future empirical investigations.

Conclusion

The fact that problematic citation behavior, including the use of inaccurate citations and citation plagiarism, impedes the growth of knowledge, contaminates the existing knowledge base and disserves the science is undoubtful (e.g. see Wright and Armstrong, 2008; Hassan and Serenko, 2019). Such behavior confounds bibliometric indices, breaks the links between a

publication and studies that cite it, compounds errors in academic research methodologies, distorts results, and leads to erroneous recommendations. In this study, we present empirical evidence that business ethics researchers, who presumably represent a group of scholars holding high ethical values, are not immune to this problem, and that these authors are not taking enough time and care when writing up their manuscripts. In fact, it seems that problematic citation behavior is common in all disciplines. Problematic citations are a symptom of poor scholarly research practices that can devalue the paper, thus raising questions about the reliability, validity and ethical conduct of the entire research project. This study reminds writers and researchers about the epistemic role of citations and asks them to exercise vigilance and care when using citations to preserve and protect their epistemic function. Regrettably, it shows that it is unlikely that attempting to improve researchers' awareness of the unethicality of this behavior will bring a desirable outcome.

In conclusion, we would like to bring the reader's attention to the advice of Place (1916) who, more than a century ago, adamantly stated: "Verify your references... Verifying references means work, sometimes a good deal of work; but if your article and bibliography are to be worth anything they should be worth the work to make them so... If they are not worth the work, they are not worth printing" (p. 699).

Note

1. The first issue of Journal des Sçavans appeared in French two months before the inaugural volume of Philosophical Transactions of the Royal Society.

References

Abt, H.A. (1992), "What fraction of literature references are incorrect?", *Publications of the Astronomical Society of the Pacific*, Vol. 104 No. 673, pp. 235-236.

Albrecht, C., Thompson, J.A. and Hoopes, J.L. (2011), "Productivity and prestige in business ethics research: a report and commentary on the state of the field", *Business and Society*, Vol. 50 No. 4, pp. 580-606.

APA (2020), *Publication Manual of the American Psychological Association: The Official Guide to APA Style*, American Psychological Association, Washington, DC.

Aronsky, D., Ransom, J. and Robinson, K. (2005), "Accuracy of references in five biomedical informatics journals", *Journal of the American Medical Informatics Association*, Vol. 12 No. 2, pp. 225-228.

Baldi, S. (1998), "Normative versus social constructivist processes in the allocation of citations: a network-analytic model", *American Sociological Review*, Vol. 63 No. 6, pp. 829-846.

Bateman, C.R., Valentine, S. and Rittenburg, T. (2013), "Ethical decision making in a peer-to-peer file sharing situation: the role of moral absolutes and social consensus", *Journal of Business Ethics*, Vol. 115 No. 2, pp. 229-240.

Beets, S.D., Lewis, B.R. and Brower, H.H. (2016), "The quality of business ethics journals: an assessment based on application", *Business and Society*, Vol. 55 No. 2, pp. 188-213.

Bornmann, L. and Daniel, H.-D. (2008), "What do citation counts measure? A review of studies on citing behavior", *Journal of Documentation*, Vol. 64 No. 1, pp. 45-80.

Broadus, R.N. (1983), "An investigation of the validity of bibliographic citations", *Journal of the American Society for Information Science*, Vol. 34 No. 2, pp. 132-135.

Bruner, K.F. (1942), "Of psychological writing: being some valedictory remarks on style", *The Journal of Abnormal and Social Psychology*, Vol. 37 No. 1, pp. 52-70.

Buchanan, R.A. (2006), "Accuracy of cited references: the role of citation databases", *College and Research Libraries*, Vol. 67 No. 4, pp. 292-303.

Butterfield, K.D., Treviño, L.K. and Weaver, G.R. (2000), "Moral awareness in business organizations: influences of issue-related and social context factors", *Human Relations*, Vol. 53 No. 7, pp. 981-1018.

Calabretta, G., Durisin, B. and Ogliengo, M. (2011), "Uncovering the intellectual structure of research in business ethics: a journey through the history, the classics, and the pillars of Journal of Business Ethics", *Journal of Business Ethics*, Vol. 104 No. 4, pp. 499-524.

Cano, V. (1989), "Citation behavior: classification, utility, and location", *Journal of the American Society for Information Science*, Vol. 40 No. 4, pp. 284-290.

Cardenas, D. (2013), "Let not thy food be confused with thy medicine: the Hippocratic misquotation", *e-SPEN Journal*, Vol. 8 No. 6, pp. e260-e262.

Case, D.O. and Higgins, G.M. (2000), "How can we investigate citation behavior? A study of reasons for citing literature in communication", *Journal of the American Society for Information Science*, Vol. 51 No. 7, pp. 635-645.

Chan, K.C., Fung, H.-G. and Yau, J. (2010), "Business ethics research: a global perspective", *Journal of Business Ethics*, Vol. 95 No. 1, pp. 39-53.

Cronin, B. (1984), *The Citation Process: The Role and Significance of Citations in Scientific Communication*, Taylor Graham, London.

Cronin, B. (1998), "Metatheorizing citation", *Scientometrics*, Vol. 43 No. 1, pp. 45-55.

Cuellar, M., Truex, D. and Takeda, H. (2019), "Reconsidering counting articles in ranked venues (CARV) as the appropriate evaluation criteria for the advancement of democratic discourse in the IS field: a debate", *Communications of the Association for Information Systems*, Vol. 44, Article 10, pp. 188-203.

da Costa Andrade, E.N. (1965), "The birth and early days of the Philosophical Transactions", *Notes and Records of the Royal Society of London*, Vol. 20 No. 1, pp. 9-27.

Davies, K. (2012), "Reference accuracy in library and information science journals", *ASLIB Proceedings: New Information Perspectives*, Vol. 64 No. 4, pp. 373-387.

Davis, M.A., Andersen, M.G. and Curtis, M.B. (2001), "Measuring ethical ideology in business ethics: a critical analysis of the ethics position questionnaire", *Journal of Business Ethics*, Vol. 32 No. 1, pp. 35-53.

Del Giudice, M. (2020), *Journal of Knowledge Management - Report*, Emerald Publishing.

Doms, C.A. (1989), "A survey of reference accuracy in five national dental journals", *Journal of Dental Research*, Vol. 68 No. 3, pp. 442-444.

Drake, D.C., Maritz, B., Jacobs, S.M., Crous, C.J., Engelbrecht, A., Etale, A., Fourie, M.J., Furniss, D.G., Scott, S.L., Parusnath, S. and Tye, D.R. (2013), "The propagation and dispersal of misinformation in ecology: is there a relationship between citation accuracy and journal impact factor?", *Hydrobiologia*, Vol. 702 No. 1, pp. 1-4.

Eichorn, P. and Yankauer, A. (1987), "Do authors check their references? A survey of accuracy of references in three public health journals", *American Journal of Public Health*, Vol. 77 No. 8, pp. 1011-1012.

Erikson, M.G. and Erlandson, P. (2014), "A taxonomy of motives to cite", *Social Studies of Science*, Vol. 44 No. 4, pp. 625-637.

Frandsen, T.F. and Nicolaisen, J. (2011), "Praise the bridge that carries you over: testing the flattery citation hypothesis", *Journal of the American Society for Information Science and Technology*, Vol. 62 No. 5, pp. 807-818.

Garfield, E. (1965), "Can citation indexing be automated?", in Stevens, M.E., Giuliano, V.E. and Heilprin, L.B. (Eds), *Proceedings of the Symposium on Statistical Association Methods for Mechanized Documentation*, National Bureau of Standards, Washington, DC, pp. 189-192.

Garfield, E. (2002), "Demand citation vigilance", *The Scientist*, Vol. 16 No. 2, p. 6.

Gavras, H. (2002), "Inappropriate attribution: the 'lazy author syndrome'", *American Journal of Hypertension*, Vol. 15 No. 9, p. 831.

Gilbert, G.N. (1977), "Referencing as persuasion", *Social Studies of Science*, Vol. 7 No. 1, pp. 113-122.

Ginsburg, I. (2001), "The disregard syndrome: a menace to honest science?", *The Scientist*, Vol. 15 No. 24, p. 51.

Grafton, A. (1997), *The Footnote: A Curious History*, Harvard University Press, Cambridge, MA.

Hamblin, T.J. (1981), "Fake!", *British Medical Journal*, Vol. 283 No. 6307, pp. 1671-1674.

Harinarayana, N.S., Chikkamanju and Vasantha, R.N. (2011), "A study of citation accuracy in psychology theses submitted to the University of Mysore", *Annals of Library and Information Studies*, Vol. 58 No. 4, pp. 326-334.

Harwood, N. (2009), "An interview-based study of the functions of citations in academic writing across two disciplines", *Journal of Pragmatics*, Vol. 41 No. 3, pp. 497-518.

Harzing, A.-W. (2002), "Are our referencing errors undermining our scholarship and credibility? The case of expatriate failure rates", *Journal of Organizational Behavior*, Vol. 23 No. 1, pp. 127-148.

Hassan, N.R. and Serenko, A. (2019), "Patterns of citations for the growth of knowledge: a Foucauldian perspective", *Journal of Documentation*, Vol. 75 No. 3, pp. 593-611.

Hoerman, H.L. and Nowicke, C.E. (1995), "Secondary and tertiary citing: a study of referencing behavior in the literature of citation analysis deriving from the Ortega Hypothesis of Cole and Cole", *The Library Quarterly*, Vol. 65 No. 4, pp. 415-434.

Jones, T.M. (1991), "Ethical decision making by individuals in organizations: an issue-contingent model", *The Academy of Management Review*, Vol. 16 No. 2, pp. 366-395.

Klitzing, N., Hoekstra, R. and Strijbos, J.-W. (2019), "Literature practices: processes leading up to a citation", *Journal of Documentation*, Vol. 75 No. 1, pp. 62-77.

Knorr-Cetina, K.D. (1981), *The Manufacture of Knowledge: An Essay on the Constructivist and Contextual Nature of Science*, Pergamon Press, Oxford.

Knorr-Cetina, K. (1991), "Merton's sociology of science: the first and the last sociology of science?", *Contemporary Sociology*, Vol. 20 No. 4, pp. 522-526.

Levine, T.R. (2014), "Truth-Default Theory (TDT): a theory of human deception and deception detection", *Journal of Language and Social Psychology*, Vol. 33 No. 4, pp. 378-392.

Li, J., Burnham, J.F., Lemley, T. and Britton, R.M. (2010), "Citation analysis: comparison of Web of Science®, Scopus™, SciFinder®, and Google Scholar", *Journal of Electronic Resources in Medical Libraries*, Vol. 7 No. 3, pp. 196-217.

Liang, L., Zhong, Z. and Rousseau, R. (2014), "Scientists' referencing (mis)behavior revealed by the dissemination network of referencing errors", *Scientometrics*, Vol. 101 No. 3, pp. 1973-1986.

Lipetz, B.-A. (1965), "Improvement of the selectivity of citation indexes to science literature through inclusion of citation relationship indicators", *American Documentation*, Vol. 16 No. 2, pp. 81-90.

Liu, Y. and Rousseau, R. (2013), "Interestingness and the essence of citation", *Journal of Documentation*, Vol. 69 No. 4, pp. 580-589.

Liu, Y., Mai, F. and MacDonald, C. (2019), "A big-data approach to understanding the thematic landscape of the field of business ethics, 1982–2016", *Journal of Business Ethics*, Vol. 160 No. 1, pp. 127-150.

Logan, S.W. (2021), "Reference accuracy in Research Quarterly for Exercise and Sport: a 30-year follow-up to Stull *et al.* (1991)", *Research Quarterly for Exercise and Sport*, in-press.

Luo, M., Li, C.C., Molina, D. IV, Andersen, C.R. and Panchbhavi, V.K. (2013), "Accuracy of citation and quotation in foot and ankle surgery journals", *Foot and Ankle International*, Vol. 34 No. 7, pp. 949-955.

Lysonski, S. and Durvasula, S. (2008), "Digital piracy of MP3s: consumer and ethical predispositions", *Journal of Consumer Marketing*, Vol. 25 No. 3, pp. 167-178.

MacRoberts, M.H. and MacRoberts, B.R. (1986), "Quantitative measures of communication in science: a study of the formal level", *Social Studies of Science*, Vol. 16 No. 1, pp. 151-172.

MacRoberts, M.H. and MacRoberts, B.R. (1987), "Another test of the normative theory of citing", *Journal of the American Society for Information Science*, Vol. 38 No. 4, pp. 305-306.

Maes, M. (2015), "A review on citation amnesia in depression and inflammation research", *Neuroendocrinology Letters*, Vol. 36 No. 1, pp. 1-6.

Masters, K. (2005), "Flawed evidence: a case study of misquoting and inaccurate referencing", *South African Journal of Libraries and Information Science*, Vol. 71 No. 3, pp. 282-288.

Merton, R.K. (1988), "The Matthew Effect in science, II: cumulative advantage and the symbolism of intellectual property", *Isis*, Vol. 79 No. 4, pp. 606-623.

Merton, R.K. (1993), *On the Shoulders of Giants*, University of Chicago Press, Chicago.

Merton, R.K. and Sztompka, P. (1996), *On Social Structure and Science*, University of Chicago Press, Chicago.

Moed, H.F. and Vriens, M. (1989), "Possible inaccuracies occurring in citation analysis", *Journal of Information Science*, Vol. 15 No. 2, pp. 95-107.

Montenegro, T.S., Hines, K., Partyka, P.P. and Harrop, J. (2021), "Reference accuracy in spine surgery", *Journal of Neurosurgery: Spine*, Vol. 34 No. 1, pp. 22-26.

Moore, G. (2004), "Business ethics in the curriculum: of strategies deliberate and emergent", *Journal of Business Ethics*, Vol. 54 No. 4, pp. 319-321.

Moravcsik, M.J. and Murugesan, P. (1975), "Some results on the function and quality of citations", *Social Studies of Science*, Vol. 5 No. 1, pp. 86-92.

Morris, S.A. and McDonald, R.A. (1995), "The role of moral intensity in moral judgments: an empirical investigation", *Journal of Business Ethics*, Vol. 14 No. 9, pp. 715-726.

Mudrack, P.E. and Mason, E.S. (2013), "Ethical judgments: what do we know, where do we go?", *Journal of Business Ethics*, Vol. 115 No. 3, pp. 575-597.

Nicolaisen, J. (2007), "Citation analysis", *Annual Review of Information Science and Technology*, Vol. 41 No. 1, pp. 609-641.

Oldenburg, H. (1665), "Introduction", *Philosophical Transactions of the Royal Society*, Vol. 1 No. 1, pp. 1-2.

Owens, D. (1998), "From the business ethics course to the sustainable curriculum", *Journal of Business Ethics*, Vol. 17 No. 5, pp. 1765-1777.

Paul, K. (2004), "Business and society and business ethics journals: a citation and impact analysis", *Journal of Scholarly Publishing*, Vol. 35 No. 2, pp. 103-117.

Perez, O., Bar-Ilan, J., Cohen, R. and Schreiber, N. (2019), "The network of law reviews: citation cartels, scientific communities, and journal rankings", *The Modern Law Review*, Vol. 82 No. 2, pp. 240-268.

Peritz, B.C. (1983), "A classification of citation roles for the social sciences and related fields", *Scientometrics*, Vol. 5 No. 5, pp. 303-312.

Place, F. Jr (1916), "Verify your references. A word to medical writers", *New York Medical Journal*, October 7, pp. 697-699.

Prabha, C.G. (1983), "Some aspects of citation behavior: a pilot study in Business Administration", *Journal of the American Society for Information Science*, Vol. 34 No. 3, pp. 202-206.

Price, D.J.D.S. (1961), *Science Since Babylon*, Yale University Press, New Haven.

Price, D.J.D.S. (1963), *Little Science, Big Science*, Columbia University Press, New York.

Ramos, M.A., Melo, J.G. and Albuquerque, U.P. (2012), "Citation behavior in popular scientific papers: what is behind obscure citations? The case of ethnobotany", *Scientometrics*, Vol. 92 No. 3, pp. 711-719.

Rekdal, O.B. (2014a), "Academic citation practice: a sinking sheep?", *Portal: Libraries and the Academy*, Vol. 14 No. 4, pp. 567-585.

Rekdal, O.B. (2014b), "Academic urban legends", *Social Studies of Science*, Vol. 44 No. 4, pp. 638-654.

Rekdal, O.B. (2014c), "Monuments to academic carelessness: the self-fulfilling prophecy of Katherine Frost Bruner", *Science, Technology, and Human Values*, Vol. 39 No. 5, pp. 744-758.

Rest, J.R. (1986), *Moral Development: Advances in Research and Theory*, Praeger Publishers, New York.

Reynolds, S.J. (2006), "Moral awareness and ethical predispositions: investigating the role of individual differences in the recognition of moral issues", *Journal of Applied Psychology*, Vol. 91 No. 1, pp. 233-243.

Samad, A., Khanzada, T.W., Kumar, B. and Malik, K.A. (2013), "Accuracy of references: comparison between two premier Pakistani medical journals", *Journal of the Pakistan Medical Association*, Vol. 63 No. 4, pp. 445-447.

Sanz-Martín, M., Pitt, K.A., Condon, R.H., Lucas, C.H., Novaes de Santana, C. and Duarte, C.M. (2016), "Flawed citation practices facilitate the unsubstantiated perception of a global trend toward increased jellyfish blooms", *Global Ecology and Biogeography*, Vol. 25 No. 9, pp. 1039-1049.

Serenko, A. (2019), "Looking beyond the pointing finger: ensuring the success of the Scholarly Capital Model in the contemporary academic environment", *Communications of the Association for Information Systems*, Vol. 44, Article 13, pp. 217-226.

Serenko, A. and Bontis, N. (2009), "A citation-based ranking of the business ethics scholarly journals", *International Journal of Business Governance and Ethics*, Vol. 4 No. 4, pp. 390-399.

Serenko, A. and Dumay, J. (2015), "Citation classics published in Knowledge Management journals. Part II: studying research trends and discovering the Google Scholar Effect", *Journal of Knowledge Management*, Vol. 19 No. 6, pp. 1335-1355.

Serenko, A. and Turel, O. (2019), "A dual-attitude model of system use: the effect of explicit and implicit attitudes", *Information and Management*, Vol. 56 No. 5, pp. 657-668.

Serenko, A. and Turel, O. (2020), "Measuring implicit attitude in information systems research with the Implicit Association Test", *Communications of the Association for Information Systems*, Vol. 47, Article 19, pp. 397-431.

Shapiro, F.R. (1992), "Origins of bibliometrics, citation indexing, and citation analysis: the neglected legal literature", *Journal of the American Society for Information Science*, Vol. 43 No. 5, pp. 337-339.

Simkin, M.V. and Roychowdhury, V.P. (2005), "Stochastic modeling of citation slips", *Scientometrics*, Vol. 62 No. 3, pp. 367-384.

Small, H. (2004), "On the shoulders of Robert Merton: towards a normative theory of citation", *Scientometrics*, Vol. 60 No. 1, pp. 71-79.

Small, H. (2010), "Referencing through history: how the analysis of landmark scholarly texts can inform citation theory", *Research Evaluation*, Vol. 19 No. 3, pp. 185-193.

Smith, H.M. and Banks, P.B. (2017), "How dangerous conservation ideas can develop through citation errors", *Australian Zoologist*, Vol. 38 No. 3, pp. 408-413.

Stull, G.A., Christina, R.W. and Quinn, S.A. (1991), "Accuracy of references in Research Quarterly for Exercise and Sport", *Research Quarterly for Exercise and Sport*, Vol. 62 No. 3, pp. 245-248.

Sugimoto, C.R. and Cronin, B. (2013), "Citation gamesmanship: testing for evidence of ego bias in peer review", *Scientometrics*, Vol. 95 No. 2, pp. 851-862.

Teixeira, M.C., Thomaz, S.M., Michelan, T.S., Mormul, R.P., Meurer, T., Fasolli, J.V.B. and Silveira, M.J. (2013), "Incorrect citations give unfair credit to review authors in ecology journals", *PloS One*, Vol. 8 No. 12, p. e81871.

Todd, P.A., Yeo, D.C.J., Li, D. and Ladle, R.J. (2007), "Citing practices in ecology: can we believe our own words?", *Oikos*, Vol. 116 No. 9, pp. 1599-1601.

Todd, P.A., Guest, J.R., Lu, J. and Chou, L.M. (2010), "One in four citations in marine biology papers is inappropriate", *Marine Ecology Progress Series*, Vol. 408, pp. 299-303.

Turnbull, H.W. (Ed.) (1959), *The Correspondence of Isaac Newton*, Cambridge University Press, Cambridge, MA, pp. 1661-1675.

Vargas-Origel, A., Gómez-Martínez, G. and Vargas-Nieto, M.A. (2001), "The accuracy of references in paediatric journals", *Archives of Disease in Childhood*, Vol. 85 No. 6, pp. 497-498.

Vitell, S.J. and Patwardhan, A. (2008), "The role of moral intensity and moral philosophy in ethical decision making: a cross-cultural comparison of China and the European Union", *Business Ethics: A European Review*, Vol. 17 No. 2, pp. 196-209.

Wetterer, J.K. (2006), "Quotation error, citation copying, and ant extinctions in Madeira", *Scientometrics*, Vol. 67 No. 3, pp. 351-372.

White, H.D. (2001), "Authors as citers over time", *Journal of the American Society for Information Science and Technology*, Vol. 52 No. 2, pp. 87-108.

White, M.D. and Wang, P. (1997), "A qualitative study of citing behavior: contributions, criteria, and metalevel documentation concerns", *The Library Quarterly*, Vol. 67 No. 2, pp. 122-154.

Wilhite, A.W. and Fong, E.A. (2012), "Coercive citation in academic publishing", *Science*, Vol. 335 No. 6068, pp. 542-543.

Wilks, S.E., Geiger, J.R., Bates, S.M. and Wright, A.L. (2017), "Reference accuracy among research articles published in Research on Social Work Practice", *Research on Social Work Practice*, Vol. 27 No. 7, pp. 813-817.

Willett, P. (2013), "Readers' perceptions of authors' citation behaviour", *Journal of Documentation*, Vol. 69 No. 1, pp. 145-156.

Williams, R.B. (2011), "Citation systems in the biosciences: a history, classification and descriptive terminology", *Journal of Documentation*, Vol. 67 No. 6, pp. 995-1014.

Wren, J.D., Valencia, A. and Kelso, J. (2019), "Reviewer-coerced citation: case report, update on journal policy and suggestions for future prevention", *Bioinformatics*, Vol. 35 No. 18, pp. 3217-3218.

Wright, M. and Armstrong, J.S. (2008), "The ombudsman: verification of citations: Fawlty towers of knowledge?", *Interfaces*, Vol. 38 No. 2, pp. 125-139.

Zasa, M. (2015), "The accuracy of references in five sport science journals", *Science and Sports*, Vol. 30 No. 1, pp. e31-e33.

Corresponding author
Alexander Serenko can be contacted at: a.serenko@utoronto.ca