



# Self-Plagiarism Research Literature in the Social Sciences: A Scoping Review

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## Abstract

Self-plagiarism is a contentious issue in higher education, research and scholarly publishing contexts. The practice is problematic because it disrupts scientific publishing by over-emphasizing results, increasing journal publication costs, and artificially inflating journal impact, among other consequences. We hypothesized that there was a dearth of empirical studies on the topic of self-plagiarism, with an overabundance of editorial and commentary articles based on anecdotal evidence. The research question was: What typologies of evidence characterize the literature on self-plagiarism in scholarly and research journals? We conducted a scoping review, using the search terms “self-plagiarism” and “self-plagiarism” (hyphenated), consulting five social sciences research databases, supplemented by a manual search for articles, resulting in over 5900 results. After removing duplicates and excluding non-scholarly sources, we arrived at a data set of 133 sources, with publication dates ranging from 1968 to 2017. With an interrater reliability of over 93% between two researchers, our typological analysis revealed 47 sources (34.3%) were editorials; 41 (29.9%) were conceptual research (including teaching cases); 16 (11.7%) were editorial responses; 12 (8.6%) were secondary research; and only 8 sources (5.8%) were primary research. There is little guidance in the available literature to graduate students or their professors about how to disentangle the complexities of self-plagiarism. With primary and secondary research combined accounting for 14.4% of overall contributions to the data set, and primary research constituting only 6% of overall contributions, we conclude with a call for more empirical evidence on the topic to support contributions to the scholarly dialogue.

**Keywords** Self-plagiarism · Text recycling · Plagiarism · Scoping review · Primary research · Secondary research

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## Introduction

Self-plagiarism is a contentious issue in research publishing and academic circles. The impetus for this study arose from dialogue with fellow scholars and graduate students in educational research. We observed anecdotally that the topic of self-plagiarism was complex, messy and controversial. We further observed that the guidance that exists in our scholarly writing manuals and the policies found in academic institutional policies presented a grey area for graduate students. We began our study by consulting two key documents that guide our work in the context of social sciences broadly and education specifically: the *Publication Manual of the American Psychological Association* (2010), often referred to as the “APA Manual” for short, and our institutional academic calendar, which outlines the terms of what constitutes academic misconduct for both undergraduate and graduate students. We wanted to see if these two reference documents would provide enough clarity to help us, our colleagues and our graduate students, to disentangle some of the complexities around self-plagiarism.

We found that the APA manual offers both a definition of self-plagiarism and guidance on what constitutes it, noting that one should not present “their own previously published work as new scholarship (self-plagiarism)” (p. 16). The manual notes, however, that extensive self-citation can be both undesirable and awkward noting that “when the duplicated words are limited in scope” (p. 16) it may be permissible to duplicate previously published excerpts without citation. The manual acknowledges the complications involved with this practice by pointing out “what constitutes the maximum acceptable length of duplicated material is difficult to define” (p. 16).

We then turned to our academic calendar of our institution (University of Calgary 2018) in which the academic regulations for both undergraduate and graduate students are the same. The university calendar explains self-plagiarism as occurring when “A student submits or presents work in one course which has also been submitted in another course (although it may be completely original with that student) without the knowledge of or prior agreement of the instructor involved” (University of Calgary 2018). The definition seems fairly straightforward, however, a special clause for thesis-based students notes that the clause above “does not prevent a graduate student incorporating work previously done by them in a thesis or dissertation” (University of Calgary 2018).

There were several points of interest for us as we reviewed these guiding documents. The first was to note that the academic calendar seems to indicate that students can incorporate work they have done in their courses into a thesis or dissertation, but there is no guidance on whether students are required to cite their previous term papers. We further noted that although the APA Manual focuses on previously published work, the institutional academic calendar focused almost exclusively on unpublished work submitted in courses. There are gaps in these definitions, particularly for graduate students who are effectively researchers in training. For example, as graduate students progress through their courses, they may write repeatedly on a topic they wish to research later in their thesis, using

course work as a way to build content-area knowledge in their chosen field. If students write about the same topic in papers for different courses, presumably they should demonstrate their knowledge is evolving and expanding and hence, using the same phrases or sentences from one course paper might not be necessary. Yet, the topic has come up as a point of debate. In our experience, the majority of graduate students want to do the right thing, however that is defined, but finding clear definitions and explicit guidance is not easy novice or emerging researchers, or their professorial supervisors. When can a case be made for the development of ideas, theories and content knowledge—particularly for graduate students—that does not include self-citation? What do graduate students and their supervisors in social sciences and educational research need to know about self-plagiarism? We found no clear answer to these reflective questions in our two guiding documents and so, we turned to the broader literature to understand to analyze the available research in our field.

We noted in the literature that the general approach to self-plagiarism in our academic calendar was similar to that of other institutions (2014), although we recognize that institutional calendars vary in their definitions of academic misconduct (Eaton 2017) and that the examples we have provided here may not apply universally. However, we expect that the topic of self-plagiarism in the social sciences is debated beyond the walls of our own institution. For that reason, we have prepared this manuscript with a primary audience of social scientists and educational research scholars in mind.

Our review begins with an overview of key definitions used in relation to this topic. We then state the research question we use to guide our review. In our Methods section we outline the steps we used to conduct our scoping review, including our search criteria. Our search resulted in 133 sources, which were then analyzed using a variety of techniques including a historical analysis and a consideration of the typologies of evidence that emerged from the source material, followed by an overlapping of historical and typological analyses to show how contributions to the literature have changed over time. In our discussion, we examine the implications of these findings with respect to educational research and in particular, how to support graduate students as researchers-in-training. We conclude with a call for deeper inquiry into this topic from a social sciences perspective.

## Definitions

The definition of self-plagiarism is contested and arguably as complex as the practice itself. Often viewed as a sub-category of plagiarism, self-plagiarism is also referred to as “duplicate”, “dual”, “overlapping”, “prior”, “repetitive”, and “redundant” publication, along with “text recycling”, “textual recycling”, (Baggs 2008; Kassirer and Angell 1995; Langdon-Neuner 2008; Roig 2005, 2008). The terms “fragmented”, “piecemeal” and “salami” publication are related terms referring to instances in which a data set is broken down into multiple components, with each published as a separate article (Hoit 2007; Kassirer and Angell 1995; Roig 2005). While some have argued that plagiarism is a form of stealing from others, one cannot steal from

oneself and so, the notion of self-plagiarism is an oxymoron. However, in the case of research publications, there are copyright implications and one may in fact, be stealing work to which a third party (e.g. a journal) holds the copyright, so the argument of theft may not be moot after all (Bird and Sivilotti 2008; Teixeira da Silva 2016).

Also of note is the term, “Least Publishable Unit” (LPU), which first emerged more than 30 years ago as a euphemism for the fragmentation of data for the purposes of publication (Broad 1981). By the turn of the millennium, attitudes towards the LPU began to shift, with some scholars arguing that there may be cases where multiple articles from the same project could be acceptable (Baggs 2008; Owen 2004), although others still contend that it is better to avoid it (Hoit 2007; Fonseca 2013). We include this phrase in our definitions as we found it to be instructive in understanding the various permutations of self-plagiarism and how attitudes may have shifted over time.

For the purposes of our study, we have elected to use the term “self-plagiarism”, as it is used in the APA manual and our institutional academic calendar and hence, we contend, it is more widely understood by both faculty and students, whereas other terms may be more familiar to those with deeper expertise and specialized knowledge of the publishing field. Furthermore, Bertram Gallant (2016), a scholar whose work focuses on academic integrity in general, points out that “the language we use shapes the reality we are experiencing” (p. 1) and advocates against the use of soft language to talk about academic or research misconduct. In this case “recycling” would be a soft term with positive social connotations (e.g. related to preserving the environment). We recognize that not all instances of self-plagiarism may be intentional, but neither are all cases of plagiarizing another’s work (Walker 2008). Thus, we find Bertram Gallant’s (2016) stance to be relevant and note it as an additional reason why we have opted for the use of ‘self-plagiarism’ instead of softer phrasing.

## Statement of the Problem and Research Question

Self-plagiarism creates problems within the scientific publishing community because it can lead to an over-emphasis of findings, rising costs of journals, an excessive burden on reviewers, a skewing of the academic system which rewards scholars based on the number of articles they publish, an artificial inflation of journal impact, and an overall harm to the practices and reputation of scientific publishing (Fonseca 2013; Hoit 2007; Kassirer and Angell 1995). The use of text-matching software was introduced to research publishing about a decade ago (Baggs 2008), in part, to deter self-plagiarism in research publishing in order to avoid these problems, both for researchers and for the journals themselves.

About the same time as text-matching software first emerged, a number of editorials appeared in the literature discussing the issue of self-plagiarism (Roig 2008). That comment piqued our interest, as we had made similar observations about the literature on the topic of self-plagiarism in recent years. We hypothesized that there was a lack of evidence-based research on the topic, perhaps especially in the social sciences. The primary question that guided our review

was: What typologies of evidence characterize the literature on self-plagiarism in scholarly and research journals, particularly in the social sciences? The purpose of this review is to better understand the nature of publications about self-plagiarism that exist in the research literature through a scoping review of the literature.

## Methods

Scoping reviews are useful to clarify a complex subject and may shed light on disciplines with emerging evidence (Levac et al. 2010). Although they are prevalent in the fields of nursing and health sciences (Davis et al. 2009; Levac et al. 2010), scoping reviews have been used to some extent in other fields such as environmental studies, process engineering, and education, but they have yet to be widely adopted in these fields (Anderson et al. 2008; Davis et al. 2009; Harris et al. 2004). We declare our background and training as educational researchers, whose work is grounded in the social sciences. We conducted a search of existing databases (Cochrane, Joanna Briggs Institute, and PROSPERO) as a first step to determine that no similar reviews had been conducted. Because existing databases focus largely on health sciences, we supplemented our search with a manual search using Google Scholar and our institutional database to confirm that a scoping review on this topic had not been previously conducted. We registered our review protocol at the Open Science Framework on February 13, 2018 (<https://doi.org/10.17605/osf.io/udvmk>).

A common critique of scoping reviews is that researchers fail to share sufficient detail about their methodological process (Anderson et al. 2008; Davis et al. 2009). As this is a documented critique of scoping reviews, we share explicit details about both the design and implementation of the review. We used Arksey and O'Malley (2005) five-stage methodological framework, which became the standard framework for implementing scoping reviews (Davis et al. 2009), though it was later refined by Levac et al. (2010).

Levac et al. recommend further defining the scope of the inquiry by addressing the potential audiences for the review (Levac et al. 2010), as such, we have defined the primary audience for this article is the research community with an interest in academic integrity, plagiarism, and self-plagiarism. The secondary audience includes journal editors and authors who seek to more deeply understand the nature of self-plagiarism (Tables 1, 2).

**Table 1** 5-stage methodological framework

Stage 1	Identify the research question
Stage 2	Identify relevant studies or sources
Stage 3	Select studies or sources
Stage 4	Chart the data
Stage 5	Collate, summarize and report results

**Table 2** Tabular historical representation of publication count per year

1968	1
1981	1
1984	1
1994	2
1995	1
2001	1
2002	2
2003	3
2004	2
2005	4
2006	2
2007	7
2008	7
2009	9
2010	5
2011	7
2012	8
2013	19
2014	16
2015	13
2016	14
2017	8
Total	133

### Inclusion Criteria and Search Method

We conducted an electronic search for key terms “self-plagiarism” (hyphenated) and “self plagiarism” (not hyphenated), using quotation marks to focus the search. We consulted five databases listed in alphabetical order: (a) Academic Search Complete; (b) Education Research Complete; (c) ERIC; (d) Google Scholar; and (e) ProQuest Dissertations and Theses. The choice to concentrate on social sciences databases was an intentional one, to align with the researchers’ expertise in educational research. In addition, we conducted a manual search of our institutional library database, using the same search terms, with the objective of verifying data saturation.

To align our study with our research question, we excluded: (a) sources from non-scholarly publications such as newspapers, blogs or other grey literature; (b) duplicates; (c) sources that were of an artistic or literary nature, with no clear focus on scholarship or research. We further limited our search to sources where our identified key words appeared in the title or in the abstract. We included sources from peer-reviewed scholarly and scientific journals published in English at any time from 1900 up to and including 2017, including articles published online first during that time. We observed that although we limited our search to social sciences databases, some of the results included sources in medical and other fields of study. Providing they met the remainder of our criteria, we opted to include them, based on

the rationale that other social science researchers would potentially find these same results were they to replicate the study themselves. Note that the search concluded December 15, 2017, so any publications released after that date were not included. In total, we found 133 sources meeting our criteria.

## Results

Stage four of a scoping study focuses on the analysis of the data and typically includes a charting process to extract contextual information from each study (Arksey and O'Malley 2005; Colquhoun et al. 2014). Given the number of sources we found that met our search criteria, we determined that charting individual sources may be a less effective way to address our research questions. Instead, we opted to conduct a modified charting process including a historical analysis to determine publication trends over time, followed by an analysis of the typologies of evidence we identified during the scoping process.

### Historical Analysis

Our analysis shows noteworthy increases in the number of sources published in scholarly literature since the turn of the millennium, and markedly so since 2010. Prior to 2000, we identified 6 sources, with the first appearing the literature in 1968. For the time period 2000–2009, we identified 37 sources, and from 2010 to 2017 we identified 90 sources, with 2013 being the peak year for publication.

The pivot table below offers a visual representation of the publication count per year of sources relating to self-plagiarism, showing an overall upward trend from 1968 to 2013, after which the yearly publication count began to decrease.

What is particularly notable is the increase in the number of publications since the turn of the millennium. While it may be difficult to pinpoint precisely why this has occurred, it is worth considering the possibility that the number of articles about self-plagiarism might correlate, even loosely, to an increase its occurrence, or perhaps to an increase in researchers' awareness about the topic. However, we found no available data to corroborate either of these speculations.

### Analysis of Typologies of Evidence

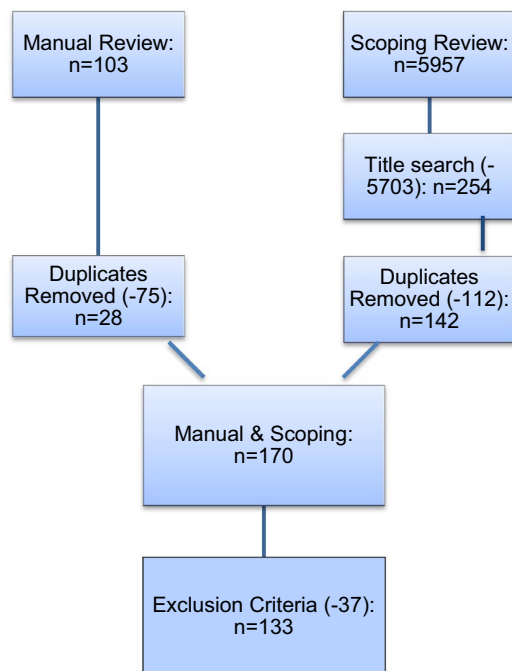
The purpose of our review is not to establish a definitive hierarchy of evidence that prioritizes one type of study over another to judge the “methodological purity” (Petticrew and Roberts 2006, p. 58) of sources in the existing literature, but rather to understand the typologies of evidence that exist within the literature base and their prevalence.

Our analysis of the typologies of evidence present in the research base began with the researchers discussing the literature base to establish preliminary categories. These included: (a) primary research; (b) secondary research; (c) conceptual research; (d) editorials; and (e) editorial responses. Considerations for what counts

as primary or secondary research vary among disciplines. As our background is in educational research specifically and social sciences more broadly, we consulted literature from these fields to assist us in defining and clarifying our understanding of these various typologies. For the purpose of our review, we defined primary research as that which collected primary data from human subjects using either quantitative (e.g. survey), or qualitative (e.g. interviews), or mixed methods (Persaud 2012). We defined secondary research as that which analyzed existing sources such as term papers or previous publications and did not involve interaction with human participants directly (Persaud 2012). We noted that although conceptual research was more difficult to define and was sometimes referred to as scholarship, it is mainly concerned with theoretical understandings, including descriptive studies and historical analyses (Moses 1990; Thyer 2011). For the purposes of our review, we also included teaching cases as conceptual research. Works classified as editorials were clearly opinion pieces, regardless of whether they were written by an editor or another type of contributor. Finally, editorial responses included letters to the editor, as well as rebuttals and responses to articles or editorials (Fig. 1).

Both researchers undertook a category analysis of 133 sources independently of each another, with an interrater reliability agreement of 93.2%. Figure 2 shows an overview of the categorization analysis showing that 47 sources (35.3%) were editorials; 41 (30.8%) were conceptual research (including teaching cases); 16 (12.03%) were editorial responses; 12 (9.0%) were secondary research; and only 8 sources (6.0%) were primary research. The researchers did not achieve consensus on 9 (6.8%) of the sources during their independent analysis (Fig. 3).

**Fig. 1** Flow diagram of the review process





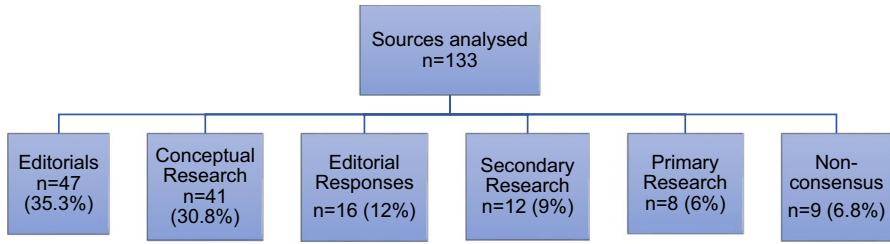


Fig. 2 Overview of typologies of evidence

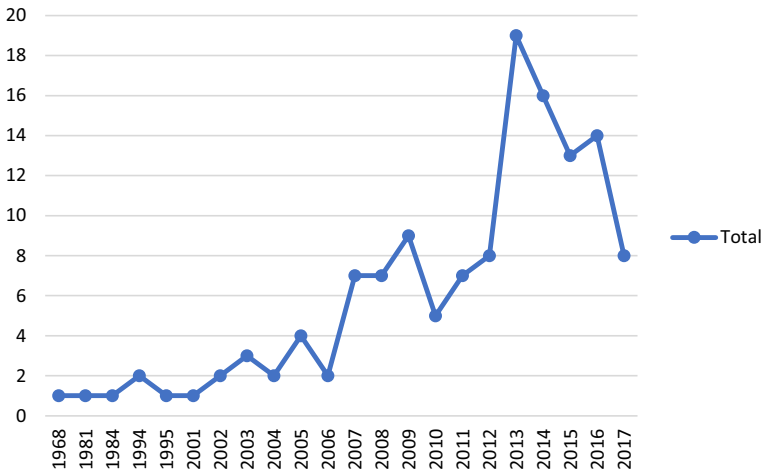


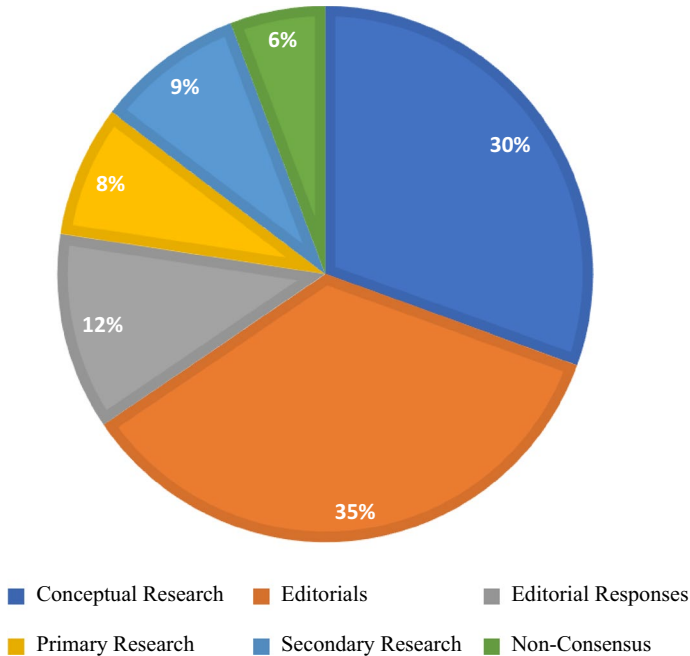
Fig. 3 Pivot table historical representation of publication count per year

Figure 4 offers a visual representation of the typologies of sources using a pie chart. This pie chart shows how the research literature has been dominated by editorials and conceptual research, which combined, account for almost two-thirds of all sources.

In Table 3 we show more detailed results, aligning source data with the various typologies of evidence we determined during our categorization analysis.

### Typology Analysis

In this section we offer a deeper analysis of each typology of evidence. Here we group typologies by type, starting with editorials and responses to editorials, followed by various types of research (primary, secondary, and conceptual). We do this to further analyze the inter-relationship between the various typologies, particularly when they are closely connected (Tables 4, 5, 6, 7 and 8).



**Fig. 4** Pie chart of typologies of evidence

## Editorial Sources

Of the editorials, all but one, or almost 98% were published from 2010 onwards. This would seem to indicate a growing interest among editors and others over the past decade in sharing thoughts with readers and possibly generating scholarly dialogue on the topic of self-plagiarism.

The earliest of these editorials was presented as a gentle “reminder” to authors of the editorial policies of the journal, with an example of an article that was pulled from the journal in the pre-publication stage when the editors found that almost an exact duplicate by the same authors had been published elsewhere a few months prior (Kassirer and Angell 1995). Baggs (2008) discussed “rules for authors”, outlining several types of self-plagiarism, including submitting the same manuscript to more than one journal for consideration and re-publishing the same article in a different language without permission of the editors or publishers who originally published the work.

Editors also tackle the notion that when a researcher produces several outputs from the same project that might include conference papers, reports to funders and peer-reviewed scholarly article that it can be difficult to avoid repeating oneself. One editor noted that it is “hard it is to re-write the design and methods section for different papers” (Broome 2004, p. 273). A few years later, Bird and Silviotti (2008) pointed out that, “there can be little doubt that authors develop a stylistic way of writing... some degree of similar content format is to be expected in scientific

**Table 3** Detailed analysis of typologies of evidence

Typology of evidence	# of Sources	Sources
Editorials	47	Adhikari (2010), Arumugam and Aldhafiri (2016), Baggs (2008), Berquist (2013a, b), Bird and Sivilotti (2008), Bonnell et al. (2012), Broome (2004), Brown-Syed (2010), Callahan (2014), Chrousos et al. (2012), Cowell (2017), Cronin (2013), Culley (2014), Eva (2017), Gennaro (2017), Gottlieb (2008), Jackson et al. (2015), Jennings and Froman (2013), Karlsson and Beauflis (2013), Kassirer and Angell (1995), Kravitz and Feldman (2011), Kulikova (2016), Lancet (2009), Langdon-Neuner (2008), Lowe (2003), Mehić (2013), Marik (2015), Merrill (2015), Moskovitz (2016), Moskowitz (2005), Neill (2008), Norman (2014), O'Hair and Neff (2013), O'Connor (2010), Pierson (2015), Reich (2010), Rösing and Del Bel Cury (2013), Saver (2014), Schultz et al. (2015), Siebers (2012), Siebers and Taylor (2014), Smith (2007), Stone and Conway (2017), Talbott (2016), Vitse and Poland (2012), Wilson (2013) and Zhang (2013)
Conceptual research	41	Andresescu (2013), Anesa (2014), Berlin (2009), Bretag and Mahmud (2009), Broad (1981), Bruton (2014), Clarke (2009), Collberg and Kobourov (2005), Collberg et al. (2003a), de Vasconcelos and Roig (2015), Dellavalle et al. (2007), Errami and Garner (2008), Garcia-Romero and Estrada-Lorenzo (2014), Gilliver (2012), Goldblatt (1984), Green (2005), Habibzadeh and Shashok (2011), Hartle et al. (2009), Helgesson and Eriksson (2015), Hicks and Berg (2014), Loui (2002), Noë and Batten (2006), O'Brien Louch (2016), Robinson (2014), Roig (2006, 2008, 2010, 2011, 2015a, b, 2016), Samuelson (1994), Scanlon (2007), Shashok (2011), Sikes (2009), Suárez et al. (2012), Šupak-Smolčić (2013), Šupak-Smolčić and Bilić-Zulle (2013), Sutherland-Smith (2016), Thurman et al. (2016), Wen and Gao (2007) and Wood (1968)
Editorial responses	16	Baserga (2011), Chalmers (2009), Joob and Wiwanitkit (2013, 2014, 2016, 2017), Keeble (2016), Klosterman (2013), Mohapatra and Samal (2014), Teixeira da Silva (2016), White (2011), Wiwanitkit (2012, 2014, 2015), Wiwanitkit and Wiwanitkit (2013) and Zulfiqar (2017)
Secondary research	12	Amos (2014), Cheung and Driver (2004), Elbeck (2009), Errami et al. (2007), Halupa (2014), Horbach and Halfman (2017), Ison (2012, 2015), Kokol et al. (2016), Roig (2005), Schein and Paladugu (2001) and Sun and Yang (2015)
Primary research	8	Bretag and Carapiet (2007), Halupa and Bolliger (2013, 2015), Halupa et al. (2016), Jones (2011), Mkhize et al. (2009), Roig and Ballew (1994) and Vincent Robinson (2016)

**Table 3** (continued)

Typology of evidence	# of Sources	Sources
Non-consensus	9	Bird (2002), Bruton and Rachal 2015, Collberg et al. (2003b), Fisher and Partin (2014), Hoit (2007), Kaimins et al. (2015), Martin (2013), Rogerson and McCarthy (2017) and Rosenzweig and Schmitzer (2013)
Total	133	

**Table 4** Detailed analysis of editorial sources

Dates	Count	%	Source
1990–1999	1		Kassirer and Angell (1995)
2000–2009	9		Baggs (2008), Bird and Sivilotti (2008), Broome (2004), Gottlieb (2008), Lancet (2009), Lowe (2003), Nature Materials(2005), Neill (2008) and Smith (2007)
2010–2017	36		Adhikari (2010), Arumugam and Aldhafiri (2016), Berquist (2013a, b), Bonnell et al. (2012), Brown-Syed (2010), Callahan (2014), Chrousos et al. (2012), Cowell (2017), Cronin (2013), Culley (2014), Eva (2017), Gennaro (2017), Jackson et al. (2015), Jennings and Froman (2013), Karlsson and Beaufils (2013), Kravitz and Feldman (2011), Kulikova (2016), Mehić (2013), Marik (2015), Merrill (2015), Moskovitz (2016), Norman (2014), O'Connor (2010), Pierson (2015), Reich (2010), Rösing and Del Bel Cury (2013), Saver (2014), Schultz et al. (2015), Siebers (2012), Siebers and Taylor (2014), Stone and Conway (2017), Talbott (2016), Vitse and Poland (2012), Wilson (2013) and Zhang (2013)
Total	47	100.0	

**Table 5** Detailed analysis of editorial responses

Dates	Count	%	Source
2000–2009	1	6.3	Chalmers (2009)
2010–2017	15	93.8	Baserga (2011), Joob and Wiwanitkit (2013, 2014, 2016, 2017), Keeble (2016), Klosterman (2013), Langdon-Neuner (2008), Mohapatra and Samal (2014), Teixeira da Silva (2016), White (2011), Wiwanitkit (2012, 2014, 2015) and Wiwanitkit and Wiwanitkit (2013)
Total	16	100.0	

writing” (p. 69). However, they balked at the notion proposed by others that “up to 30% of the text from one article can be re-used in another article without constituting self-plagiarism” (p. 69) contending that setting a policy that allows for an arbitrary amount of self-plagiarism was both “misguided and inappropriate” (p. 69). Although some editors acknowledged the difficulties in avoiding self-plagiarism,

**Table 6** Detailed analysis of conceptual research sources

Dates	Count	%	Source
1960–1969	1	2.4	Wood (1968)
1970–1979	0	0.0	N/A
1980–1989	2	4.9	Broad (1981) and Goldblatt (1984)
1990–1999	1	2.4	Samuelson (1994)
2000–2009	16	39.0	Berlin (2009), Bretag and Mahmud (2009), Clarke (2009), Collberg and Kobourov (2005), Collberg et al. (2003a), Dellavalle et al. (2007), Errami and Garner (2008), Green (2005), Hartle et al. (2009), Loui (2002), Noè and Batten (2006), Roig (2006, 2008), Scanlon (2007), Sikes (2009) and Wen and Gao (2007)
2010–2017	21	51.2	Andreescu (2013), Anesa (2014), Bruton (2014), de Vasconcelos and Roig (2015), García-Romero and Estrada-Lorenzo (2014), Gilliver (2012), Habibzadeh and Shashok (2011), Helgesson and Eriksson (2015), Hicks and Berg (2014), O'Brien Louch (2016), Robinson (2014), Roig (2010, 2011, 2015a, b, 2016), Shashok (2011), Suárez et al. (2012), Šupak-Smolčič (2013), Šupak-Smolčič and Bilić-Zulle (2013), Sutherland-Smith (2016) and Thurman et al. (2016)
Total	41	100.0	

**Table 7** Detailed analysis of secondary research

Dates	Count	%	Source
2000–2009	5	41.7	Cheung and Driver (2004), Elbeck (2009), Errami et al. (2007), Roig (2005) and Schein and Paladugu (2001)
2010–2017	7	58.3	Amos (2014), Halupa (2014), Horbach and Halfman (2017), Ison (2012, 2015), Kokol et al. (2016) and Sun and Yang (2015)
Total	12	100.0	

particularly for prolific writers and particular elements of research such as the methodology, they unanimously spoke about how complex and important an issue it is in scientific and scholarly publication.

As time progressed, editors began discussing the influence of the Internet on research publication (Broome 2004; Cowell 2017). Cowell (2017) noted, “Authors

**Table 8** Detailed analysis of primary research

Dates	Count	%	Source
1990–1999	1	12.5	Roig and Ballew (1994)
2000–2009	1	12.5	Bretag and Carapiet (2007)
2010–2017	6	75.0	Halupa and Bolliger (2013, 2015), Halupa et al. (2016), Jones (2011), Mkhize et al. (2009) and Vincent Robinson (2016)
Total	8	100.0	

may feel that the results of their work should be published in several journals for different audiences. Publication ethics disallow duplicate publication (American Psychological Association 2010) and with broad availability of publications through the Internet, concern for different audiences is not a valid argument” (p. 7).

We observed an instructive element as a common thread among many of the editorials. Many of the editorials focused on educating authors and prospective contributors about publication ethics generally, as well as specific guidelines for particular journals.

## Responses to Editorials

If those writing editorials did so with the intention of generating dialogue within the research community, it appears they may have been successful. Upon closer examination of the responses to editorials, we found that 100% of them were published in the twenty-first century.

Teixeira da Silva (2016) addressed the differences between intentional and unintentional self-plagiarism, asserting that “when done mistakenly, it constitutes a serious error, and when done deliberately, it constitutes an act of misconduct because it misleads the editors, peers and ultimately, the public” (p. 943). What is interesting about Teixeira da Silva’s (2016) assertion is that whether it self-plagiarism is done intentionally or unintentionally; the author is responsible for their actions.

Also of note is that nine of the 16 sources shared a common author or co-author (Wiwanitkit), indicating somewhat less authorial diversity among editorial responses than other typologies. Together with a co-author, he proposes some innovative approaches to tackling plagiarism (including self-plagiarism), such as “establishing a standard international protocol for management of plagiarism” (Joob and Wiwanitkit 2014, n.p.), proposing that “the concept might be added to the international checklist for accreditation or the ranking process of universities and institutions” (Joob and Wiwanitkit, 2014, n.p.) Although they did not develop the idea further, Joob and Wiwanitkit (2013, 2014) were among the very few contributors to editorial content who linked the notion of plagiarism and self-plagiarism back to higher education institutions, proposing that universities themselves take responsibility for their researchers and upholding research and publication ethics. They were also among the few who suggested that professors have a role to play in guiding and mentoring both graduate students and junior colleagues in terms of preventing

plagiarism in their publications, asserting that senior academics are role models when it comes to research and publication (Joob and Wiwanitkit 2017).

Turning towards the three research typologies, conceptual studies were the most prevalent ( $n=41$ ), followed by secondary research ( $n=12$ ), with primary research being the least prevalent ( $n=8$ ).

### Conceptual Research

Upon examining conceptual research, we found that this typology of inquiry, that did not involve the collection of primary or secondary data such as scholarly or historical essays, theoretical position papers, or teaching cases (Moses 1990; Thyer 2011) began as early as the 1960s, with some activity every decade, with the exception of the 1970s. Of note is that more than half the sources in this category were published between 2010 and 2016.

Scholars contributing to the conceptual or theoretical understandings of self-plagiarism seem particularly aware of some of the complexities associated with it, including a lack of operational definitions (Sutherland-Smith 2016). Bretag and Mahmud (2009) point out that “There needs to be agreement and guidelines which clearly differentiate between legitimate textual re-use and inappropriate textual re-use... ‘self-plagiarism’” (p. 194). Despite their call for clear guidelines almost a decade ago, we found little evidence in the literature of such guidelines, particularly for researchers in training or the professors who mentor them.

### Sources Using Secondary Data

Of those studies involving the collection of data, those that examined secondary data such as term papers or previously published studies were more prevalent than primary research that collected data from human participants. A more detailed analysis of studies using secondary data revealed that all were published over the past two decades, with more than half (58.3%) published between 2010 and 2017, indicating a general increase in the amount of research being done using secondary materials as a data source.

Among the sources that examined secondary data, Halupa’s (2014) paper was of particular interest to our study, as she examined self-plagiarism among students. She reported that neither faculty, nor students understand the concept of self-plagiarism very well, yet both groups view the issue differently. Faculty want students to create new work for every course, while students see textual re-use as an efficient use of their time and graduate students in particular, may want to link together as much of their course work as they can to their research topic to lessen the burden of writing their thesis later on (Halupa 2014).

Ison (2015) explicitly examined the influence of the Internet on plagiarism among doctoral students. He found that self-plagiarism in doctoral dissertations “most commonly came in the form of un-cited use of academic papers, journal articles, conference proceedings, and similar works that preceded the dissertation publication date” (p. 162). This point was of particular interest to us, as we have found in our



discussions with colleagues that the question of how graduate students should cite their contributions to research including, but not limited to, departmental talks, conference presentations, graduate student research symposia and journal articles, has perplexed and frustrated us as graduate student supervisors. We found little guidance in the literature about how to address this particular element of graduate student work, particularly if it is unpublished, such as a departmental talk or graduate student research presentation.

### Sources Using Primary Data

The final, though least prolific typology of research involved the collection of data from human participants, with the first study emerging in 1994.

An observational note worthy of consideration is that the co-author of this pioneering primary research in this field (1994), Roig, also contributed to the fields in terms of secondary and conceptual research, making him perhaps the most prolific researcher in the field of self-plagiarism overall. Also noticeable is that 75% percent of primary research studies on this topic have emerged in the literature since 2010. Roig and Ballew's (1994) found that students' attitudes to cheating and plagiarism in general were laxer than that of professors, recommending that professors take "a firm position" and offer students direct instruction about what is considered acceptable and unacceptable.

Vincent Robinson's (2016) doctoral research specifically addressed faculty perceptions of self-plagiarism among university students. She surveyed 201 faculty members in the United States and found that non-tenured faculty were more likely to identify self-plagiarism in student work and online faculty were more likely than campus-based faculty to perceive higher levels of plagiarism among students. Faculty perceived that graduate students, in general, engage in academically dishonest behavior less often than undergraduates (Vincent Robinson 2016). Of particular interest was her finding that 71% of faculty respondents did not believe that self-plagiarism was well defined, but 93% percent believed that students whose work built on previous assignments achieved deeper learning. Vincent Robinson (2016) also found that 87% believed that faculty were responsible for teaching students about appropriate behaviours regarding self-plagiarism. Overall, Vincent Robinson's findings showed that faculty found the topic of self-plagiarism confusing but acknowledged their role in guiding students in avoiding it. She concludes with a call for more faculty development and support to ensure.

In summary, we find an interesting variety in the types of contributions to the scholarly dialogue, with the most prolific being editorial commentary of one form or another. Editorial contributions understandably focused almost entirely on research and publication ethics. Research contributions, including primary, secondary and conceptual research focused more intently on higher education contexts, often concluding with recommendations for clearer guidelines about what constitutes self-plagiarism and more support for faculty about how to address the topic with their students.

## Overlapping Historical and Typology Data

Our final stage of analysis involved mapping the changes in typologies of sources over time. The histogram below (Fig. 5) offers a visual representation of how contributions to the literature have changed over time.

The increase in the diversity of sources since 2010 is evident in this visual representation of the data, which also shows publication gaps at various points in time.

## Discussion

At the outset of this paper, we declared that the origins of the study arose from working with colleagues and graduate students who struggled to understand what self-plagiarism is, and how researchers-in-training can avoid it. We found gaps in the guidance provided by the APA Manual and our institutional academic calendar, which led to this scoping review of the literature. We began with the hypothesis that there was a lack of evidence-based research on the topic of self-plagiarism in research publications. Upon analysis of the sources analyzed we found that editorials ( $n=47$ ) and editorial responses ( $n=16$ ) comprised 47% of the total sources we identified. When considered together, primary, secondary and conceptual research sources ( $n=61$ ) totaled just over 46% of the overall sources. While this might seem to indicate that our hypothesis was disproven, it is important to consider that primary research remains by far the lowest contribution to the field, proportionate to other typologies of evidence, accounting for only 6% of overall contributions to the field. We find it promising that the increase in the number of contributions of

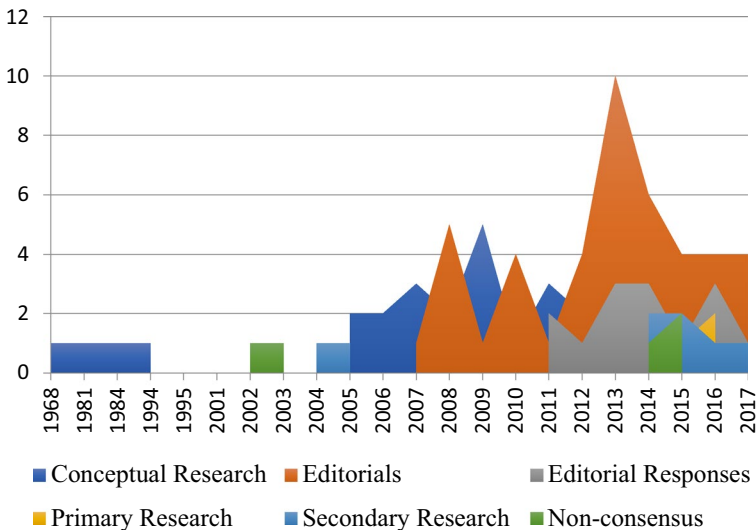


Fig. 5 Histogram of typologies 1968–2017

primary research since 2010 shows and increasing interest in contributing empirical knowledge to this field of study.

However, with respect to social sciences and educational research and in particular, there remains a lack of practical and operational guidance for students and supervisors. The question of how a professor might guide a graduate student remains largely unanswered. There is a need to support graduate students as researchers-in-training with concrete guidance that they can apply in their course work, research, theses and publications. This is particularly crucial in the field of educational research, since the students we teach often have careers in, or graduate to have careers in, public education. It is important for us, as trainers of teachers, to know how to have conversations with our students about this topic, who themselves may themselves encounter the issue in their own professional practice as educators. An exploration of that topic is outside the scope of this particular study, though we note its importance as a key underpinning of graduate programs in education generally.

## Limitations

This study has been limited to works published in English and further limited to works located in social sciences databases. We recognize that our search has not been exhaustive, and we have kept our scope fairly narrow in order to advance the dialogue within social sciences and in particular, within the field of educational research.

## Recommendations

Our review of the literature on self-plagiarism has demonstrated the need for further work to be done in this area. Our recommendations, reiterate, to some extent, those found in the literature. We summarize them here, adding in some of our own that were not immediately evident in the literature.

**Recommendation 1** Further research about self-plagiarism among graduate students. Ison (2015) noted that “more research is necessary to quantify the incidence and severity of self-plagiarism among dissertations” (p. 162). We concur, but with a caveat. Self-reported data is fairly common in the area of plagiarism research generally (Genereux and McLeod 1995; Roig and Caso 2005) and while it can be helpful to an extent, even more useful would be institutional academic misconduct data about rates of self-plagiarism among students or research that uses interventions to teach students about self-plagiarism measuring their understanding of the topic before and after the intervention. Studies that report primary data that goes beyond measuring perceptions and attitudes was largely absent from the literature and is much needed

- Recommendation 2 Further research about faculty understanding of self-plagiarism. Similar to the research about students, most of the studies involving faculty captured perception and attitudinal data, which can be a helpful place to begin, but we assert that the field of academic integrity research is primed to undertake research involving about what faculty actually know and how they address the topic of self-plagiarism with their students. As with students, interventions need to be developed for faculty in the form of professional learning that help them to build their own understanding of self-plagiarism and support their students to avoid it, with pre- and post-tests to measure changes in knowledge and confidence among faculty members
- Recommendation 3 More explicit guidance for professors with regards to supporting graduate students. Vincent Robinson (2016) pointed out that faculty members feel responsible for teaching their students how to act with integrity in terms of research and publication but lack the knowledge and confidence with regards to how to go about doing that. Faculty members require practical and operational guidance on how to address the topic of self-plagiarism among students. Institutional faculty development, as well as written guidelines for faculty would be a practical place to start. It is likely that such supports would spark lively debate among professors, but this in itself would be helpful as a form of dialogic professional development among scholars
- Recommendation 4 Development of resources for both faculty and graduate students. Roig's (2015a) guide to ethical writing is, in our assessment, one of the most useful guides available for scientific writers on the topic of how to avoid self-plagiarism and other ethically questionable writing practices. One limitation of Roig's (2015a) guide is that it is directed main towards writers in the medical and health sciences fields, which is understandable given that the guide appears to have been commissioned by the U.S. Department of Health and Human Services Office of Research Integrity. While much of the content is transferable to other disciplines, it would be especially helpful to have resources with examples from social sciences contexts, and particularly for educational research. In addition, resources for graduate students that directly address the complexities of unpublished graduate research such as departmental talks and graduate research symposia are desperately needed
- Recommendation 5 A replication of this study, extending it beyond social sciences. Earlier, we noted that we had conducted a search for literature reviews on the topic of self-plagiarism but found none. We then noted that we prioritized social sciences research databases, and as such, one possible direction for future study would be a replication of this scoping study focused on other

disciplines. Our inclusion of Google Scholar as a database source for the literature resulted in some works outside of the social sciences being included, though this was not the focus of our study. A more comprehensive study across disciplines would provide further results to complement and broaden our results

## Conclusion

Our purpose with this review was to shed light on the typology of evidence about self-plagiarism in the research literature with a focus on the social sciences. We found that editorial content dominates the dialogue on the topic with a particular focus on publication ethics. The research literature showed that professors struggle to understand the complexities of self-plagiarism, and while they feel responsible for guiding and mentoring their students, they may not know how to go about doing that. There seems to be a gap between the black-and-white definition of self-plagiarism in academic calendars (or ours, at the very least) that states that students may not submit the same work to more than course for credit and definitions for those working in research and academic positions after graduation where self-plagiarism seems to refer almost exclusively to previously published works. There seems to be a grey area, largely untouched by either the editorial or research contributions, about the difference between unpublished student work and published professional work.

There Nevertheless, there remains a need to understand the issue of self-plagiarism from a stronger empirical evidence base, particularly within the field of educational research.

**Authors' Contributions** SE designed the concept and drafted the manuscript. SB and KC developed exclusion/inclusion criteria, identified and categorized sources. KC developed Figs. 1 and 2. Percentage contributions are SE: 70%, KC: 30%. Both authors read and approved the final manuscript.

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## Compliance with Ethical Standards

**Conflict of interest** The authors declare that they have no competing interests.

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