

Open-Access Publishing in Special Education Journals: A Multi-Level Bibliometric Analysis

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Abstract

Access to published, peer-reviewed articles in special education is important to researchers and practitioners alike. However, much of the published literature base lies behind paywalls, inaccessible to many potential consumers. Although researchers can make their published work openly accessible in multiple ways, there is limited information on (a) the prevalence of open-access publishing, (b) predictors of open-access publishing, and (c) the costs of and options for accessing paywalled articles in special education. To address these gaps in the literature, we conducted a bibliometric analysis examining articles published in 2022 in 43 special education journals ($n = 1,678$). Fifty-five percent of articles were openly accessible; results of a series of two-level logistic regression models indicated funding for research, non-U.S. corresponding authors, and journal impact factor were positively associated with open-access publishing; and the average cost to access a paywalled article was approximately \$36. Implications for equity, scientific progress, and the research-to-practice gap are discussed.

Open-Access Publishing in Special Education Journals: A Multi-Level Bibliometric Analysis

Special education practitioners and policymakers are urged to inform practice and policy with research findings and research-based recommendations from the peer-reviewed literature (Cook et al., 2024; Individuals with Disabilities Education Improvement Act, 2004). Yet many peer-reviewed articles published in journals are behind paywalls and not freely available to individuals not affiliated with institutions (e.g., universities) that have contracts with journal publishers. Incomplete and inequitable accessibility of published scholarship slows scientific progress, contributes to the gap between research and practice in applied fields such as special education, and raises important issues related to social justice (Gair et al., 2021; Lindström et al., 2025). Fortunately, an increasing number of scholarly publications are being made freely available through different open-access (OA) publishing options, with meaningful differences in rates of OA publications between fields (Piwowar et al., 2018; Severin et al., 2020). Outside of one preliminary review with a limited sample of articles and an incomplete approach for identifying OA versions of articles (Cook et al., 2023), we could not identify any analyses of OA publishing in special education journals. The purpose of this study is, therefore, to examine OA publishing in special education.

The consequences of lack of access to peer-reviewed research and scholarship for practice are clear in special education: Practitioners are unable to access many peer-reviewed articles that have the potential to inform effective instruction and improve the outcomes of learners with disabilities. Limited access to the research base also slows the iterative development of scientific knowledge (Lindström et al., 2025). More fundamentally, communal ownership of research findings is a foundational norm of modern science (Merton, 1942). Access

to the published research base is also a matter of social justice, as greater access to the scientific knowledge base currently is afforded to individuals with the privilege of (a) being affiliated with an institution with the means to purchase access from publishers or (b) having the means to personally pay for access to published articles.

Multiple options exist for scholars to democratize access to their work and make published articles OA. Drawing on OA classifications advanced in previous scholarship (see Fleming & Cook, 2022; Lindström et al., 2025; Piwowar et al., 2018), we created and applied the following typology and definitions of OA publications in this paper.

- *Gold and diamond/platinum journals*, in which all articles in a journal have OA licenses and are permanently OA on journal websites. Whereas there is no cost to authors to publish in diamond/platinum journals (e.g., *Research in Special Education*), authors pay article-processing charges (APCs) to publish papers in gold journals (e.g., *AERA Open*).
- *Hybrid OA articles*, which appear in traditional journals in which most articles are behind paywalls, are made openly accessible by the author paying an APC. Hybrid OA articles have OA licenses and are permanently OA on journal websites.
- *Bronze articles* are made OA by the publisher. Bronze OA articles are not licensed OA (copyright is retained by the publisher) and can be placed behind a paywall on journal websites at any time.
- *Shared journal articles*, which we define as the journal-formatted article (i.e., version of record) being shared somewhere other than the journal website despite the article not being OA on the journal website. This includes what is sometimes referred to as black OA (posting published articles in violation of copyright) as well as articles shared with permission of the publisher.

- *Green OA*, which involves authors posting their own versions of papers (i.e., not the version of record) online, often on a print archive (e.g., EdArXiv). Green OA papers may or may not be OA licensed. We delineate three types of green OA papers:
 - Postprints, which are noted as being peer reviewed, accepted for publication, or the same as (with the possible exception of minor copy-editing) the published journal article.
 - Preprints, which are noted as not being peer reviewed, not accepted for publication, or different from (beyond minor copy-editing) the published journal article.
 - Unspecified, for which the peer-review status, acceptance for publication, and difference from the published article are not unspecified.

Piwowar et al. (2018) reviewed more than 100,000 publications across multiple fields and found that in 2015, the final year considered in their longitudinal analysis, OA versions were available for 45% of published articles. The authors also reported that the prevalence of OA publishing was increasing over time, bronze OA was the most common type of OA publication, and substantial variation in OA rates existed across disciplines. For example, nearly 60% of publications in biomedical research were available OA, with the most common OA routes being bronze and gold; whereas less than 20% of publications in chemistry were openly accessible, with green OA being most common. Piwowar and colleagues did not report findings specifically for publications in special education or education, which were subsumed in the broad discipline of social sciences in their review (the social sciences were ranked 9th of 12 disciplines in terms of OA prevalence). Cook et al. (2023) conducted a preliminary analysis of OA publishing in special education, reporting that the Open Access Button (a tool for finding copyright-compliant, OA

articles; <https://openaccessbutton.org/>) identified OA versions for 23% of 250 randomly selected articles in special education journals in 2020. However, the Open Access Button does not identify all OA papers (Schultz et al., 2019) and the sample of journal articles examined was relatively small.

Researchers have also examined variables associated with OA publishing. For example, in their review of OA publications across multiple disciplines, Olejniczak and Wilson (2020) found that research funding predicted authors publishing OA. Among publications in special education journals, Cook et al. (2023) found a significant association between lead author's country and OA publishing (with European authors most likely to publish OA), but that journal impact factor (JIF) was not associated with proportion of OA articles in journals.

In the absence of OA versions of articles, the cost of accessing paywalled articles is likely a significant barrier to potential research consumers accessing the peer-reviewed literature in special education, perhaps especially for practitioners seeking research evidence to inform their many instructional choices (Eiser Hess, 2025). For example, Gershenson et al. (2020) reported that when paywalls were temporarily removed from six education journals, downloads increased by 55% to 95% per month, suggesting that the \$36 fee to access paywalled articles in these journals significantly limited the diffusion and potential impact of the papers published in them. Some publishers are beginning to offer multiple options for accessing paywalled publications at different price points (e.g., a lower cost for short-term, online-only access to an article). However, to date, the different options and costs of accessing paywalled journal articles in special education journals has not been systematically documented.

Purpose Statement, Research Questions, and Hypotheses

Due to the scarcity of evidence regarding OA publishing in special education, we undertook this analysis to examine (a) the availability OA versions of articles published in special education journals (overall and for specific types of OA publishing), (b) predictors of OA publishing for articles in special education journals, and (c) the options and costs associated with accessing paywalled publications from special education journals. Our research questions and hypotheses are preregistered (masked version available at https://osf.io/85mra/?view_only=6cc5d9d59fd84cdc87a869a3ef2f96e7).

1. For what proportion of 2022 special education articles is there an OA version available?
 - a. What proportion of 2022 special education articles are platinum/gold, hybrid, and bronze OA?
 - b. For what proportion of 2022 special education articles that are not platinum/gold, hybrid, or bronze OA is a shared journal article available?
 - c. For what proportion of 2022 special education articles is a green OA version available? What proportion of green OA versions are specified as postprints or preprints?

Hypothesis: We did not pose specific hypotheses for these exploratory research questions. Nonetheless, we expected that the overall proportion of articles available as OA would be smaller than the 45% identified by Piwovar et al. (2018) for 2015 publication because OA publishing options, such as posting author-formatted green OA versions of papers, are not as well established in special education as in other fields. However, we expected that the proportion of OA publications would be higher than the 23% reported by Cook et al. (2023) because the OA Button, the tool used to identify OA versions of publications in that review, does not identify all OA papers (Schultz et al., 2019).

2. Do JIF (continuous variable), country of corresponding author (United States, non-United States), type of publication (empirical, non-empirical), and funding support for research (stated funding support, no stated funding support) predict availability of OA publications (across OA publishing options and for each type of OA publication)?

Hypothesis: Based on the literature reviewed previously, we hypothesized that the country of corresponding author and stated funding support would predict availability of OA versions of articles, whereas JIF would not. We posed no hypotheses related to the relation of type of publication to OA availability.

3. What are the options and cost for downloading non-OA articles from the websites of special education journals?

Hypothesis: We did not pose a hypothesis for this exploratory research question.

Method

Study methods and analyses were preregistered, and data, analytic code, and codebook are shared (see https://osf.io/85mra/?view_only=6cc5d9d59fd84cdc87a869a3ef2f96e7 for masked project site with open materials). The data file includes the title, authors, and journal for all articles in our sample. See Figure 1 for an overview of our procedures.

Electronic Search and Selection of Journal Articles

Replicating Cook et al.'s (2023) review of open-science practices in special education publications, we used Journal Citation Reports to identify special education journals. Unlike many other databases, Journal Citation Reports uses “special education” as a subject-area classification for journals (comparatively, the most granular relevant classification for journals in the Scopus database is “education”). Journals that meet “the rigorous quality standards documented in the Web of Science Core Collection” are profiled in Journal Citation Reports

(Clarivate, 2025). Forty-four journals were categorized under special education, but we excluded *International Review of Research in Developmental Disabilities* because it was identified as a book on its website. We then searched the Web of Science for 2022 publications in each of the remaining 43 journals, excluding publications identified by Web of Science as editorial material, corrections, retractions, biographical material, and meeting abstracts. Two co-authors searched Web of Science independently for articles, with 100% agreement. We identified and coded 1,678 articles across the 43 journals. See Table 1 for a list of special education journals, 2022 JIFs (retrieved from Journal Citation Reports), and the number of publications coded from each journal. See Table 2 for descriptive characteristics of those articles.

Coding

For each article, we coded journal name; country of corresponding author; number of authors; whether a statement indicated financial support; whether a statement specifically indicated funding for paying APCs; whether the article reported empirical research and, if so, whether the article reported a systematic review/meta-analysis; whether the article was openly available on the journal website and, if so, whether the articles had an OA license; whether the journal article was available somewhere other than the journal website (i.e., shared journal article; coded only for articles not available on the journal website); whether an author-formatted green OA version of the paper was available and, if so, whether it was indicated that the paper was a postprint or preprint and whether it had an OA license.

To code descriptive information (i.e., author information, financial support, type of article), we conducted a Google Scholar search for each article title logged in through our university to access the full-text pdf. To code variables related to OA availability of articles, we conducted a Google Scholar search for each article title on an incognito browser while off

campus to ensure that article availability was not influenced by the authors' university and professional affiliations. We clicked on the "All versions" link returned with each search and examined each available version of articles.

After developing and piloting a coding form and codebook, the lead author trained co-authors and collaboratively practiced coding multiple articles not included in the analysis. Co-authors then independently coded at least five practice articles not included in the analysis. If coders agreed with the lead author on at least 90% of items across the five articles, they began independent coding. If less than 90% agreement was attained, feedback and additional training were provided, and independent practice continued until at least 90% agreement was attained on the five most recently coded articles.

Two authors independently "double coded" 20% of articles ($n = 336$). To minimize coder drift and facilitate reliable coding, we coded articles in eight sets, meeting after completing each set to discuss any issues encountered, reconcile discrepancies between coders on disagreements, and provide feedback for any items on which coders frequently disagreed. We calculated percentage agreement for all items and Kappa for all items with categorical responses. Results indicate coding was reliable, with percentage agreement ranging from 80% to 100% and Kappas ranging from .56 to 1.00. See Table 3 for reliability coefficients and notes on primary reasons for disagreements.

We identified no gold or diamond/platinum journals in our sample of special education journals. When a pdf of an article was available from the journal website, we identified it as hybrid if it was licensed OA and as bronze OA when it was not licensed OA. We categorized green OA versions as either (a) postprints when noted as being peer reviewed, accepted for publication, or the same (with the exception of minor copy editing) as the published journal

article; (b) preprints when noted as being not peer reviewed, not accepted for publication, or different (beyond minor copy-editing) than the published journal article; or (c) unspecified.

Options and cost for accessing non-OA articles from the journal website were coded descriptively in June 2023 after primary coding was completed. Following procedures similar to the primary coding, the lead author trained four co-authors who engaged in independent practice coding with articles not included in the analysis until achieving 90% reliability across at least five articles. We coded the first closed (i.e., paywalled) article in our data set for each of the 43 journals by copying and pasting information on purchasing options and associated costs on the article webpage. Two authors independently double coded each article, with 100% agreement.

To explore where the 313 shared journal articles (i.e., articles not openly available on the journal website but openly available as journal-formatted articles elsewhere) were available, the lead author and five co-authors engaged in a round of non-preregistered, follow-up coding. After training, collaborative practice, and establishing independent coding reliability, we coded whether each of the identified shared journal articles was available online from ResearchGate, Educational Resources Information Center (ERIC), PubMed Central (PMC), Europe PMC, academic.edu, and other sources. We independently double coded 20% ($n = 65$) of shared journal articles, with 95% agreement. Discrepancies were reconciled through discussion between coders.

Data Analysis

We conducted a series of two-level logistic regression models in R 4.3.2 (R Core Team, 2024) using the lme4 package (Bates et al., 2015) for multilevel modeling. Our data had a two-level structure with articles (Level 1) nested within journals (Level 2). The binary variable OA Publication (yes, no) was the main outcome variable and we conducted additional analyses to predict each type of OA (i.e., hybrid, green, bronze, shared journal articles). Article-level

predictor variables included country of corresponding author (binary; U.S., Non-U.S.), type of publication (binary; empirical, non-empirical), and funding support (binary; yes, no). The sole journal-level predictor was the continuous variable JIF.

We first estimated the unconditional model. This model does not include predictors but estimates the variance components at the article (within-group) and journal level (between-group). The variance components in the unconditional model were used to determine the intraclass correlation, which reflects the proportion of variation in the predicted likelihood of OA availability that is due to differences between journals. Generally, intraclass correlation coefficients greater than 0.10 suggest employing a multilevel model could be beneficial to account for data clustering and minimize the risk of a Type 1 error (Lee, 2000).

We then iteratively built and assessed random-intercept and random-slope models across level-1 and level-2 units. To determine the best-fitting model, we compared random-intercept and random-slope models to the unconditional model using maximum likelihood estimation. We assessed model fit using the chi-square likelihood ratio test, the Akaike Information Criterion (AIC), and pseudo- R^2 . All code and scripts used for data analysis in this study can be accessed at https://osf.io/85mra/?view_only=6cc5d9d59fd84cdc87a869a3ef2f96e7.

Results

Research Question #1

In total, 917 (55%) of articles published in 2022 special education journals were available OA. Whereas we identified no articles published in diamond/platinum or gold journals, the prevalence range of other types of OA publishing ranged from 12% (bronze OA) to 19% (shared journal articles). See Table 1 and Figure 2 for the prevalence of different types of OA (note that the percentages of different OA types sum to > 55% because some articles were available OA in

multiple ways, such as green and hybrid OA). In all, we coded 464 (28%) articles as being OA on journal websites (i.e., hybrid or bronze OA) and 505 (30%) available somewhere other than journal websites (i.e., green OA and/or shared journal articles).

Of the green OA manuscripts, 136 (62%) were identified as postprints, 16 (7%) were identified as preprints, and 68 (31%) were not clearly identified as being a preprint or a postprint. Fifty-four (25%) of the green OA manuscripts had an OA license in the document or the webpage leading to the document. See Table 4 for the prevalences of OA licenses used in green and hybrid OA publications.

Of the 313 shared journal articles, many were posted on repositories affiliated with funding agencies, such as ERIC ($n = 72$, 19%) and PMC ($n = 95$, 25%), with the permission of the publisher such that copyright was not violated. Many shared articles were also posted on the websites of for-profit academic social networks such as ResearchGate ($n = 127$, 33%) and Academia.edu ($n = 28$, 7%), often in violation of copyright.

Research Question #2

We first tested the key assumptions of multilevel logistic regression, including multicollinearity using variance inflation factors (VIFs), linearity, and normality. We also used the DHARMA package in R (Hartig, 2024) to evaluate our models for signs of misspecification (e.g., outliers, excess zeros, residual non-uniformity). All diagnostic tests indicated that the assumptions were met, and we found no evidence of violations that would compromise the validity of the model.

After testing the statistical assumptions for each model, we calculated the intraclass correlation, which was 0.19 for any OA, 0.35 for hybrid OA, 0.43 for bronze OA, 0.11 for green OA, and 0.27 for shared journal articles. This implies that 19%, 35%, 43%, 11%, and 27% of the

variability in the predicted likelihood of OA availability for any OA, hybrid OA, bronze OA, green OA, and shared journal articles, respectively, can be attributed to journal-level differences. Using model fit statistics, we selected a random-intercept model for each outcome, incorporating both level-1 and level-2 predictors. See Table 5 for a summary of the model parameters.

Consistent with hypotheses, results indicated a significant relationship between OA of any type and funding. The odds ratio for funding was 2.03 ($p < .001$), meaning that articles with a source of funding noted had 103% higher odds of being published OA than articles that did not when holding all other variables constant. Similarly, the odds of a paper being OA increased by 49% for each one-unit increase in JIF ($OR = 1.49, p < .05$), which we did not hypothesize.

When examining predictors of hybrid OA, there were statistically significant relationships between hybrid OA and funding, the corresponding author's country, and JIF. Controlling for other variables, articles with non-U.S. corresponding authors had 1,096% higher odds of being published hybrid OA ($OR = 11.96, p < .001$) compared to articles with U.S. corresponding authors. Additionally, articles with reported funding had 43% greater odds of being published hybrid OA ($OR = 1.43, p = .02$). A one-unit increase in a journal's JIF corresponded to a 74% increase in the odds of a paper being published as hybrid OA ($OR = 1.74, p = .008$).

We also identified a significant relationship between bronze OA and the country of the corresponding author—articles with non-U.S. corresponding authors had 61% lower odds of being bronze OA compared to articles with corresponding authors in the U.S. ($OR = 0.39, p < .001$). Both reported funding and JIF significantly predicted posting a green OA version of an article. Articles with reported funding had 145% higher odds of having a green OA version available ($OR = 2.45, p < .001$) than those without reported funding. Each one-unit increase in a journal's

JIF was associated with a 48% increase in the likelihood of a paper being posted as green OA ($OR = 1.48, p = .02$). Lastly, shared journal articles were significantly related to both funding and the country of the corresponding author. Articles with reported funding had 89% higher odds of being shared ($OR = 1.89, p < .001$), whereas articles authored by non-U.S. researchers had 38% lower odds of being shared compared to those by researchers with U.S. affiliations ($OR = 0.62, p = .01$).

Research Question #3

Paywalled articles were available for purchase for all but one journal in our analysis. *Learning Disabilities Research & Practice* was transitioning publishers (from Wiley to Sage) when we coded articles and the first paywalled article from 2022 was not available for purchase from either publisher's website. The individual articles were available for purchase for other journals with one exception—the only option for accessing paywalled articles from *Education and Training in Autism and Developmental Disabilities* was to purchase an entire issue. See Table 6 for options and cost to access paywalled articles in each journal in our analysis.

Publishers provided different options for accessing individual, paywalled articles that ranged in cost both within and between publishers. The most commonly available option for accessing individual articles was purchasing online access with the option to download, which was available for articles in 32 journals. Access was time delimited for many journals (e.g., access was limited to 24 hours for articles in journals published by Sage and to 48 hours in Elsevier and Taylor & Francis journals) but not others. The mean average cost for downloadable access to articles was \$35.56 ($SD = \15.61), with a median of \$37.50 and range of \$14-\$65. The modal cost was \$15 for 24 hours of access to articles published in 10 journals published by Sage. An option to purchase online-only access to articles (without the ability to download specified)

was provided for nine journals published by Allen Press, Oxford University Press, and Wiley. Time periods of online access ranged from 24 hours to unlimited, with cost ranging from \$10 to \$55.

An option to purchase entire issues was available for 12 journals, with a mean average cost of \$291.76 ($SD = \163.17), a median cost of \$309, and a range of \$24-\$529. The timeframe for purchased access to entire issues ranged from 24 hours to unlimited and most, but not all, purchases of issues included ability to download.

Discussion

The purpose of this bibliometric analysis was to evaluate (a) the prevalence of OA publishing, (b) predictors of OA publications, and (c) options and costs for accessing paywalled publications in special education journals. Just over half (55%) of the journal articles published in special education journals in 2022 were openly accessible across OA formats, which contrasts with our expectation and Cook et al.'s (2023) finding that only 23% of 250 randomly selected articles published in special education journals in 2020 were OA. It is possible that practices related to OA publishing substantially changed over two years, though we posit that the more comprehensive procedures used to identify OA versions of articles in the current analysis (Cook et al., 2023, used only the Open Access Button to identify OA versions of articles) is a more likely explanation of the difference. Our finding of 55% of articles being available OA is also larger than the 45% reported in 2015 in Piwowar et al.'s (2018) cross-disciplinary analysis. Given Piwowar et al.'s finding that OA rates were increasing over time, it is possible that the higher rate in the current analysis is simply due to it being conducted seven years later. Alternatively, it may be that a relatively high proportion of publications are available OA in special education.

Piwowar et al. (2018) reported that the most common types of OA in 2015 were bronze and gold. In contrast, we identified shared journal articles (19%) and hybrid OA as most common. These differences may be due, at least in part, to changes in patterns of OA publishing over time. For example, it has become increasingly common for researchers to share journal articles on for-profit websites like ResearchGate, which we coded as shared journal articles) in recent years. Similarly, Piwowar et al. identified hybrid OA as one of the fastest growing types of OA, which appears to have continued to expand since 2015. It is also possible that these patterns are idiosyncratic to special education. For example, the Institute for Education Sciences, which funds many research projects in special education, requires authors to post publications from supported projects to ERIC (Namy & Pollard, 2024). This may have contributed to a relatively high proportion of shared journal articles in special education. Additionally, there were no gold or diamond/platinum journals among the special education journals reviewed, which left only hybrid OA as an option for special education researchers to make their work permanently OA on journal websites and may have contributed to the relatively high prevalence of hybrid OA articles identified in our review.

It is important to note that the prevalence of OA versions of 2022 articles in special education journals is not fixed. The 12% of articles that were bronze OA are not licensed as OA and can be placed behind a paywall by the publisher at any time. Alternatively, publishers may make additional articles bronze OA at any time. Similarly, many of the 19% of shared journal articles were shared in violation of copyright and will likely be taken down at some point. Alternatively, authors may post new shared articles and green OA versions of articles at any time.

Consistent with hypotheses and previous findings (Cook et al., 2023), articles with corresponding authors outside of the U.S. were significantly more likely to be published hybrid OA than articles with U.S. corresponding authors. This may be due to policies and funding supporting OA publishing in many countries, such as Horizon Europe (European Commission, n.d.). Interestingly, this pattern was reversed for bronze OA, with articles with corresponding authors from the U.S. significantly more likely to be made open access (at least temporarily) by the publisher. This finding may be related to differential use of bronze OA by journals. The four journals in our review that reflected an international focus in their title (i.e., *British Journal of Learning Disabilities*, *European Journal of Special Needs Education*, *International Journal of Developmental Disabilities*, *International Journal of Disability Development and Education*), and which feature a relatively high proportion of non-U.S. corresponding authors, rarely engaged in bronze OA. Collectively, only 1.4% of 2022 articles were bronze OA in these four journals, far below the average rate of 12% across journals. Alternatively, because hybrid and bronze OA are mutually exclusive, the higher prevalence of hybrid OA among non-US authors may contribute to the lower prevalence of bronze OA for that author group.

Consistent with previous findings (Cook et al., 2023; Olejniczak & Wilson, 2020), funding support and JIF were positively related to OA publishing—both were positively and significantly predictive of any OA, hybrid OA, and green OA (funding support was also positively related to shared journal articles). One possible explanation for these findings is that quality of research may be associated with external funding, JIF, as well as researchers' motivation to publish OA. That is, we conjecture that funding may support the ability to conduct high quality, impactful research, which is more likely to be accepted for publication in high

impact journals and which authors may be more motivated to share openly (see Wenaas, 2022). Indeed, funders often require that papers reporting sponsored research be published OA and funded researchers may build funds to support hybrid OA into their budgets.

Implications and Recommendations

Approximately half (55%) of articles in special education journals in 2022 being available OA reminds us of the idiom of the glass being both half full and half empty. The optimist might conclude that there are no restrictions to much of the published literature base, which supports equitable access, helps to accelerate scientific progress in special education, and contributes to bridging the research-to-practice gap. The pessimist, however, could reasonably conclude that almost half of the published special education literature base in 2022 residing behind paywalls violates the norms of science, exacerbates existing social and educational disparities, slows the pace of scientific progress in the field, and perpetuates the gap between research and practice.

We recommend that research consumers be made aware of the many OA versions of peer-reviewed publications freely available to them (e.g., on social media) as well as effective approaches for searching for them. Cook and colleagues (2024) recommended that research consumers use Google Scholar as the first option to search for OA versions of articles, as it captures most OA versions of articles and returns relatively few false positives (indicating an OA version exists when it does not). When accessing green OA papers, we recommend that research consumers pay careful attention to whether the paper is identified as the peer-reviewed, accepted, or final version of the published articles (i.e., a postprint). If not, there are likely some differences beyond formatting—which may or may not be substantive (though research suggests

preprints are generally consistent with published articles; Janda et al., 2022)–from the published article (see Wingen et al., 2022).

Our primary recommendation for researchers is to engage in more OA publishing to further democratize access to published, peer-reviewed literature. Although special education researchers appear to have generally positive attitudes toward green OA publishing, knowledge is not correspondingly high (Fleming et al., 2024). Therefore, we recommend efforts to increase special education researchers' understanding of OA publishing and its benefits. In particular, we recommend supporting authors' understanding of green OA (i.e., posting preprints and postprints), which can be done at no cost and in accordance with copyright. Preprinting and postprinting one's work is relatively straightforward, and we recommend researchers consult existing resources (e.g., Lindström et al., 2025) for guidance on issues such as the importance of selecting an OA license and clearly identifying whether the paper is a preprint or a postprint, which did not occur in 31% of the green OA papers we analyzed. Another cost-free option for OA publishing is the growing number of diamond or platinum journals in the field (e.g., *Journal of Special Education Preparation*, *Research in Special Education*), which make all publications freely available at no cost to authors. Especially given these options for legal and cost-free OA publishing, we discourage authors from posting published articles without an OA license on the internet in violation of copyright.

Findings also suggested considerable variability between journals in OA publishing rates, especially for hybrid and bronze OA (see Table 1). Thus, promoting change at the journal level, especially targeting journals with low OA rates, may be a fruitful approach for increasing OA publishing rates in the field. For example, journal editors might be persuaded to adopt clear policies permitting posting of preprints and postprints, make more articles available via bronze

OA, and work with their publisher to set reasonable APCs for hybrid OA publishing if they are persuaded of the benefit of OA publishing for increasing the impact of the scholarship published in their journal.

Given the benefits of making the peer-reviewed literature base openly and equitably accessible in special education, we encourage researchers to replicate this study and examine whether and how OA publishing in special education journals changes over time. We also recommend conducting research to identify barriers to and facilitators of publishing OA for special education scholars. Finally, we suggest researchers examine possible benefits of OA publishing, including the potential for greater citations and downloads, in special education and promote such advantages to encourage increased OA publishing by researchers and editors in the field.

Limitations

This study provides a snapshot of the open availability of articles published in special education journals in a single year (2022). Results do not provide longitudinal trends and results may have differed had we analyzed a different year of publications. As in previous reviews of open practices (see Cook et al., 2023), we analyzed journals classified under special education by Journal Citations Reports. However, scholarship related to special education is published in other journals. For example, *Journal of Special Education Preparation* and *Research in Special Education*, new platinum OA journals in which all articles are freely accessible with no APC charged to authors; *Teaching Exceptional Children*, a prominent practitioner journal; and *Multiple Voices*, a journal focused on diverse learners with disabilities, were not included. Thus, the present analysis does not capture all scholarly articles published in 2022 related to special education, but rather focuses on all 2022 publications in 43 journals with a high degree of special

education content. Results may have differed if other journals were included, and we recommend that future researchers (a) expand the scope of our analysis and (b) examine whether OA prevalence differs by journal type (e.g., practitioner compared to research journals).

We only coded for shared journal articles when the article was not OA (hybrid or bronze OA) on the journal website. Therefore, the shared journal article variable does not capture when journal articles were available on both the journal website and shared elsewhere. Coding whether hybrid and bronze OA articles were also available as shared journal articles would not have affected the total proportion of articles available as OA but would have increased the prevalence of shared journal articles.

One of the journals we coded, *Learning Disabilities Research & Practice*, changed publishers—from Wiley to Sage (in January 2024) according to the journal website maintained by Wiley. At the time of our coding, abstracts for 2022 articles were available on separate websites maintained by each publisher. No 2022 articles were openly accessible on the Sage website, even hybrid OA articles (with OA licenses), but articles with OA licenses were accessible on the Wiley website during our coding. Therefore, we coded availability of articles from the Wiley website (the publisher of the journal during 2022). OA status of some articles in this journal would have differed had we used the website of the current publisher (Sage).

Conclusion

Prior to the rise of large, for-profit academic publishers, Merton (1942) expressed concern about individual researchers claiming ownership of their scientific findings and innovations rather than sharing them communally with the broader scientific community from which they sprang. Given science's iterative nature, Merton suggested that the “goal of advancing the boundaries of knowledge” would best be achieved by “sharing the wealth of

science” and, as such, “the suppression of scientific discovery is condemned” (p. 274). Today, the largest obstacle to sharing research findings and other peer-reviewed scholarship is the paywalls imposed by publishers of academic journals. Our findings that just over half of articles published in special education journals in 2022 were available OA suggests that many researchers in the field are finding ways to democratize access to their work and make it equitably accessible to all on the internet. However, the same finding indicates that almost half of publications were not openly available, suggesting that there is much progress needed to realize the goal of a fully and equitably accessible literature base.

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Table 1*List of Journals Coded, by Journal Impact Factor, and Related Information*

Journal	Journal Impact Factor (2022)	Total Articles	# (%) of Total Open Access Articles	# (%) of Hybrid Open Access Articles	# (%) of Bronze Open Access Articles	# (%) of Shared Journal Articles	# (%) of Green Version of Articles
<i>American Journal on Intellectual and Developmental Disabilities</i>	2.1	33	15 (45.4%)	0 (0.0%)	0 (0.0%)	1 (3.0%)	15 (45.4%)
<i>American Annals of the Deaf</i>	1.0	27	4 (14.8%)	0 (0.0%)	0 (0.0%)	3 (11.1%)	1 (3.7%)
<i>Annals of Dyslexia</i>	2.3	24	17 (70.8%)	5 (20.8%)	1 (4.2%)	7 (29.2%)	8 (33.3%)
<i>Behavioral Disorders</i>	1.7	23	17 (73.9%)	1 (4.3%)	7 (30.4%)	5 (21.7%)	5 (21.7%)
<i>British Journal of Learning Disabilities</i>	1.5	50	27 (54.0%)	17 (34.0%)	1 (2.0%)	5 (10.0%)	6 (12.0%)
<i>Career Development and Transition for Exceptional Individuals</i>	3.3	16	9 (56.2%)	0 (0.0%)	4 (25.0%)	5 (31.2%)	0 (0.0%)
<i>Child Language Teaching & Therapy</i>	1.0	17	15 (88.2%)	5 (29.4%)	4 (23.5%)	3 (17.6%)	3 (17.6%)
<i>Dyslexia</i>	2.2	27	16 (59.3%)	9 (33.3%)	0 (0.0%)	1 (3.7%)	6 (22.2%)
<i>Education and Training in Autism and Developmental Disabilities</i>	1.0	32	7 (21.9%)	0 (0.0%)	0 (0.0%)	7 (21.9%)	0 (0.0%)
<i>Education and Treatment of Children</i>	1.0	25	12 (48.0%)	0 (0.00%)	7 (280%)	5 (20.0%)	1 (4.0%)
<i>European Journal of Special Needs Education</i>	2.6	72	45 (62.5%)	27 (37.50%)	0 (0.0%)	12 (16.7%)	10 (13.9%)

<i>Exceptional Children</i>	2.8	23	16 (69.6%)	3 (13.0%)	9 (39.1%)	4 (17.4%)	4 (17.4%)
<i>Exceptionality</i>	1.3	26	3 (11.5%)	0 (0.0%)	0 (0.0%)	2 (7.7%)	1 (3.8%)
<i>Focus on Autism and Other Developmental Disabilities</i>	2.0	23	13 (56.5%)	1 (4.3%)	7 (30.4%)	4 (17.4%)	2 (8.7%)
<i>Gifted Child Quarterly</i>	3.1	14	8 (57.1%)	1 (7.1%)	5 (35.7%)	0 (0.0%)	3 (21.4%)
<i>High Ability Studies</i>	1.8	11	4 (36.4%)	1 (9.1%)	0 (0.0%)	3 (27.3%)	0 (0.0%)
<i>Infants & Young Children</i>	1.1	20	8 (40.0%)	0 (0.0%)	4 (20.0%)	3 (15.0%)	1 (5.0%)
<i>Intellectual and Developmental Disabilities</i>	1.8	34	11 (32.3%)	0 (0.0%)	0 (0.0%)	8 (23.5%)	3 (8.8%)
<i>International Journal of Developmental Disabilities</i>	2.1	97	97 (100%)	11 (11.3%)	0 (0.0%)	86 (88.7%)	5 (5.1%)
<i>International Journal of Disability Development and Education</i>	1.1	138	60 (43.5%)	12 (8.7%)	4 (2.9%)	28 (20.3%)	16 (11.6%)
<i>Intervention in School and Clinic</i>	0.8	47	15 (31.9%)	1 (2.1%)	9 (19.1%)	1 (2.1%)	5 (10.64%)
<i>Journal of Behavioral Education</i>	2.0	39	10 (25.6%)	2 (5.1%)	2 (5.1%)	4 (10.3%)	5 (12.8%)
<i>Journal of Deaf Studies and Deaf Education</i>	2.0	41	33 (80.5%)	5 (12.2%)	23 (56.1%)	4 (9.8%)	4 (9.8%)
<i>Journal of Developmental and Physical Disabilities</i>	1.8	53	27 (50.9%)	10 (18.9%)	7 (13.2%)	9 (17.0%)	2 (3.8%)
<i>Journal of Early Intervention</i>	1.4	20	11 (55.0%)	0 (0.0%)	7 (35.0%)	3 (15.0%)	3 (15.0%)
<i>Journal of Emotional and Behavioral Disorders</i>	1.9	24	13 (54.2%)	2 (8.3%)	5 (20.8%)	4 (16.7%)	4 (16.7%)
<i>Journal of Fluency Disorders</i>	2.1	11	5 (45.4%)	1 (9.1%)	0 (0.0%)	0 (0.0%)	4 (36.4%)

<i>Journal of Intellectual & Developmental Disability</i>	1.3	34	20 (58.8%)	14 (41.2%)	0 (0.0%)	4 (11.7%)	3 (8.8%)
<i>Journal of Intellectual Disabilities</i>	1.5	67	45 (67.2%)	19 (28.4%)	16 (23.9%)	5 (7.5%)	5 (7.5%)
<i>Journal of Intellectual Disability Research</i>	3.6	72	56 (77.8%)	32 (44.4%)	8 (11.1%)	10 (13.9%)	16 (22.2%)
<i>Journal of Learning Disabilities</i>	3.0	34	18 (52.9%)	3 (8.8%)	6 (17.6%)	5 (14.7%)	10 (29.4%)
<i>Journal of Mental Health Research in Intellectual Disabilities</i>	2.5	14	3 (21.4%)	2 (14.3%)	0 (0.0%)	0 (0.0%)	1 (7.1%)
<i>Journal of Positive Behavior Intervention</i>	2.1	26	13 (50.0%)	3 (11.5%)	7 (26.9%)	3 (11.5%)	0 (0.0%)
<i>Journal of Special Education</i>	2.0	20	11 (55.0%)	0 (0.0%)	6 (30.0%)	5 (25.0%)	0 (0.0%)
<i>Journal of Special Education Technology</i>	1.9	47	22 (46.8%)	2 (4.3%)	13 (27.7%)	7 (14.9%)	2 (4.3%)
<i>Learning Disabilities Research & Practice</i>	1.8	22	13 (59.1%)	3 (13.6%)	8 (36.4%)	1 (4.5%)	1 (4.5%)
<i>Learning Disability Quarterly</i>	1.8	25	18 (72.0%)	0 (0.0%)	5 (20.0%)	9 (36.0%)	5 (20.0%)
<i>Reading & Writing Quarterly</i>	1.9	32	13 (40.6%)	3 (9.4%)	0 (0.0%)	7 (21.9%)	4 (12.5%)
<i>Remedial and Special Education</i>	2.4	31	17 (54.8%)	1 (3.2%)	6 (19.3%)	8 (25.8%)	6 (19.3%)
<i>Research and Practice for Persons with Severe Disabilities</i>	2.5	15	12 (80.0%)	0 (0.0%)	4 (26.7%)	8 (53.3%)	3 (20.0%)
<i>Research in Autism Spectrum Disorders</i>	2.5	103	52 (50.5%)	25 (24.2%)	2 (1.9%)	11 (10.7%)	20 (19.4%)
<i>Research in Developmental Disabilities</i>	3.1	148	78 (52.7%)	39 (26.3%)	14 (9.5%)	9 (6.1%)	24 (16.2%)
<i>Topics in Early Childhood Special Education</i>	2.1	21	8 (38.1%)	0 (0.0%)	3 (14.3%)	4 (19.0%)	3 (14.3%)

Total	1,678	917 (54.6%)	260 (15.5%)	204 (12.2%)	313 (18.7%)	220 (13.1%)
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Note. Percentage totals across the types of open-access articles may exceed the total percentage of open-access articles because articles can be made open access in multiple ways (e.g., both hybrid and green open access).

Table 2*Article Characteristics (n = 1,678)*

Variable	Number of articles	Percentage of articles	
Non-US Corresponding Authors	906	54%	
Funding Source(s) Reported	787	47%	
Empirical Articles	1,522	91%	
Literature Reviews/ Meta-analyses	188	11%	
	<u>M</u>	<u>SD</u>	<u>Range</u>
Number of Authors	3.94	2.32	1-23

Note. Non-US = Corresponding authors with affiliation not in the United States. Literature reviews/meta-analyses also coded as empirical articles.

Table 3*Reliability Estimates for Variable Coding*

Variable	Percentage agreement	Average kappa ^a	Primary reasons for discrepant coding
Country of corresponding author	98%	NA	Misidentifying corresponding author when not lead author
Statement reporting funding support	96%	.93	Ambiguous statements of support that did not specify funding
Reports empirical research	98%	.87	Miscoding of systematic literature reviews as non-empirical
Systematic literature reviews and meta-analyses	100%	.99	
Article available on journal website	99%	.97	
If yes, licensed OA	99%	.98	
If no, journal article shared elsewhere	96%	.90	Not identifying link on a webpage, possibility of change in availability of shared journal article
Sources of shared journal articles	97%	.94	
Green OA available	97%	.88	
If yes, postprint specified	80%	.56	Lack of clarity regarding whether “accepted for publication” referred to posted version or a subsequent version of articles
If yes, preprint specified	95%	NA ^b	

^aKappa calculated to correct for chance agreement for nominal variables. Landis and Koch (1977) recommended interpreting kappa values from .81 to 1 as indicating almost perfect agreement, .61 - .80 as substantial agreement, and .41 - .60 as moderate agreement. ^bKappa could not be calculated because no double-coded papers were coded as preprints by both authors.

Table 4*Prevalence of Open Licenses Used for Hybrid and Green Open-Access Articles*

Type of OA publication	Open license				
	<u>CC BY</u>	<u>CC BY-NC</u>	<u>CC BY-NC- ND</u>	<u>CC0</u>	<u>Non-CC license</u>
Hybrid OA (<i>n</i> = 261)	143 (54.8%)	20 (7.7%)	98 (37.5%)	0	0
Licensed green OA (<i>n</i> = 54)	18 (33.3%)	5 (9.3%)	25 (46.3%)	1 (1.9%)	5 (9.3%)

Note. Not all green OA articles were licensed. OA = open access, CC = Creative Commons, CC BY = Creative Commons Attribution, CC BY-NC = Creative Commons Attribution-NonCommercial, CC BY-NC-ND = Creative Commons Attribution-NonCommercial-No Derivatives, CC0 = Creative Commons zero.

Table 5*Summary of Estimates, Odds Ratios, Confidence Intervals, and Model Statistics for Five Open Access Outcomes*

Parameter	Any OA		Hybrid OA		Bronze OA		Green OA		Shared Articles	
	Estimate (b)	OR (CI)	Estimate (b)	OR (CI)	Estimate (b)	OR (CI)	Estimate (b)	OR (CI)	Estimate (b)	OR (CI)
Intercept	-1.30	0.27** (0.11, 0.64)	-5.18	0.01*** (0.00, 0.02)	-3.40	0.03*** (0.01, 0.17)	-3.10	0.04*** (0.02, 0.10)	-2.04	0.13** (0.04, 0.47)
Country	0.14	1.15 (0.88, 1.49)	2.48	11.96*** (7.21, 19.85)	-0.93	0.39*** (0.26, 0.60)	-0.23	0.79 (0.57, 1.10)	-0.48	0.62* (0.42, 0.91)
Funding	0.71	2.03*** (1.63, 2.52)	0.36	1.43* (1.06, 1.94)	0.03	1.03 (0.74, 1.43)	0.89	2.45*** (1.79, 3.36)	0.64	1.89*** (1.38, 2.60)
Empirical	0.35	1.42 (0.91, 2.22)	0.08	1.09 (0.53, 2.24)	0.17	1.19 (0.61, 2.33)	-0.09	0.91 (0.49, 1.70)	0.34	1.40 (0.72, 2.75)
JIF	0.40	1.49* (1.00, 2.20)	0.55	1.74** (1.16, 2.60)	0.62	1.85 (0.91, 3.78)	0.39	1.48* (1.07, 2.05)	0.15	1.16 (0.66, 2.03)
Model Statistics										
τ_{00}	0.62		0.36		1.79		0.23		1.23	
ICC	.19		.35		.43		.11		.27	
Conditional R ²	.22		.41		.39		.15		.30	

Note. The United States is the reference group for country, no funding is the reference group for funding, and non-empirical is the reference group for empirical. OA = open access; OR = odds ratio; CI = confidence interval; JIF = journal impact factor; ICC = intraclass correlation coefficient.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6*Options and Prices for Accessing Paywalled Articles*

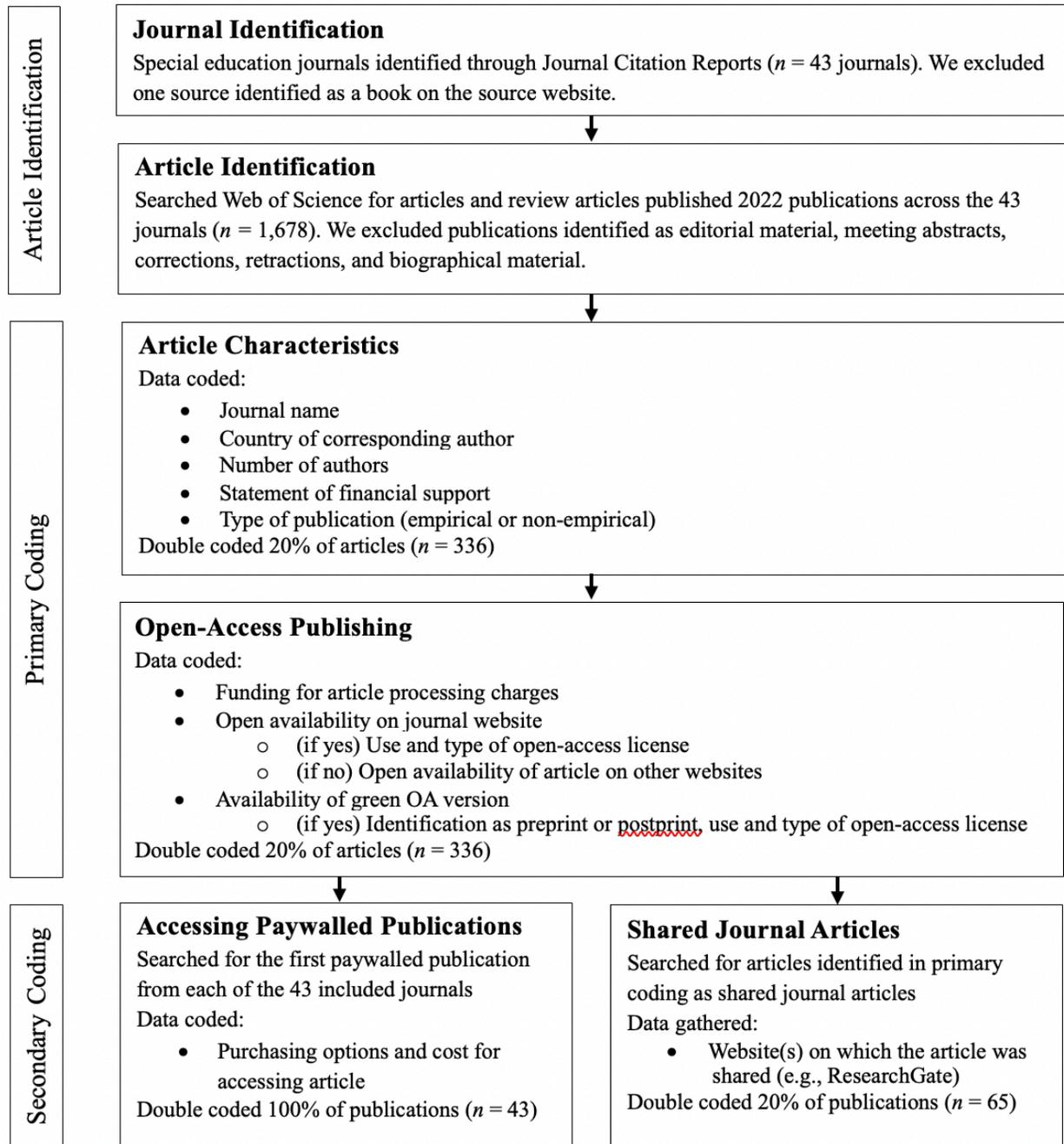
Journal	Publisher	Purchase Options
<i>American Annals of the Deaf</i>	Gallaudet University Press	Digital article for \$14, digital issue for \$24
<i>American Journal on Intellectual and Developmental Disabilities</i>	Allen Press	30 days of access for \$25
<i>Annals of Dyslexia</i>	Springer	Article PDF for \$39.95
<i>Behavioral Disorders</i>	Sage	24-hour online access to view and download article for \$37.50
<i>British Journal of Learning Disabilities</i>	Wiley	48-hour online access for \$10, online-only access for \$18, PDF download and online access for \$42
<i>Career Development and Transition for Exceptional Individuals</i>	Sage	24-hour online access to view and download article for \$15
<i>Child Language Teaching & Therapy</i>	Sage	24-hour online access to view and download article for \$37.50 and issue for \$339.55
<i>Dyslexia</i>	Wiley	48-hour online access for \$12, online-only access for \$20, PDF download and online access for \$49
<i>Education and Training in Autism and Developmental Disabilities</i>	CEC's Division on Autism and Developmental Disabilities	Single issue for \$40
<i>Education and Treatment of Children</i>	Springer	Article PDF for \$39.95
<i>European Journal of Special Needs Education</i>	Taylor & Francis	48-hour online access to article and PDF (can be downloaded and printed) for \$53, 30-day online access to issue (can be downloaded and printed) for \$456

<i>Exceptional Children</i>	Sage	24-hour online access to view and download article for \$37.50
<i>Exceptionality</i>	Taylor & Francis	48-hour online access to article and PDF (can be downloaded and printed) for \$53, 30-day online access to issue (can be downloaded and printed) for \$314
<i>Focus on Autism and Other Developmental Disabilities</i>	Sage	24-hour online access to view and download article for \$15
<i>Gifted Child Quarterly</i>	Sage	24-hour online access to view and download article for \$37.50
<i>High Ability Studies</i>	Taylor & Francis	48-hour online access to article and PDF (can be downloaded and printed) for \$53, 30-day online access to issue (can be downloaded and printed) for \$529
<i>Infants & Young Children Intellectual and Developmental Disabilities</i>	Lippincott Allen Press	24-hour access (can be downloaded) for \$47 30 days of access for \$25
<i>International Journal of Developmental Disabilities</i>	Taylor & Francis	48-hour online access to article and PDF (can be downloaded and printed) for \$65, 30-day online access to issue (can be downloaded and printed) for \$184
<i>International Journal of Disability Development and Education</i>	Taylor & Francis	48-hour online access to article and PDF (can be downloaded and printed) for \$53, 30-day online access to issue (can be downloaded and printed) for \$304
<i>Intervention in School and Clinic</i>	Sage	24-hour online access to view and download article for \$15
<i>Journal of Behavioral Education</i>	Springer	Article PDF for \$39.95
<i>Journal of Deaf Studies and Deaf Education</i>	Oxford University Press	24-hour access for \$55
<i>Journal of Developmental and Physical Disabilities</i>	Springer	Article PDF for \$39.95
<i>Journal of Early Intervention</i>	Sage	24-hour online access to view and download article for \$37.50

<i>Journal of Emotional and Behavioral Disorders</i>	Sage	24-hour online access to view and download article for \$15
<i>Journal of Fluency Disorders</i>	Elsevier	48-hour online access with option to save or download PDF for \$24.95
<i>Journal of Intellectual & Developmental Disability</i>	Taylor & Francis	48-hour online access to article and PDF (can be downloaded and printed) for \$65, 30-day online access to issue (can be downloaded and printed) for \$400
<i>Journal of Intellectual Disabilities</i>	Sage	24-hour online access to view and download article for \$37.50 and issue for \$475.66
<i>Journal of Intellectual Disability Research</i>	Wiley	48-hour online access for \$12, online-only access for \$20, PDF download and online access for \$49
<i>Journal of Learning Disabilities</i>	Sage	24-hour online access to view and download article for \$37.50
<i>Journal of Mental Health Research in Intellectual Disabilities</i>	Taylor & Francis	48-hour online access to article and PDF (can be downloaded and printed) for \$53, 30-day online access to issue (can be downloaded and printed) for \$176
<i>Journal of Positive Behavior Interventions</i>	Sage	24-hour online access to view and download article for \$15
<i>Journal of Special Education</i>	Sage	24-hour online access to view and download article for \$15
<i>Journal of Special Education Technology</i>	Sage	24-hour online access to view and download article for \$37.50
<i>Learning Disabilities Research & Practice</i>	Wiley	Instant access purchasing was unavailable
<i>Learning Disabilities Research & Practice</i>	Sage	There is currently no price available for this item in your region.
<i>Learning Disability Quarterly</i>	Sage	24-hour online access to view and download article for \$15
<i>Reading & Writing Quarterly</i>	Taylor & Francis	48-hour online access to article and PDF (can be downloaded and printed) for \$53, 30-day online access to issue (can be downloaded and printed) for \$259
<i>Remedial and Special Education</i>	Sage	24-hour online access to view and download article for \$15
<i>Research and Practice for Persons with Severe Disabilities</i>	Sage	24-hour online access to view and download article for \$37.50

<i>Research in Autism Spectrum Disorders</i>	Elsevier	48-hour online access with option to save or download PDF for \$31.50
<i>Research in Developmental Disabilities</i>	Elsevier	48-hour online access with option to save or download PDF for \$35.95
<i>Topics in Early Childhood Special Education</i>	Sage	24-hour online access to view and download article for \$15

Note. All costs listed as US dollars.

Figure 1*Search and Coding Flowchart*

Note. Procedures were preregistered except for coding for shared journal articles.

Figure 2

Prevalence of Types of Open Access for Articles in Special Education Journals (2022)

