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REVIEW ARTICLE

Moving Beyond the Ableist Roots of Educational Psychology: Audit of the Field and a Path Forward

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Abstract

In the current literature review, we studied the articles published between 2010 and July 2020 in six prominent educational psychology journals to determine the extent to which students with disabilities (SWD) have recently been included in the field's most visible literature, and the nature of that inclusion when it occurred. Although scholars routinely cite articles from special education journals, findings indicated that SWD were specifically included in only 11.4% of the studies that were published. Most of these studied detailed interventions to support students' math and reading skills, with far fewer articles addressing the remaining breadth of topics across the field of educational psychology. After demonstrating the extent to which SWD have been underrepresented in the field's top journals over the previous decade, we draw on DisCrit theory to describe how constructs such as ableism and multiple models of disability can help scholars resist deficit mindsets about SWD in their classroom-based research samples. We argue for a proliferation of epistemologies (and subsequently methodologies), enabling educational psychologists not only to account for the experiences of SWD in ways that uphold our field's commitment to rigorous and ecologically valid research, but also to better ensure that educational psychology theories account for the full breadth of human diversity.

Keywords Disability · Research methodology

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Introduction

Educational psychology researchers often colloquially remark that certain groups, including students with disabilities (SWD), are underrepresented in the empirical research that undergirds seminal theories within the field. At the same time, however, we present many of those theories as universal accounts of learning and motivation. This poses a distinctive conundrum, particularly as educational psychologists work to justify the field's contributions in teacher preparation programs (e.g., Alvarez et al., 2018; Woolfolk Hoy, 2000; Patrick et al., 2011) and informing educational policy (e.g., Anderman, 2011). Concerningly, policies and practices informed by empirical literature that do not represent the fullness of diversity in schools—including SWD—reinforce stigmas and institutional power structures that promote a deficit view of difference (Annamma et al., 2013). Educational psychologists have long been concerned with diversity in terms of gender (e.g., Eccles, 1983), and conversations about the negative impact of deficit views with regard to social inclusion, race, and ethnicity have begun to take place in educational psychology circles, particularly in notable special issues of prominent journals such as *Educational Psychologist* (Juvonen, 2019; Zusho & Kumar, 2018) and *Contemporary Educational Psychology* (Matthews & López, 2020).

It would be a mistake to talk about the impact of race on education in the USA without also acknowledging related disproportionate special education placement rates and the varying accessibilities of appropriate educational environments, opportunities, and resources based on socioeconomic inequities (Ahram et al., 2021; Cooc & Kiru, 2018; Hosp & Reschly, 2003). The intersectionality of multiple aspects of student identity, including race, ethnicity, gender, and disability status, requires us to consider all of these factors at once.

Some may suggest that studies and conceptual considerations related to SWD, including those investigating intersectional issues of race and gender, are being published in special education journals and would encourage educational psychology researchers to look there for information about these students. Given the two fields' different conventions, theoretical foundations, histories, and audiences, however, this perspective deserves reconsideration. The schooling experiences of SWD cannot be, simultaneously, so distinctive such that only those with expertise in special education are best prepared to explore it, yet so similar to other students' experiences such that we can make assumptions without expressly investigating whether they are true. Field-specific journals act as signals for, and thus shape, the priorities, advancements, and values of a research community at a given time. A focus on a particular topic or student population indicates that field's emphasis on addressing that topic or population wholeheartedly; omission indicates that that topic or population is not of great concern to the field. If SWD are not represented in educational psychology literature, then the message is clear: either we, as educational psychologists, do not consider these students as being worthy of attention, or we believe that these students' experiences are not relevant to advancing educational psychology research. Furthermore, relegating work that includes SWD to special education journals contributes to "knowledge silos" that stymy innovation (e.g., Obradović, 2019).

Therefore, addressing persistent underrepresentation across the field is integral to ensuring that our work can speak to, and address the needs of, an equitable educational system for all students. Because educational psychologists study ways that systems, schools, and teachers can promote learning, choice, useful abilities, and participation in social life, we are well-positioned to work toward a more inclusive future.

Taking up this work is an issue of advocacy in ensuring appropriate representation of a historically marginalized group (e.g., Zuberi & Bonilla-Silva, 2008), and it is also an issue of theoretical precision that has consequences for the field. Scholars who have investigated the impact of race on students' schooling experience and outcomes (e.g., DeCuir-Gunby, 2020; Graham, 1994) have clearly demonstrated that theories developed with predominantly White samples often do not account for important contextual and cultural nuances. Given this work, it stands to reason that constructs and theories widely used across the field may fall short of adequately addressing the experiences and needs of SWD, too. Ultimately, this is an empirical question, and answering it will require a change to many researchers' usual approach to study design and participant recruitment.

Change must begin with a comprehensive understanding of the problem. Notably, there has been no systematic accounting of the extent to which SWDs are underrepresented in published educational psychology literature. In this project, we reviewed the previous decade of literature published in the top journals of educational psychology and the learning sciences to determine whether, how often, and how SWD were included in the empirical and conceptual manuscripts that support our endeavors as researchers. We first describe the critical framework and epistemological commitments guiding our review of the literature, beginning by defining the notion of "disability." Next, we outline our research questions and approach. We will then present the findings of our review and conclude with implications for the field over the next decade and beyond.

Supporting Framework

A review of educational psychology must include a reckoning with the ways in which ableism is baked into the field's foundations. In this project, guided by the work of scholars such as Hehir (2002), we define ableism as discrimination in favor of non-disabled people. Ableism includes multiple forms of discrimination (Annamma et al., 2013; Ribet, 2010), including systemic and structural discrimination (e.g., laws and policies that favor the non-disabled), as well as social discrimination (e.g., perpetuation of stigmas and stereotypes, practices, and attitudes that center the experiences of those who are not disabled). Ableism can also make spaces, including schools, inaccessible to people who are disabled and reinforces the message that they are unwelcome in those spaces (Hehir, 2002). Historically, educational psychology researchers have been complicit in advancing ableist and exclusionary systems. G. Stanley Hall and Edward Thorndike each routinely referred to people with physical and mental disabilities as "weak" and "defective," and both expressly endorsed eugenics (Winfield, 2004). It is on these assumptions that they

designed curricula, enacted programs of research, developed theoretical frameworks, and mentored researchers who went on to conduct more research in those traditions. We can trace their influence in educational psychology research, as well as schooling structures and systems, to this day. Their mentees included Goddard, whose work remains the premise of intelligence testing, even as contemporary psychometricians side-step Goddard's intentions to use IQ tests as a means of eliminating "feeblemindedness." Other members of Thorndike's and Hall's academic family tree include Hollingsworth and Jensen whose research in gifted identification and education programs advanced arguments that intelligence is hereditary, IQ varies by race, and the disabled could not also be gifted.

Today's educational psychology researchers may not explicitly endorse the overtly ableist views of Hall and Thorndike, but nevertheless, our research can perpetuate ableism by reinforcing norms that come out of those traditions (Bogart & Dunn, 2019). Phelan and colleagues (2008) describe norm enforcement as one mechanism by which stigmas and prejudices are developed and maintained. They suggest that social groups rely upon conformity as a means of distinguishing members from non-members. Among educational psychologists, efforts to remain distinctive from closely related fields (e.g., special education) may contribute to a general practice of excluding or ignoring SWD. In practice, however, the realities of the learning contexts that educational psychology advances are designed to benefit include many more students than these enforced "norms" would indicate. Maintaining the relevance of educational psychology to teaching and learning in today's classrooms requires attention to groups such as SWD that are outside the traditional norms of the field. As such, it behooves educational psychologists to understand the multiple lenses through which disability is viewed in educational research and practice.

Understanding Disability

Researchers in special education, disability studies, and related fields use various models to approach their work. The most dominant (Smart, 2009; Koller & Stoddart, 2021) is the biomedical model, which suggests that disability is located within an individual as a deformity or defect from "typical" functioning that can (and should) be treated. Those who advocate the biomedical model point to its usefulness in diagnosing disability, which then aids in the delivery of special services (Smart & Smart, 2006). Although this model has a long-standing history, other models have developed in response to it. The functional or interactional model suggests that individuals' environments can be arranged to either facilitate individuals' capabilities or, instead, amplify limitations (Smart, 2009); this has influenced the development of advances in special education such as the Universal Design for Learning (UDL) framework (e.g., Meyer et al., 2014), which offers ways for teachers to re-think the activities and learning environments they create so as to fully include students with a wide range of learning strengths and needs. Some researchers (e.g., Ferri & Connor, 2010) employ a third model of disability, the social/sociopolitical model, which suggests that the notion of "disability" arises only when social structures are

constructed in ways that emphasize difference, promote stigma, and facilitate discrimination. Advocates of the social model express concern that the predominance of the biomedical perspective shapes public perceptions of disability, and facilitates situations in which the absence of people with disabilities from key areas of research and policymaking goes unnoticed (Smart, 2009; see "Critical Theory Framework"). It is worth noting that while some researchers situate their work within one particular model of disability, others acknowledge the potential usefulness of different perspectives on disability at different times (and sometimes even within the same project).

With regard to the legal definition of disability that currently takes precedence in the USA, the American with Disabilities Act (ADA) defines a person with a disability as someone who:

> has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment. (U.S. Department of Justice, February 2020)

According to Bogart and Dunn (2019), the definition provided by the ADA has both positive and harmful qualities. These researchers note the ways that the ADA disability definition situates elements of disability as socially constructed (e.g., terms such as "a record of… impairment" and "perceived by others as having… an impairment"), which offers possibilities for discussing the situated nature of some disability diagnoses. However, Bogart and Dunn (2019) also point out that, overall, the ADA definition places responsibility on the person with a disability for requesting services, positioning them to be perceived as getting "special treatment or welfare" (p. 658).

It is hard to understate the impact of any disability model on individuals' actions. The way in which a peer, parent, community member, teacher, policy-maker, or researcher defines a person's disability shapes the expectations they have when thinking about or interacting with that person (Barton, 2009; Haegele & Hodge, 2016) and shapes that person's understanding of themselves (Connor, 2008). However, Llewellyn and Hogan (2000) express concern about trying to choose only one model as the "right" model:

> …much wasted debate could be avoided were we to compare models in terms of their utility as they inform research and clinical practice in a particular setting, rather than focus on their relative claim to 'truth' status. We would argue that what needs to be kept in mind is that the correct use of models should be used as aids to understanding for research and clinical purposes. (p. 165)

Having a strong representation of scholars from these three perspectives on disability—biomedical, functional, and social—can enable important dialogue among and across scholarly communities, as researchers challenge each other to develop a full sense of what it means to have a disability, and how disability impacts education.

Critical Theory Framework

For the present study, we were guided by the tenets of critical theory. At their cores, critical theories (e.g., critical race theory, disability critical theory) can work to expose value systems that normalize certain ways of learning, thinking, and behaving, at the expense of others (Ladson-Billings & Tate, 1995). Critical race theory (CRT), for example, is a framework for understanding how hegemonic racial norms shape social structures and produce oppression (Crenshaw, 2011). Critical race theorists argue that dominant race narratives form the framework of our society and that we can only truly address racial inequities by de-centering whiteness. Furthermore, they contend that CRT work must be "more than just an intellectual exercise… Examining and exposing the ways that racialized inequity manifests and persists must inform social actions that lead to social change" (Dixson, 2018, p. 233). Critical race theory has received notable attention from educational psychologists interested in how racial dynamics shape students' learning experiences (e.g., DeCuir & Dixson, 2004; Gray et al., 2018).

Although CRT is frequently discussed and cited in the education literature, it is not the only critical theory that education scholars use. Another field, disability studies, emphasizes the need to see disability from a variety of perspectives, including those of people with disabilities themselves. This leads to important challenges to hegemonic beliefs about the nature of competency in various areas (physical, "academic," etc.) and discussions of the value—or lack thereof—placed on particular abilities or disabilities in society (Baglieri et al., 2010). Disability studies is one of the foundations of DisCrit, which combines elements of both disability studies and critical race theory to position racism and ableism within social and cultural contexts, demonstrating how norms related to race and disability end up serving similar functions (in that they position differences as deficits) and how those in power seek ways to present their personal beliefs as objective facts (Annamma et al., 2013). Campbell (2008) argues that DisCrit analyses enable a greater understanding of the ways in which key tenets of CRT (e.g., the paternalistic way that people in positions of power simultaneously express sympathy for oppressed people, and continue oppressing them) are applicable to disability. She contends that educators should be thinking similarly about internalized ableism (i.e., "the distancing of disabled people from each other and the emulation by disabled people of ableist norms;" p. 155).

Like their peers in critical race theory, researchers working from a DisCrit perspective see an activist component to their work—that is, not only discussing these issues conceptually, but taking actionable steps to root out ableist policies and practices. It is in this spirit that we used a critical framework in our study. Taking a critical lens allowed for a robust analysis of recent literature from the most prominent educational psychology journals above and beyond accounting for how often disability is mentioned, or how many studies collected data about students with disabilities. In everything from our keyword searches (described below) to our ultimate discussion of findings, the critical perspective enabled us to consider how this literature positioned disability, particularly in terms of whether or not researchers used a deficit-based approach to understanding SWD.

We aim to draw educational psychologists' attention to the ways in which they do (or do not) acknowledge, address, and describe SWD in their research, so as to enable these students' needs to be more equitably addressed. In our review, we addressed the following questions:

1. To what extent are SWD included in work published in educational psychology's top journals?
2. How are SWD represented in those journals?

Method

Research Team

This work was primarily conducted by Emery & Louick, though we were joined by Sabrowsky and supported by two undergraduate students taking part in an honors research program.

***Positionality*:**

I (Emery) am a white-appearing woman without disabilities, and a monolingual United States citizen. Before pursuing a Ph.D., I was a special education teacher for 9th grade and upper elementary students, co-teaching a variety of math and science courses in inclusion classrooms in schools that primarily served low-income families from marginalized backgrounds. Currently, I am an assistant professor of educational psychology at a research-intensive, land grant university in the Midwest. My commitments are most aligned with the sociopolitical model of disability. I aim for my scholarship to promote reconsiderations of current structures to work toward equitable schooling practices and pathways.

I (Louick) identify as a white, monolingual, English-speaking woman without disabilities, who is a US citizen. I taught at middle and high schools for students with learning disabilities (LD) for eight years, and am now an assistant professor of special education at a public university. I recognize the practical merits of a biomedical perspective of disability, in terms of employing diagnoses to ensure that students get the curricular materials, supports and services they deserve. However, I also reject the biomedical model's positioning of students with disabilities as less capable or intelligent than their non-disabled peers, and am committed to helping others understand that learning "differently" is not necessarily learning "less well." I thus recognize merit in both the functional and sociopolitical models of disability as tools to counteract deficit perspectives on disability.

I (Sabrowsky) am a white man with a mental health dis/ability, and a monolingual United States citizen. Before pursuing a Ph.D., I was an instructor of statistics at a research-intensive, land grant university in the Midwest. Currently, I am a Ph.D. candidate in the field of Higher Education. My commitments are most aligned

with the sociopolitical model of dis/ability. I aim for my scholarship to promote reconsiderations of current structures to work toward equitable schooling practices and pathways toward a STEM degree within a post-secondary setting.

Journal Review

We selected journals by consulting the most recently available metrics related to impact factor, SJR ranking, h5-index and h5-median across SCImago Journal & Country Ranks and Google Scholar. There was convergence between these sources indicating that the top journals are *Educational Psychologist, Journal of Educational Psychology, Contemporary Educational Psychology, Educational Psychology Review, Journal of the Learning Sciences,* and *Learning & Instruction.*

The research team downloaded all articles published between January 1, 2010, and July 1, 2020, directly from the publishers' websites. In total, we examined 2771 articles in the order that they were published within each journal. We included manuscripts published online first, in special issues and sections, and editors' statements, but excluded memorials, corrections to tables or figures or other supplementary materials, and lists of reviewers. To address our first research question, *to what extent are SWD represented in published work in the field*, we conducted three rounds of keyword searches; keywords used appear in Table 1. In Round 1, our aim was to cast a wide net; as such, we searched for general terms related to disability, exceptionality, receiving special education services in public schools (e.g., "Individualized Educational Plan" or IEP), and words that are generally used when educational psychologists study populations that are struggling (sometimes distinguishing between students with and without disabilities, sometimes not). We included variations of those keywords. In our second round of keyword searching, we looked for specific terms related to diagnoses, as well as additional euphemisms sometimes used for disability (e.g., "limited abilities," "learning difficulties"). Articles containing at least one of the keywords were included in subsequent analyses. Our third round was a spot check; we pulled a random sample of 10% of the articles that initially produced none of our selected keywords to verify that they did not meet the criteria.

We conducted each round of keyword searching by hand. The authors independently conducted both rounds of keyword searches for two journals each. We then assigned undergraduate research assistants the task of our third round of analyses (a spot-check of the unincluded articles) in partnership with the first and third author. Following these initial analyses, the first and second authors independently reviewed the results for three journals each, searching the included articles to confirm that the keywords we noted did appear in the manuscripts. Finally, the first and second authors worked together to review the results of the entire data corpus. We examined journal by journal, randomly searching articles that met our criteria to verify that any noted keywords appeared in the correct context (e.g., in reference to SWD) and to check again for the full list of keywords.

Table 1 Keywords

Round	Keywords
Round 1	Disa* (disability, disabilities, dis/ability, dis/abilities) Exceptionality/ities IEP, individualized education plan Low achieving/achiever(s)/achievement Low (cognitive) ability/low aptitude Low-performing, low-attaining Special education, special needs, special populations Student(s) who struggle, struggling student(s)
Round 2	Attention deficit [hyperactivity] disorder; ADD; ADHD At-risk Autism, autism spectrum disorder Deficiencies/deficient Disorder Dyslexia, dyscalculia, dysgraphia Impairment Learning difficulties/delays Limited ability(ies), limited processing Low(er) intelligence/IQ Low skill Syndrome
Round 3: Spot Check	

Searching the literature by hand, rather than by programming software to find our keywords, ensured that we could note inventive phrasing related to our research question but not among our keywords determined a priori (e.g., “inadequate achievers,” “lowly intelligent individuals,” etc.). Furthermore, handsearching ensured that we spotted irrelevant instances of the keywords (e.g., “parents’ *low ability* to afford…”) before we moved on to our interpretive work.

Having narrowed the total number of articles, we then read to identify the context in which our keyword(s) appeared. In this round, we catalogued the following information to address our second research question:

1. The general topic of the manuscript (e.g., motivation, literacy, transfer, etc.; some manuscripts were tagged as more than one topic), given the article title, indexing keywords, and abstract.
2. The section(s) of the manuscript in which our keywords appeared (e.g., literature review, implications, etc.).
3. Whether the authors explicitly *included* or *excluded* SWD from the scope of the paper.
4. Whether the authors made a distinction between SWD and academic low-achievers or “struggling students.”

Decision Criteria As we will explain in detail below, it became clear that the presence of our keywords within a manuscript was not indicative that an empirical study or conceptual argument necessarily included SWD. We operationalized “included”

to mean that the distinctive experiences of SWD were acknowledged, and the authors aimed to account for those experiences. To capture this, we tallied the sections (e.g., literature review, methods section, discussion, reference list) within manuscripts where our keywords appeared, and read the text around our keywords for context. Among empirical articles, we counted studies as being *inclusive of SWD* if the sample included participants with disabilities, even if the researchers included some disability categories but not others. For example, a study that included students with dyscalculia, but excluded those with low vision, was counted as being inclusive of SWD.

We only counted studies as being *exclusive of SWD* if authors specifically stated that SWD were not a part of the sample (e.g., "Children with previously diagnosed medical, neurological, and/or learning disorders were excluded from the study;" Molfese et al., 2010, p. 119). Because our keywords included common euphemisms and phrases that could refer to both SWD and other students (e.g., "struggling readers"), we categorized manuscripts as making no distinction between SWD if the authors either did not specify how terms like "academic low achievers" were operationalized, or if the authors stated that they collapsed SWD with another group of students without disabilities for their analyses. As we will detail below, our section tallies allowed us to note manuscripts that drew from special education or disability research communities, or made recommendations for future work related to SWD, but did not include SWD among the sample.

We categorized theoretical and conceptual manuscripts in three ways: inclusive of SWD by attending to the distinctions of these students' experiences, making no distinction between SWD or students who struggle academically, or explicitly excluding SWD from the scope of the work. We did not tally the sections or headings in which keywords appeared given the varied arrangements of these types of manuscripts.

We collected this information in an editable spreadsheet shared across the team, having trained our assistants on a standard notation system. In the following section, we present our findings for each research question.

Results

In this project, we (the authors) were interested in codifying the representation of SWD in the most prominent educational psychology journals. Our goal in presenting the following results is not to cast aspersions upon researchers, peer reviewers, or particular editorial boards. Instead, we aim to make plain the state of the field, which is largely reflective of how scholars are trained in this discipline. In other words, our goal is to invite a conversation about the priorities and directions for the future of the field.

Research Question 1 We first aimed to determine the extent to which SWD have been represented in the field's top journals over the previous decade. Of the 2771

articles included in the review, 1637 (N=59.1%) contained one or more of our keywords throughout the text of the manuscript or in the list of references. As we reviewed these articles further, we found that only 11.4% (N=314) explicitly addressed SWD. Across the remaining 1323 manuscripts, we found three categories: most manuscripts (N=450) *cited* other journals or articles with titles that include one or more of keywords (e.g., *Journal of Learning Disabilities)*, but the authors did not refer to SWD (or use any related keywords) in the text of their own manuscripts. In another category, the authors of many articles (N=512) did not distinguish between low achievers or struggling students and SWD. Finally, some authors mentioned SWD in the text to *exclude* them from the scope of the study or conceptual work (N=120). Some manuscripts (N=241) used our keywords to refer to SWD in sections of the manuscript unrelated to study samples (as we will describe more fully below). Some of the papers that we reviewed were conceptual in nature, and while we did analyze whether the work was inclusive of SWD (described below), we will note in the following sections which of our results reference empirical articles only.

There was some variation in these patterns across journals. For example, *JEP* published the greatest number of articles (N=813), and 76.6% (N=623) met our initial criteria by including at least one of our keywords. But, we found that more than 16% of the total number of articles published in *JEP* included SWD, compared to the average total of 11.4%. By contrast, *L&I,* the flagship journal of the European Association of Learning & Instruction, published 660 relevant articles in the previous decade, out of which 49.24% (N=325) met our initial criteria and 6% of which fully included SWD. This was similar to *CEP,* as 57.1% of the published articles met our initial review, and 7% fully included SWD. *Journal of the Learning Sciences* had the fewest articles to review, with 172 relevant manuscripts published over the previous decade, 44.76% of which met our initial criteria, and about 4.7% of which fully included SWD. Among the articles published over the previous decade in the field's top journal, *Educational Psychologist,* 41% met our initial criteria, and about 11% included SWD. In *EPR,* the field's premier outlet for juried integrative reviews, about 24% of articles published over the previous decade met our initial criteria, and just under 3% included SWD. We present a summary of these results in Table 2.

Research Question 2**.** Having broadly determined how often SWD were mentioned in manuscripts published in the field's top journals over the previous decade, we next investigated how these students were represented in the articles that contained one or more of our keywords.

As noted, we found 1637 articles that contained at least one of our keywords. Setting aside those in which keywords appeared only in the reference list (N=450), we investigated the remaining 1187 manuscripts. We first examined the text of 241 empirical articles that included keywords related to SWD, but did not include these students among the study samples to determine how our keywords were used. We found that these keywords most frequently appeared in either literature reviews (N=140) and/or discussions (N=101) across 241 manuscripts, though it is worth

Table 2 Overview of included articles, 2010–July 2020 (including published online first)

Journal	Total number of articles	Number of articles meeting initial review criteria	Number of articles inclusive of SWDs
Contemporary Educational Psychology	574	328	41
Educational Psychologist	220	95	25
Educational Psychology Review	352	189	62
Journal of Educational Psychology	813	623	137
Journal of the Learning Sciences	172	77	8
Learning & Instruction	660	325	41
Total	2,771	1,637	314
% of Total		59.08%	11.33%

noting that there is some overlap between these two counts. This suggests that information related to SWD supports the framing or extension of these researchers' work, but the researchers did not include SWD among the samples of their own studies. Broken down by journal, the results for location of keywords in the remaining empirical articles' literature reviews and discussion sections were as follows: *CEP,* 42 literature reviews and 26 discussion sections; *EPR*, 9 literature reviews and 6 discussion sections; *L&I,* 14 literature reviews and 11 discussion sections; *JEP*, 66 literature reviews and 48 discussion sections; and *JLS*, 9 literature reviews and 8 discussion sections. *EP* is not represented in this analysis; though the journal does print certain empirical work (e.g., meta-analyses), none met our review criteria.

We next investigated the empirical studies that explicitly included SWD among the samples (314 articles in all). In order to qualify as "explicitly including SWD," researchers needed to specifically state that SWD (or, students who had a specific disability, such as "dyslexia") were among the participant group; furthermore, researchers needed to make this statement without collapsing these students into a larger group (e.g., "struggling readers") with those who were having difficulty but not classified as having a disability. In checking to see if SWD were represented robustly throughout these manuscripts, we found that 110 (35.03%) of these articles included our keywords in at least three sections of the paper (e.g., in the literature review, methods, and discussion; or in the introduction, results, and conclusion). By journal, we found: 4 articles in *CEP*; 25 in *EP*, none in *EPR*; 16 articles in *L&I*; 62 articles in *JEP*; and 3 articles in *JLS*.

Finally, because we coded for the major topic(s) of the papers, we found that just under half of the empirical papers (46.4%; $N=134$) that included SWD among the participant samples were related to skill acquisition and development in literacy and numeracy. An example for illustration would include an experiment related to a specific reading intervention recruiting participants with disabilities, and distinguished the results of the intervention for this group and other readers. One finding of note is that *JEP* published 60% ($N=81$) of the empirical studies related to literacy or numeracy acquisition that included SWD.

Summary of Results

Overall, SWD were represented in 11.4% of the total articles published by the top six educational psychology journals from 2010 to 2020, though representation varied by journal. We present a summary of *how* these students were represented in Table 3. More than a quarter (approximately 27.5%) of the articles met our initial criteria because at least one of our keywords appeared in context within the manuscript, but upon review, these words appeared in the reference list. About 7.3% of the articles meeting our initial criteria mentioned SWD specifically to exclude these students from the sample or scope of the work. Nearly a third (31.3%) of all articles meeting our initial criteria made no distinction between SWD and participants who were struggling academically.

Discussion

In this review, we sought to evaluate how frequently, and how robustly, students with disabilities were represented in six prominent educational psychology and learning sciences journals (*CEP, EP, EPR, L&I, JEP, JLS*). Overall, we found that SWD were explicitly represented in 11.4% of articles published in these journals between 2010 and July 2020. Some may wonder what proportion of articles would make for a more appropriate representation of SWD, given that most students do not have disabilities. Across the P-12 system in the USA, a full 80% of classrooms include SWD at least part of the school day (NCES, 2021). Across institutions of higher education, SWD are enrolling at higher rates than ever before (e.g., NSF, 2019), and other students first realize that they have a disability once they arrive on college campuses and lose support from their compulsory schooling experiences (e.g., Wisbey & Kalivoda, 2011). As such, if the literature published in the field's top journals do not routinely and thoughtfully consider the experiences of SWD, then they do not reflect the realities of today's classrooms.

Across our findings, certain trends emerged. Even when SWD were not represented among the participating sample for empirical studies, issues related to disability and special education were still appearing in the literature review and/or discussion sections of many articles. This suggests that educational psychologists are reading and relying on this literature, and/or making extrapolations from the populations they studied to SWD (or recommendations about how their work might apply to SWD), without making empirical contributions to the literature about this population. An additional finding of note was that 45% of the empirical articles that included SWD focused on literacy and mathematics (e.g., decoding, algebraic thinking). In other words, nearly half of the pool of articles inclusive of SWD (as a reminder, about 11% of the total articles published in the last decade) were focused on these types of specific academic skills and abilities. Of course, this result also means that only 6% of all studies published in the previous decade included SWD across a wide range of other important subfields (e.g., motivation and emotion, learning and cognition, policy, instruction, curriculum, etc.) in educational

Table 3 Representation of SWDs

Journal	Article mentions SWDs in citations only	Article mentions SWDs to exclude from scope	Article explicitly addresses SWDs	Article makes no distinction between SWDs and struggling students
Contemporary Educational Psychology	112	22	40	84
Educational Psychologist	16	4	23	22
Educational Psychology Review	77	15	9	25
Learning & Instruction	100	33	40	131
Journal of Educational Psychology	135	43	136	215
Journal of the Learning Sciences	10	3	7	34
Total	**450**	**120**	**314**	**512**

Note: an additional 241 empirical articles used one or more of our keywords in literature reviews and/or discussion sections, but did not explicitly include SWD in the samples

psychology. However, these skill-focused studies may provide insight into how other subfields can move toward more inclusive samples and design.

Finally, we found that our keywords often appeared throughout manuscripts that did not specifically discuss students with diagnosed disabilities. Stated differently, we found that authors relied on terms such as "struggling" or "low-achieving" to possibly stand as euphemisms for disability. These groups of students, however, might also include students without disabilities who are having difficulty in school for other reasons (or, they might not include SWD at all).

It is worth noting that there were some variations amongst our six focus journals. For example, although 11.4% of the total number of articles fully included SWD, in *JEP* (which published the greatest number of articles over the previous decade), 17% of the published articles fully included SWD, compared to just 4% of the articles in *JLS* (which published the fewest). Interestingly, the results of our review for *EP*, the field's top journal, were reflective of the overall trends among the six journals studied, with 11.3% of the articles published including SWD.

Although we cannot say with certainty why students with disabilities are underrepresented in studies published in top educational psychology journals, we offer the following possible explanations. One possibility is that educational psychologists looking to publish in these journals are only broadly cognizant of the underrepresentation of SWDs. That is, they may be aware of this underrepresentation in a general sense, but not to the specific level of detail presented in our findings. As such, they may assume that other educational psychologists are dealing with the lack of representation of SWD, thus lessening the urgency of including these students in their own studies. We hope that numerically clarifying the extent of the problem can serve to address this issue.

We also recognize that expressions used in special education vary widely in different educational contexts, not only within the USA, but also internationally. For example, studies conducted in Germany might refer to students in "lower track" schools, which does not necessarily correspond to special education services in the USA. Given the international nature of prestigious educational psychology research (particularly in journals such as *Learning and Instruction*), there may be terminology differences and other distinctions between research settings that complicate discussions of SWD.

Another possible explanation is that educational psychology researchers are wary of potential bureaucratic burdens associated with including SWD in their studies. Such concerns might include navigating privacy laws such as FERPA to appropriately access these students' special education records, or making sure that data collection instruments are accessible to participants with disabilities. While we understand the very real concerns of designing and enacting a feasible study, we also question the usefulness of findings from studies that do not account for a full range of students. Leaving these students out because of perceived inconvenience creates gaps in our knowledge that, with concerted planning, can be addressed.

Some researchers may wonder whether their institutional review boards (IRB) even permit empirical work that includes SWD. Others may find their IRB to be laboriously stringent about protections for SWD in studies that do propose to include

them. Given the long history of harm purported by social science research, IRB are designed to protect vulnerable populations, both as a moral imperative and to mitigate institutions' legal liability for hosting researchers (White, 2007). Milligan et al. (2019) argue, however, that IRB can be deployed to increase equity of representation across social science research. Federal law in the USA requires that people with disabilities be extended equal access to participate in society, which includes participation in research. As such, IRBs are well-positioned to prompt research teams to design protocols that are accessible and inclusive, and to justify exclusion of SWD, ensuring that research protocols follow the law.

Separately, researchers working with minors may struggle to recruit SWD as a function of obtaining consent or permission from students' legal guardians. Guardians may have many good reasons for not permitting their children to participate in research. Perhaps some may distrust the research process, or worry that classroom-based research activities will distract from their children's learning and achievement. Others may be concerned that study procedures or results may single out their children, who already face increased social stigma. Across investigations in clinical pediatric health research (e.g., Francis et al., 2018), social work (e.g., Schelbe et al., 2015), education (e.g., Shaw et al., 2015), and other social sciences such as geography (e.g., von Benzon & van Blerk, 2017), researchers routinely report that guardians are more likely to permit their children to participate in empirical studies when three conditions are met: the process for consenting is straight-forward, the likelihood of harm is clear, and the study results have the potential to benefit children like theirs widely. When SWD and their guardians perceive research as addressing their specific needs and informed by their insight, rather than top-down and bureaucratic, they are more willing to participate.

Some might suggest that if SWD are currently in classrooms (given the prevalence of inclusive models as the preferred special education setting; US Department of Education, 2018), we can assume that these students are already included in empirical studies. However, many of the quantitative methods that educational psychologists use, particularly the sophisticated methods published by the top journals, rely on averages. The purpose of these projects is often explicitly to determine a "typical" experience (that can then, in many cases, be generalized to even larger populations). As such, educational psychologists assuming SWD are automatically included in their samples would likely be losing these students' experiences to error variance.

With regard to studies that do not distinguish between SWD and those who are having difficulties in school for other reasons, we believe it is possible that some researchers assume, given potentially limited access to SWD, that SWD and low achievers are having the same experiences. This allows researchers to obtain the large sample sizes needed to run complex statistical analyses but, in the end, leads to less precise findings. We are also concerned about the possibility of a "chicken and egg" scenario, in which educational psychology journal editors are perceived as being less interested in publishing articles on SWD, such that researchers who are interested in these populations feel the need to obfuscate their focus on these students by using imprecise language in order to get published. This could perpetuate a cycle in which educational psychology journals thus receive far fewer manuscripts

focused specifically on SWD and have fewer of these articles to publish, reinforcing the idea that such articles are not of interest to the journals' readership.

It may also be the case that educational psychologists intending to publish in the journals studied here are aware of (and concerned by) the problem, and willing to put in the concerted effort needed to address it, but are unsure of where to start. Because they have less expertise in working with and understanding SWD and the special education system, these researchers might feel underprepared to take on this important work. In this case, we strongly encourage interdisciplinary collaboration. Partners from the field of special education—be they consultants or collaborators—could ease these researchers' concerns by providing both scholarly knowledge and practical experience, enabling the effective inclusion of SWD in prominent educational psychology studies.

Moreover, all of the potential reservations that we have outlined above speak to the value of designing studies using community engaged (e.g., da Cruz, 2018) or participatory (e.g., Cornwall & Jewkes, 1995) research principles. Both approaches to research design emphasize the importance of developing reciprocally respectful partnerships with communities to attend to meaningful problems. Researchers wondering how to begin conducting inclusive research may find that developing relationships with schools, parents, and SWD sheds light on the specific contextual factors that have previously prevented them from undertaking this work.

The Necessity of Including SWD in Research: Call to Action

One commitment of conducting work informed by critical theories is developing a *call to action,* outlining practicable steps to both dismantle current inequities and build more inclusive systems and power structures (e.g., Connor, 2017). Following below, we present our call to action for educational psychology researchers, alongside rationale that we believe will advance the field in terms of theoretical development, precision, and applicability.

We argue that more fully including SWD in empirical and conceptual work is the purview of all educational psychology researchers. Full representation of SWD serves to ensure that educational psychology research is precise, and accurately reflects the make-up of schools and classrooms. Conversely, if the field carries the trends reported here into the next decade, we risk undermining our own efforts. By excluding SWD from meaningful inclusion in the studies that serve as the foundations for our work, we limit the potential universality of our theories. As such, we are less well-positioned to make recommendations that resonate with the work of practitioners and policy-makers.

Without a commitment to understanding SWD with nuance, educational psychology researchers might perpetuate educational inequities and uphold systems and practices that harm learners. At the same time, we caution against a swift pendulum swing toward a view that *all* students learn differently. Without care, this position can erase the impact of having a disability on students' identity development, teacher and peer interactions, and schooling experiences broadly.

Imprecise studies published in high-profile outlets could contribute to well-documented problems related to appropriate placement and access to educational opportunities (Ahram et al., 2021). Educational psychologists, however, are positioned to address issues of under- or overrepresentation Black and Brown students in certain disability categories (e.g., Connor, 2017; Morgan, 2021) and access to educational opportunities including gifted programming (e.g., Ford et al., 2017; King et al., 2018). Because educational psychology researchers study a wide range of topics including the contextual factors that influence learning and achievement, identity development, and phenomenological experiences related to learning (e.g., interest, motivation, engagement), an inclusive empirical base can help practitioners determine which of students' schooling experiences are functions of disability (alongside effective ways to support students' learning) and which are (malleable) functions of context. Educational psychology is a field of experts in content mastery and skill acquisition, curriculum and instruction, technology, and assessment, positioning us to reimagine equitable educational systems. We thus have a unique opportunity to contribute to larger efforts to more appropriately represent minoritized populations.

This is only one of the many ways in which scholars of educational psychology can conduct interesting and impactful future research regarding the appropriate education of SWD. Some of this work may include revisiting established constructs and theories, and some may generate entirely novel ideas. Both will likely require renewed commitment to publishing methodological approaches (e.g., single-case and qualitative designs, community engaged research, etc.) that favor considerations of transferability and contextualizing findings over the goal of generalizability.

Furthermore, a more inclusive educational psychology is attainable given the current state of the field. We found evidence in our review that educational psychologists are already reading and citing literature related to SWD. Furthermore, we found that over the last 10 years, regardless of whether or not they included SWD in their own work, researchers frequently recommended extending their findings to this population as a future direction. We encourage those already reading, citing, and recommending follow-up research about SWD to recognize that this work cannot be perpetually "in the future," and call on them to thoughtfully include SWD now.

Recommendations

In pursuing such a call, it is first necessary to identify a roadmap for disrupting the status quo to advance a more equitable future (Connor, 2017; Matthews & López, 2020). As such, we offer the following recommendations for educational psychology researchers and journal editors.

First, as stated earlier, we argue that future inquiry must actively include SWD in study samples to the greatest extent possible. In circumstances in which this is not possible, or would interfere with the purposes of a given study, reviewers should ask authors to explain their choice to exclude SWD. Put another way, the normative practice should be

including these students in educational psychology research, and the decision to exclude should be considered a deviation from research expectations warranting explanation.

Our second main recommendation is to resist deficit frameworks in educational psychology research about SWD. One practical way of achieving this goal is to adopt language that is person-first (e.g., "student with down syndrome") or identity-first (e.g., "autistic student") depending upon, first, the preferences of individual participants themselves, and second, community-specific standards. Notably, person-first language is already a requirement of the current APA style guide (American Psychological Association, 2020). In some instances, it may be more appropriate to use language that is community-preferred. For example, there are distinctions between the phrases "student who is hard of hearing," "deaf student," and "Deaf student." The first, *hard of hearing*, refers to a broad spectrum of hearing abilities, ranging from those that are accommodated with auditory assistive devices to those that cannot be. The second, *deaf* (lower-case *d*) refers simply to a medically diagnostic threshold of hearing ability. The third, *Deaf* (upper-case *D*), refers to a cultural identity of deafness central to many (but not all) individuals' meaning-making about themselves and their experiences. Though individuals vary in their preferred terminology, the term "hearing impairment" is widely rejected for the ableist implications of what it means to be impaired. Researchers cannot assume which term their participants use in reference for themselves or how they prefer being referred to by others. Clarifying preferred terminology with participants takes additional time, but is critical to inclusive work in the field.

Beyond this, we applaud educational psychology researchers' efforts to be direct, purposeful, and respectful in the descriptive words that they choose to describe participants. We found multiple situations in the last decade's literature in which students were referenced using demeaning language such as "lows" or "lowly intelligent students." In other instances, articles included less offensive euphemisms that nevertheless clouded the researchers' intended meaning. For example, the term "special populations" is sometimes used to describe students with disabilities, but it is also used to describe other groups of students, such as immigrants or refugees (e.g., Ma et al., 2016), which leads to imprecision in the field. We recognize that there are certainly situations in which researchers use terms such as "struggling readers" because they feel that students are being either inappropriately and unfairly diagnosed with disabilities, or being overlooked for the diagnoses (and thus services) they deserve. In such cases, we recommend that researchers be clear about how and why they made their language choices.

This brings us to our third recommendation, which is for researchers to specify the theoretical perspective that they are bringing to discussions of disability. The language used by a scholar working from a biomedical perspective is likely to be different from the language used by a scholar working from a sociopolitical perspective. As explained by Llewellyn and Hogan (2000), many disability perspectives are valuable and necessary; however, those perspectives should be made explicit (see "Understanding Disability"). Clarifying the point of view on disability that undergirds the basic premises of a study not only acknowledges the idea that different people define disability differently, but also enables the reader to more accurately understand the conclusions that the researchers ultimately attained.

Educational psychologists need not reinvent the wheel to begin this work. They should also take care to become informed about specific disability communities and the history of education research related to SWD—including previous harms purported—before beginning to incorporate our recommendations into their own practice (see Annamma et al., 2013). Therefore, we recommend that educational psychology scholars partner with researchers from related fields such as disability studies, school psychology, and special education, among others; as well as special education teachers, SWD themselves, and their families. In addition to making it more feasible for individual educational psychology researchers to begin this work, interdisciplinary research offers benefits to the entire field. For example, if we take seriously the argument that more inclusive research is more robust research, then interventions and constructs developed by scholars from fields that regularly include SWD are likely more precise and meaningful.

One maxim in the Disability Studies community is "nothing about us without us," (see Charlton, 1998) which is an imperative to include people with disabilities as part of any process that seeks to understand or make decisions about their experiences. Educational psychologists must make concerted efforts to partner with people with disabilities and their communities (e.g., guardians, teachers, and pressing empirical questions. As an extension of our recommendation above to cultivate interdisciplinary partnerships, educational psychologists should also aim to cultivate diverse research teams, including graduate students with disabilities, to better understand the data that they collect about SWD.

Finally, we offer two suggestions for journal editors and those who aspire to these positions. Editors often serve as the first gatekeepers for scientific dissemination, and they can also serve as champions of new directions and promising approaches (Petersen, 2017). First, we call on editors to track the representation of SWD in accepted manuscripts and to actively solicit work that includes participants with disabilities among the samples. Among manuscripts submitted that make no mention of SWD, journal editors could consider engaging with authors in questions such as: *is it possible to revisit the data to expand analyses? What are the implications of leaving SWD out of this sample? Are there meaningful implications for these students that can be fully addressed within this manuscript (rather than relegating such work to future directions)?* The peer review process plays an important role in operationalizing the values of the field.

Conclusion

Our review of the manuscripts published over the previous decade in the top six journals in educational psychology codifies the extent to which SWD are underrepresented in the field's most influential outlets. We contend, however, that more fully including SWD in educational psychology research benefits everyone, for multiple reasons. Our field's constructs and theories would be better defined and better account for the breadth of diversity among people. SWD who are in both general education classrooms and special education settings would benefit from having teachers and administrators who better understood and addressed

their learning needs; and teachers and policy-makers would have more practicable information to better serve typically-developing students. Prior research has shown us that when scholars consider a more varied population than originally studied (e.g., Graham, 2016)—or, indeed, place particular focus on a population whose specific experiences were not considered in earlier scholarship (e.g., Eccles et al., 1993)—they often end up strengthening the quality of theoretical constructs in ways that improve opportunities for all. We argue that if educational psychology researchers conducted studies that exclusively examined SWD populations (as opposed to, for instance, comparing SWD to typically-developing students), they would learn valuable information that would improve the quality of their theories about all learners.

In order to do such work responsibly and equitably, educational psychologists must take active steps to better understand the needs and experiences of SWD. One means of doing this is simply to become better versed in both the practical and theoretical literatures of disability. Reading about multiple perspectives on disability, and the schooling experiences that children with disabilities have, will help prepare researchers to develop and conduct robust studies. Equally (or perhaps more important) is to partner not only with special education and disability studies researchers who are already well-versed in this literature, but with stakeholders from the disability community themselves. As educational psychologists have documented extensively with regard to communities marginalized by race (e.g., Graham, 2016; Gray et al., 2018), class (e.g., Graham, 1992), and gender (e.g., Eccles et al., 1993), just to name a few, using methods and tools generated for (or normed with) the dominant group often does a disservice to minoritized communities. Including these stakeholders in the research process—and following their lead with regard to what should be studied and how it should be studied—is central to the development of inclusive theories and findings.

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Declarations

Conflict of Interest The authors declare no competing interests.

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