

The Miner's Canary

A Review of Overrepresentation Research and Explanations

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The authors reviewed the overrepresentation research published between 1968 and 2006 to answer two questions: (a) What are the characteristics of overrepresentation studies? (b) How do studies frame the problem? Systematic procedures were used to search four international databases, and criteria were applied to identify relevant studies. Findings suggest that overrepresentation research has been mostly published in special education journals, the number of studies has increased over time (particularly since 2000), most overrepresentation research focused on the learning disabilities category and on African Americans, and most studies used quantitative designs. Overrepresentation research has been framed in three ways: a sociodemographic model in which characteristics of individuals and contexts are examined, a critical perspective in which power issues related to race are addressed, and a framework that examines the role of various professional practices in the creation and maintenance of overrepresentation. Implications for research, practice, and policy are discussed.

Keywords: *overrepresentation; disproportionate representation; equity in special education; culturally and linguistically diverse students; minority students*

The purpose of this manuscript is to conduct a comprehensive review of the literature on the overrepresentation of culturally and linguistically diverse (CLD) learners. This problem is a pattern observed in so-called disproportionate representation, which is defined as “unequal proportions of culturally diverse students in special education programs. Two patterns are associated with disproportionately, namely over- and under-representation” (Artiles & Trent, 2000, p. 514). Although underrepresentation is equally problematic, we focused on overrepresentation because it has received by far the most attention in the research literature.

The review was informed by a number of assumptions. First, we assumed that overrepresentation is a complex phenomenon that provides the opportunity to examine educational inequities for particular groups of students that are shaped by macro and micro forces. We further argue that the overrepresentation of CLD students is like the miner's canary: “Their distress is the first sign of the danger that

threatens us all” (Guinier & Torres, 2002, p. 11). Following this metaphor, the canary warns us about potential unequal distributions of access to opportunities and participation in society that might result from inadequate use of educational practices. This problem does not involve only the canary (i.e., overrepresentation of certain groups) but everyone in the coal mine (i.e., the educational system). Thus, the problem cannot be examined by focusing solely on the canary but on a situated relationship between the canary and the coal mine (i.e., the educational system and its attendant policies and practices that afford and constrain opportunities).

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The education policy community sanctioned this metaphor when regulations were introduced in federal law to monitor, regulate, and address disproportionality patterns. This legislative change has had an important impact on the field, as reflected in the increase in research grants and publications as well as funded technical assistance and professional development initiatives observed in the past 10 years. We argue it is imperative to take stock of these emerging efforts and take a critical retrospective look at the problem and how it has been studied. We sought, therefore, to answer the following questions: (a) What are the characteristics of overrepresentation studies? and (b) How do studies frame the problem?

The need for this review is supported by at least two compelling reasons. First, published research defines and represents a field and represents the paradigms that inform studies in a specific field (Artiles, Trent, & Kuan, 1997). These studies inform policy makers and funding agencies about what kinds of interventions are worthy of support. Accordingly, it is relevant to take stock of how the research community is framing this problem so that it may be more effectively addressed. Second, a review of the literature provides not only information about what we have learned from previous studies but also about the kinds of research questions, theories, and methodologies that have received the most or least attention.

Reviews of this literature have been published elsewhere. The two National Research Council (NRC) reports on disproportionality (Donovan & Cross, 2002; Heller, Holtzman, & Messick, 1982) and the review published by Coutinho and Oswald (2000) represent good examples. Heller et al. (1982) reported patterns of disproportionality for students identified as mild mentally retarded (MMR) describing situations when disproportionality is a problem. The authors also reviewed potential explanations, categorizing them in six main rubrics. The first rubric, called legal and administrative requirements, refers to the policies that fund particular disability labels and that may offer incentives to place students in certain categories. The second refers to students' biological and emotional characteristics. The third rubric refers to the quality of the instruction that students receive, and the fourth refers to the biases in the assessment process, such as a cultural mismatch between IQ tests and the language and culture of CLD students. The fifth rubric refers to characteristics of the students' home and family environment, such as child-rearing practices and the impact of poverty in students' school achievement. Finally, the sixth potential explanation

provided by Heller et al. refers to the broader historical and cultural processes that "collectively influence minority status within a dominant majority culture" (Heller et al., 1982, p. 17).

Donovan and Cross's (2002) report reviewed the work on disproportionate representation for all special education and gifted services. The committee framed its analysis focusing on student achievement. In this model, three arenas contribute to academic achievement: the characteristics of the child (i.e., biological, family context, and community context), teacher characteristics (i.e., education, experience, classroom management style), and the characteristics of the classroom (i.e., classroom size, curriculum, and resources). These three arenas are affected by educational policies, such as accountability, standards, and teacher certification policies, and also by broader social policies that affect the students' family and communities, such as income distribution, environmental regulations, and so on. According to this framework, "addressing disproportion in special and gifted education will require addressing the entire educational system" (Donovan & Cross, 2002, p. 28).

Coutinho and Oswald (2000) conducted a synthesis of the literature on overrepresentation, covering important topics, such as definitions of disproportionality, the history and extent of the problem, court cases, policy initiatives, and research and professional approaches. Furthermore, Coutinho and Oswald advanced two hypotheses. First, CLD students' exposure to different environmental, health, demographic, educational, and economic factors affect their placement in special education. For example, the high rates of CLD students who live under the detrimental effects of poverty (e.g., lead exposure, parental stress) may affect identification rates for special education. The second hypothesis is that "special education referral, assessment, and eligibility rely on process and instruments that are culturally and linguistically loaded and that measure and interpret ability achievement, achievement, and behavior of students differently across ethnic groups" (Coutinho & Oswald, 2000, p. 147).

Our analysis differs from these reviews on several counts. First, we specified a broad time period covering most of the history of this problem and described in detail the systematic methods used to conduct the review (see Methods section). The aforementioned reviews seemingly relied on a selective set of articles and stressed a synthesis of issues as opposed to a detailed analysis of research. Second, we defined our review with two specific topics in mind, namely, the

characteristics of research and the ways in which the studies were framed. In turn, the previous reviews used a broader approach; they offered a comprehensive summary of a wide range of issues beyond research studies that included definitions of disproportionality; placement patterns at national and state levels; legal, policy, research, and teacher education responses; and causes and predictors of disproportionality. Although the last item overlaps somewhat with this review, our analysis was more detailed because it differentiated the various approaches taken in the studies. Third, our results confirm some of the aforementioned reviews' findings, but we have greater support for these results, considering the systematic approach we used to review the studies. In addition, our results extend previous findings because we report evidence about the frameworks used to study overrepresentation, publication trends over time, methodologies used, and whether the explanations differed depending on certain key factors (e.g., student race or disability category). In short, our review is more focused and analytically detailed. Fourth, Coutinho and Oswald (2000) and Donovan and Cross (2002) addressed over- and underrepresentation; we examined only overrepresentation. Fifth, our review included more studies since these reviews were published.

We provide in the following sections an overview of overrepresentation and review the arguments for considering it problematic. Finally, we turn to the systematic review of the literature and a discussion of the findings.

Overview of Overrepresentation

Unequal representation patterns were discussed as early as 1968, when Dunn noted unequal proportions of CLD students in special day classes for MMR. Dunn wrote,

About 60 to 80 percent of the pupils taught by these teachers [those who teach special day classes] are children from low status background—including African Americans, American Indians, Mexicans, Puerto Rican Americans; those from nonstandard English, broke disorganize, and inadequate homes; and children from other non-middle class environments. (p. 6)

Thirty-eight years later, CLD students are overrepresented in the high-incidence disabilities (U.S. Department of Education, 2006). High-incidence disabilities include emotional and behavioral disorders

(EBD), learning disabilities (LD), MMR, and speech and language impairments (SLI). As indexed by the risk ratio (see Note 1), African American learners are overrepresented at the national level in the categories of mental retardation (MR) and EBD. Latino students are overrepresented in LD and SLI in some states (National Center for Culturally Responsive Education Systems [NCCRESt], n.d.). Native American students are disproportionately represented in LD and EBD at the national and state levels (Pilla, 2000; U.S. Department of Education, 2006). Furthermore, there is evidence suggesting that English language learners (ELLs) are disproportionately enrolled in special education and placed in more segregated settings in California and New Mexico (Arties, Rueda, Salazar, & Higareda, 2005; de Valenzuela, Copeland, Qi, & Park, 2006). Overrepresentation patterns vary from the national to the state to districts levels and between and within states. This means that a state may not show disproportionate placement patterns, but we could still find districts within such a state with high disproportionality ratios.

There have been several important efforts made to reduce the unequal representation of CLD students in special education. These include two National Research Council reports (Donovan & Cross, 2002; Heller et al., 1982), which offered valuable guidance and also generated considerable debate about how to explain disproportionality, political pressure, and litigation made by major professional organizations, such as the Council for Exceptional Children, and federally funded projects, such as NCCRESt. Furthermore, the 1997 and 2004 reauthorizations of the Individuals with Disability Education Act (IDEA) recognized the disproportionate representation of CLD students in special education. IDEA instructs states to have policies and procedures that prevent disproportionality and to collect, examine, and report data to determine significant disproportionate rates. In addition, states must revise policies, procedures, and practices when significant disproportionality is determined, reserving 15% of federal funds under Part B of IDEA for early intervening services. However, states can define significant disproportionality in their own terms, making disproportionality comparisons between states a challenging endeavor.

Why Is Overrepresentation a Problem?

One may argue that overrepresentation is not a problem by stating that the extra support provided by

special education resources is beneficial for the over-represented groups. However, at least three reasons have been advanced to explain the problematic nature of overrepresentation: “labeling effects, segregation of placement, and presumed ineffectiveness of special education services” (Hosp & Reschly, 2003, p. 68). The first reason suggests disability labels may result in low expectations and poor educational and life outcomes (Patton, 1998). Mehan, Hertweck, and Miehl (1986) found that teachers focused on the negative behaviors of students labeled with behavior problems, even if the same behaviors were not different from those of students who had not been labeled with these types of problems. Historically, CLD students have been perceived as lacking the knowledge and skills needed to succeed in school (Artiles, 2003). A disability label, therefore, adds another layer of stigma to CLD students.

The second reason suggests that students placed in segregated settings may be denied access to the general education curriculum and the least restrictive environment, receiving services that do not meet their individual educational needs (Klingner et al., 2005). Furthermore, after CLD students are identified for special education services, they can be placed in more segregated settings than their White peers with the same disability label (Skiba, Poloni-Staudinger, Gallini, Simmons, & Feggings-Azziz, 2006).

The third reason is that the efficacy of special education services has been contested for many years. Longitudinal evidence suggests students with disabilities have been slowly improving their educational outcomes. However, the National Longitudinal Transition Study of Students in Special Education II (Wagner, Newman, Cameto, Levine, & Garza, 2006) reported there was a considerable achievement gap in language arts, mathematics, science, and social studies between students identified for special education services and their peers in the general education population. Ethnic disparities are also found within the special education student population. Students from CLD backgrounds receiving special education services are more likely to be removed from school (Osher, Woodruff, & Sims, 2002), less likely to receive related services (i.e., occupational and vocational services; Parrish, 2000), and less likely to enroll in college programs than their White peers with the same disability label (Henderson, 2001).

Heller et al. (1982) wrote that overrepresentation must not be treated as problematic in all circumstances but that one should ask, “Under what circumstances

does disproportion constitute a problem?” (p. 18). They offered three scenarios within which overrepresentation is a problem. First, it is a problem if students are mistakenly placed in special education when other programs may have been more beneficial for them. Second, overrepresentation is a problem if children are identified as disabled because of poor-quality instruction in the general education classroom. Third, overrepresentation is a problem if the quality of instruction in special education classrooms detracts students’ educational progress, keeping them from returning to the general education classroom.

Method

Literature Search and Study Selection

We searched for overrepresentation studies in four major education search engines, namely, ERIC, PsycInfo, Education Full Text, and Web of Science. In consultation with a professional librarian, the following descriptive terms and key words were combined to conduct the searches and maximize the number of potential studies: Using the connector *and*, the term *special education* was combined with the terms *minority groups* or *culturally and linguistically diverse* or *African American* or *Black* or *Hispanic* or *Latino* or *Native American* or *Indian American*. The terms *overrepresentation*, *representation*, *disproportionate representation*, *disproportionality*, *placement*, and *referral process* were also combined with each racial and high-incidence disability category using the connector *and* until all possible combinations were exhausted. This initial search of the literature produced 275 articles. These articles’ reference lists were hand searched to identify additional studies as potentially eligible for this review. This secondary search produced 130 additional articles. We examined the 405 articles to decide if they met our literature review’s study selection criteria. The criteria used for the final selection of studies included the following:

1. The study questions, purpose, and/or hypothesis addressed at least one of the following aspects:
 - a. the appropriateness of referral, assessments, and/or eligibility processes that lead to placement of CLD students in the high-incidence disability categories (MR, LD, EBD, SLI);
 - b. placement patterns and/or predictors of CLD students in the high-incidence disability categories—that is, what factors increase the likelihood

that a CLD student is identified for special education in the high incidence disability categories; or c. school professionals' beliefs about overrepresentation.

2. Source of publication: The studies must have been published in peer-reviewed journals as a way to address the quality of the research. This excluded studies published in book chapters, technical reports, and studies presented at conferences.
3. Time range: The studies were published between 1968 and 2006.
4. Data and research method: The studies were data based (either primary or secondary), with quantitative, qualitative, or mixed designs. Thus, we did not analyze essays, literature reviews, editorials, or papers that addressed the issue of overrepresentation solely from a conceptual point of view. Furthermore, we chose to examine individual studies so that we would be able to review in detail the procedures of each study. Meta-analyses offer a powerful means to

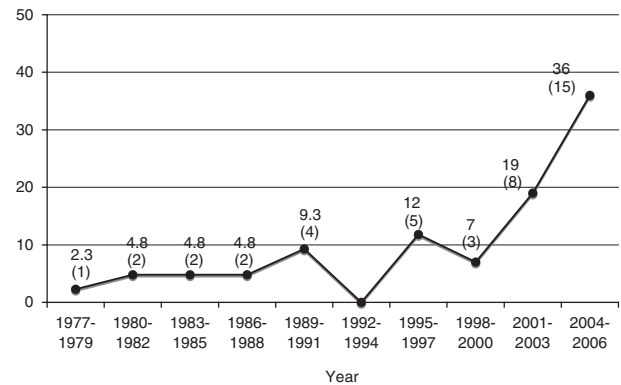
combine data from different studies that address a similar question, using accepted [educational] and statistical methods, to obtain more reliable estimates of treatment effects. Meta-analysis is also a convenient way of summarizing information on a particular treatment in a structured format. (Flather, Farkouh, & Yusuf, 1997, p. 569)

However, meta-analyses typically do not report details about individual studies for the kind of scrutiny we aimed to conduct in this systematic review. We found only one meta-analysis that relied on a very small number of studies (see Note 2). Thus, meta-analysis studies were excluded.

5. Setting: The studies were conducted in elementary or secondary public schools.

A study needed to meet all five criteria to be included in the review database. We applied these selection criteria to the 405 publications identified in the searches and found 42 eligible journal articles. The most common reasons for which studies did not qualify for this literature review were that they addressed overrepresentation from a conceptual point of view (e.g., Patton, 1998; MacMillan & Reschly, 1998), were not published in a peer-reviewed journal (e.g., Harry & Klingner, 2006; Mehan et al., 1986; Zucker, Prieto, & Rutherford, 1979), or the article focused on the statistical integration and analysis of findings from several studies (see Note 2).

Figure 1
Proportion (Frequency) of Studies
by Year of Publication



Results

How Is Overrepresentation Studied? Descriptive Characteristics of the Research

This analysis enables us to understand general features of this research, including the publication trends over time, publication outlets, the disability categories examined, and the methodological characteristics of studies.

First, although Dunn commented on disproportionate representation in 1968, we did not find empirical studies published in peer-reviewed journals that met our criteria until 1977. The number of articles published in peer-reviewed journals has increased in the 21st century. More than half of the articles (24) were published in a 6-year period (between 2000 and 2006). Furthermore, more than one third (15) of the articles were published between 2004 and 2006 (see Figure 1).

With regard to disciplinary attention to this problem, we found that almost two thirds (59.5%, $n = 25$) of the studies were published in special education journals, such as *The Journal of Special Education*, *Exceptional Children*, *Journal of Learning Disabilities*, *Remedial and Special Education*, *Rural Special Education Quarterly*, *Behavioral Disorders*, and *Learning Disabilities Quarterly*. Studies published in school psychology journals accounted for 19% ($n = 8$) of the empirical knowledge base. Studies published in journals in the sociology field accounted for almost 9.5% ($n = 4$) of the studies, and

Table 1
Descriptive Characteristics of Selected Studies

| Descriptive Feature | All Studies (<i>n</i> = 42) | Sociodemographic (<i>n</i> = 14) | Sociohistorical (<i>n</i> = 2) | Professional Practices (<i>n</i> = 26) |
|-------------------------------|---------------------------------|--------------------------------------|------------------------------------|---|
| Time of publication | | | | |
| 1970s | 2.4% (1) | — | — | 3.8% (1) |
| 1980s | 16.3% (7) | 7.2% (1) | — | 23.1% (6) |
| 1990s | 24% (10) | 21.4% (3) | — | 23.1% (6) |
| 2000s | 57.3% (24) | 71.4% (10) | 100% (2) | 50% (13) |
| Field of study | | | | |
| Education | | | | |
| Special education | 59.5% (25) | 86% (12) | — | 50% (13) |
| General education | 4.8% (2) | — | — | 7.8% (2) |
| Psychology | | | | |
| School psychology | 19% (8) | — | — | 30.8% (8) |
| Psychology | 2.4% (1) | — | — | 3.8% (1) |
| Sociology | 9.5% (4) | 7% (1) | 100% (2) | 3.8% (1) |
| Public health | 2.4% (1) | 7% (1) | — | — |
| Anthropology | 2.4% (1) | — | — | 3.8% (1) |
| Methodology | | | | |
| Quantitative | 83.2% (35) | 100% (14) | 100% (2) | 73% (19) |
| Qualitative | 12% (5) | — | — | 19.3% (5) |
| Mixed design | 4.8% (2) | — | — | 7.7% (2) |
| Mean sample size | | | | |
| Students | 1,169,241 | 487,000 | 2,766,684 | 324 |
| School professionals | 161 | — | — | 161 |
| Districts | 2,478 | 4,712 | 981 | — |
| Schools | 295 | 295 | — | — |
| Child study team | 12 | — | — | 12 |
| Sample range | | | | |
| Students | 1–3,382,510 | 893–372,576 | 2,418,761–3,382,510 | 1–2,263 |
| School professionals | 48–320 | — | — | 48–320 |
| Districts | 11– 4,455 | 11– 4,455 | 981 | — |
| Schools | 295 | 295 | — | — |
| Child study team | 2–22 | — | — | 2–22 |
| Racial group | | | | |
| AA | 40.5% (17) | 29% (4) | 50% (1) | 46.2% (12) |
| L | 16.6% (7) | 7% (1) | — | 23% (6) |
| AA-L | 19% (8) | 14% (2) | 50% (1) | 19.3% (5) |
| All federal racial categories | 16.6% (7) | 50% (7) | — | — |
| Not specified | 7.3% (3) | — | — | 11.5% (3) |
| Disability category | | | | |
| Single | | | | |
| LD | 26.1% (11) | 14.4% (2) | 50% (1) | 30.8% (8) |
| MMR | 14.3% (6) | 14.4% (2) | 50% (1) | 11.5% (3) |
| EBD | 14.3% (6) | 21% (3) | — | 11.5% (3) |
| SLI | 2.4 (1) | — | — | 3.8% (1) |
| Two or more | | | | |
| Two HI disabilities | 9.5% (4) | 14.4% (2) | — | 7.7% (2) |
| Three HI disabilities | 2.4% (1) | 14.4% (2) | — | — |
| Four HI disabilities | 2.4% (1) | — | — | — |
| All categories | 4.8% (2) | 14.4% (2) | — | — |
| Not specified | 23.8% (10) | 7% (1) | — | 34.7% (9) |
| Type of data | | | | |
| SD and SE | 33.3% (14) | 78.6% (11) | 100% (2) | 3.8% (1) |
| Academic and behavioral data | 30.9% (13) | — | — | 50% (13) |
| SE, SD, and academic data | 2.4% (1) | 7.1% (1) | — | — |

(continued)

Table 1 (continued)

| Descriptive Feature | All Studies (<i>n</i> = 42) | Sociodemographic (<i>n</i> = 14) | Sociohistorical (<i>n</i> = 2) | Professional Practices (<i>n</i> = 26) |
|---|---------------------------------|--------------------------------------|------------------------------------|---|
| SE, SD, and surveys | 4.8% (2) | 14.3% (2) | — | — |
| Surveys only | 11.9% (5) | — | — | 19.4% (5) |
| Field notes, interviews, meeting transcripts, document | 9.5% (4) | — | — | 15.5% (4) |
| Interviews and surveys | 2.4% (1) | — | — | 3.8% (1) |
| Interviews only | 2.4% (1) | — | — | 3.8% (1) |
| Interviews, academic and behavioral data | 2.4% (1) | — | — | 3.8% (1) |
| Data analysis | | | | |
| Inferential statistics (e.g., ANOVA, regression, <i>T</i> test) | 73.7% (31) | 85.6% (12) | 100% (2) | 65.5% (17) |
| Descriptive statistics | 9.5% (4) | 14.4% (2) | — | 7.7% (2) |
| Grounded theory | 7.2% (3) | — | — | 11.5% (3) |
| Discourse analysis | 2.4% (1) | — | — | 3.8% (1) |
| Interview analysis | 2.4% (1) | — | — | 3.8% (1) |
| Inferential statistics and interview analysis | 4.8% (2) | — | — | 7.7% (2) |
| Geographic region | | | | |
| South | 33.3% (14) | 21.4% (3) | — | 42.3% (11) |
| East | 2.4% (1) | — | — | 3.9% (1) |
| Midwest | 16.7% (7) | 7.1% (1) | — | 23% (6) |
| Southwest | 2.4% (1) | 7.1% (1) | — | — |
| West | 9.5% (4) | 7.1% (1) | 50% (1) | 3.9% (1) |
| Across the nation | 23.8% (10) | 57.1% (8) | 50% (1) | 3.9% (1) |
| Not specified | 11.9% (5) | — | — | 23% (6) |

Note. LD = learning disability; MMR = mild mental retardation; EBD = emotional and behavioral disorders; SLI = speech and language impairment; AA = African American; L = Latino; HI = high incidence; SD = sociodemographic; SE = socioeconomic.

research published in education journals (other than special education) accounted for 4.8% (*n* = 2) of the published research. Journals in other disciplines, such as psychology (other than school psychology), anthropology, and public health, accounted each for 2.4% (*n* = 1) of the studies (see Table 1).

The analysis of the research methods suggests overrepresentation was mostly studied using quantitative methodologies. Eighty-three percent of the studies (*n* = 35) relied on quantitative methodologies, 12% of the studies (*n* = 5) implemented qualitative methodologies, and almost 5% of the studies (*n* = 2) used mixed designs. In addition, there was great variation in the type and size of the samples. Fifty-five percent of the studies (*n* = 23) reported the size of their samples ($M = 1,169,241$; range = 1–3,382,510), 19% of the studies (*n* = 8) reported only the number of districts from which the samples were drawn ($M = 2,478$; range = 11–4,455), another 19% of the studies reported the size of the school professional samples ($M = 161$, range = 48–320), and almost 5% (*n* = 2) of the studies reported the number of child study teams (CSTs) included in the study (M

= 12, range = 2–22). Two percent (*n* = 1) of the studies reported only the amount of schools included in the sample (*n* = 295). Several studies utilizing data from the Office of Civil Rights (OCR) and the Common Core Data of the National Center for Education Statistics (NCES) accounted for the large samples, and ethnographic studies accounted for the small samples (see Table 1).

Regarding the racial composition of the samples, more than half of the studies included either African American or Latino students (40.5%, *n* = 17; and 16.6%, *n* = 7, respectively) or both racial groups (19%, *n* = 8). At least six of these studies described some of the Latino participants as ELL. Seven of the articles included students from all five federal racial categories (16.6%), and three of the articles (7.3%) referred to the students as CLD, as minority students, or as non-White students without identifying their ethnic or racial backgrounds (see Table 1).

Of the 42 selected articles, the majority examined the overrepresentation of CLD students in single disability categories as follows: LD (26.1%, *n* = 11), MMR (14.3%, *n* = 6), EBD (14.3%, *n* = 6), and SLI

(2.4%, $n = 1$). Eight studies (19%) reported findings on either two or more disability categories (19.1%). Ten studies did not specify disability categories (23.8%) (see Table 1).

The most common types of data utilized by the studies using quantitative designs included sociodemographic, economic, and academic performance data obtained from either large national databases (e.g., NCES, OCR) or local school districts, norm-referenced tests, rating scales, and surveys. The most common type of data analyzed in qualitative studies included interviews, transcripts of meetings, field observation notes, and school documents (e.g., student files). The majority of quantitative designs utilized descriptive and inferential statistics (83%, $n = 35$), particularly, regression analysis and analysis of variance. Data analysis procedures for qualitative studies included grounded theory (7.2%, $n = 3$), discourse analysis (2.4%, $n = 1$), and interview coding and analysis (2.4, $n = 1$). Mixed-design studies utilized descriptive and inferential statistics and interview coding procedures (see Table 1).

Regarding the location of the studies, the majority of the studies (33.3%, $n = 14$) were conducted in or obtained secondary data from Southern states (i.e., Florida, Arkansas, Mississippi, South Carolina, and Georgia). Ten studies (23.8%) obtained data from across the nation, seven studies (16.7%) were conducted in or obtained data from the midwestern region, another four studies were conducted or collected data from the West (i.e., California), and five studies (11.9%) did not specify the geographical location of the study. Finally, we found one study that was conducted in the Southwest and one study in the eastern region (see Table 1).

How Do Studies Frame the Problem?

Overrepresentation research in the past 38 years has been framed in three ways: A sociodemographic model in which characteristics of individuals and contexts are examined to understand the problem, analyses of the sociohistorical issues related to race and race relations, and examinations of overrepresentation through the study of professional practices.

The first group of studies tended to focus on sociodemographic characteristics of CLD students and their potential weight in explaining or predicting overrepresentation. This group accounted for 33% ($n = 14$) of the studies. Some of these studies also account for sociodemographic profiles of school and

community contexts, although most of these variables are still related to student factors. Hence, the focus on individual factors prevailed. Examples included the racial makeup of school enrollment, school poverty level (typically indexed by student eligibility to free or reduced lunch), and family traits, such as parents' income, education level, or their beliefs about the etiology of the disability. Studies that examined sociohistorical contexts were concerned with the role of race and power in shaping this problem, including the structural nature of race. This group accounted for 5% of the studies ($n = 2$). By far, the last group of studies received the most attention in the literature, accounting for 62% of the studies. This group of studies examined the professional practices that lead to special education eligibility and placement, including mediating forces of such practices (e.g., teacher beliefs or biases).

An Enduring Focus on the Individual: Sociodemographic Characteristics of Individuals and Their Contexts

Fourteen studies (33%) studied overrepresentation focusing on a set of factors, such as environmental, sociodemographic, health, economic, and academic variables, that relate to children's educational outcomes and special education placement. These studies are identified at the end of this article. One of these studies also examined family characteristics (Artiles, Aguirre-Muñoz, & Abedi, 1998), and one of these studies examined parents' beliefs about the etiology of the disability (Yeh, Forness, Ho, McCabe, & Hough, 2004). In these 14 studies, the focus on the individual prevailed. In contrast to the trends reported for the whole data set, most of the sociodemographic studies (50%, $n = 7$) tended to include all federal racial categories in their analysis and tended to have a national focus (57.1%, $n = 8$) (see Table 1).

For example, Delgado and Scott (2006) used information obtained from birth certificate records to study referral rates for preschool children in Florida. They employed a logistic regression analysis to examine the association of risk factors associated with poverty with referral for special education. The authors reported that factors associated with poverty, such as student's low birth weight and low maternal education, and biological factors, such as prematurity, were associated with high rates of referrals for special education services.

Other studies examined the relationship between race and school districts' demographic and socioeconomic factors to predict students' identification for special education (e.g., Argulewicz, 1983; Coutinho, Oswald, & Best, 2002; Coutinho, Oswald, Best, & Forness, 2002; Zhang & Katsiyannis, 2002). Correlations varied according to disability category and ethnic group. At the national level, overrepresentation of CLD students identified as EBD was correlated with sociodemographic factors. For example, Coutinho, Oswald, Best, et al. (2002) conducted an analysis of overrepresentation and economic and sociodemographic variables using data from the OCR and the Common Core Data of NCES. The authors concluded that students identified as Latino and African American, especially males, who were enrolled in schools with a large enrollment of White students were more likely to be identified for special education under the EBD category than those who attended schools with a large enrollment of CLD students. The opposite trend was found for students identified as Native Americans. In similar studies, Oswald, Coutinho, Best, and Singh (1999) reported that as the number of students living in poverty in the school district increased, fewer African American students were identified for special education in the EBD category. Serwatka, Deering, and Grant's (1995) findings showed that higher rates of African Americans' identification in the EBD category were associated with lower rates of African American student enrollment and lower proportions of African American teachers in 67 school districts in Florida.

Overrepresentation of CLD students in the MMR category was associated with economic and sociodemographic factors. However, how these factors were associated with overrepresentation varied. For example, Oswald et al. (1999) suggested that the likelihood of an African American student to be placed in special education increased when the school district had high rates of students living in poverty and that large proportions of African American students enrolled in the district did not increase the MMR rate until poverty rates of the district increased to greater than 30%. In a similar study, Oswald, Coutinho, Best, and Nguyen's (2001) findings suggested that when all predictors were included, the identification of CLD students in the MMR category increased as poverty rates in the district decreased. The authors wrote, "These findings suggest that in low poverty districts, the increased rate of identification of students of color

[CLD] may be attributed to systemic bias" (Oswald et al., 2001, p. 361). This study's findings also suggested that as the rates of CLD students' enrollment in the district increased, the MMR rates for these students decreased. In a study conducted in Atlanta, the identification of African American students in the MMR category was also associated with low maternal education and young age at the time of delivery and with families with more than two children (Yeargin-Allsopp, Drews, Decouflé, & Murphy, 1995).

Three articles suggested that overrepresentation of CLD students in the LD category was related to demographic and economic factors. For instance, Coutinho, Oswald, and Best (2002) conducted regression analyses using OCR and NCES data and concluded that increased percentages of students living in poverty were associated with increased identification of African American and Latino learners and with a lower identification risk for Native American students in the LD category. They also found that the increase of CLD student enrollment was associated with a decrease in the identification of African Americans and Latinos as LD and with an increase in the identification of Native Americans as LD.

Furthermore, Hosp and Reschly (2004) conducted a similar study, supporting several of Coutinho, Oswald, and Best's (2002) results. In addition, they examined three models to predict disproportionate representation, namely, academic, demographic, and economic. The three models contributed differentially to the prediction of overrepresentation. Specifically, the economic model had the strongest predictive power for the MMR category. The academic model was the strongest predictor for African American students in the LD category but not for Latino or Native American students, for whom the demographic model was the most powerful predictor of LD placement. Furthermore, the demographic model was also the strongest predictor for the EBD category across racial groups. Although the academic factors contributed significantly to two thirds of the models tested in the study, "the academic block of predictors was generally the weakest of the three blocks" (Hosp & Reschly, 2004, p. 194).

Three studies found poverty to be a weak predictor of special education placement. Skiba, Poloni-Staudinger, Simmons, Feggins-Azziz, and Chung (2005) analyzed relationships between race, poverty, and special education placement in 295 schools in a midwestern state. The authors concluded,

Poverty proved in general to be a weak and inconsistent predictor of disproportionality. In only one of the disability categories tested in the multiple regression analyses (mild mental retardation) did increased poverty predict increased disproportionality. In two categories (emotional disturbance and moderate mental retardation) poverty failed to enter the equation, and in two others (learning disability and speech and language) it entered in a direction counter to expectations. (p. 141)

The authors also reported that rates of suspension and expulsion consistently predicted rates of overrepresentation. These findings at the state level were supported at the national level by a similar study conducted by Zhang and Katsiyannis (2002). This study also provided information about interesting regional variations that were not correlated with poverty rates. Students identified as Latinos were identified for special education under the LD and EBD categories at higher proportions in the north-eastern than in the southern regions, and higher proportions of African American learners were identified in EBD in the west-north-central region (Iowa, Kansas, Minnesota, Missouri, North Dakota, Nebraska, and South Dakota).

In a study conducted in a southwestern state, Argulewicz (1983) examined the relationship of African American and Latino students' socioeconomic status and home language and their likelihood of being identified in the LD, MMR, or EBD category. The findings suggested that students identified as Latino whose home language was Spanish and who came from a middle-class background had a greater likelihood to be placed in special education than any other group, and African American learners were more likely to be placed in special education if they came from a low socioeconomic background.

The majority of the aforementioned studies that mapped placement patterns used data from the Elementary and Secondary Schools Civil Rights Compliance Reports, the Common Core Data from the NCES, and district-level achievement and demographic data. Even though these data sources provide important information, they had limitations (Donovan & Cross, 2002). For example, these databases do not account for variability between states' definitions of disability categories, and some of them use different sampling designs across time. Furthermore, they do not recognize heterogeneity within each race, disability, and socioeconomic status category. However,

comparisons between different racial and disability groups are more meaningful when intragroup heterogeneity is accounted for.

Two studies aimed to address this issue by looking at the intragroup heterogeneity of CLD communities. These studies looked at factors within a CLD group in relation to placement in special education. Artiles et al. (1998) used the National Education Longitudinal Study (NELS) database to examine middle school student and family characteristics associated with placement in the LD category at the national level. The authors compared students with and without LD within each ethnic group. The results suggested that high levels of family structure or rules differentiated Latino and African American students' placement in the LD category. In addition, African American students with LD reported a higher perception of social status than their peers without LD, and math achievement discriminated between Latino students with and without LD.

Artiles et al. (2005) conducted a district-level study to examine ELL placement patterns in California urban districts. This study not only focused on the level of English proficiency of the student (as defined by districts) but also focused on the level of language support offered to ELLs. These authors used data from 11 urban school districts in California for the 1998–1999 academic year. ELL placement risks were calculated in comparison to English-proficient and White students. They reported that ELLs with limited proficiency in both their first language and English had a greater chance to be identified for special education services than ELLs who had limited proficiency only in English, especially in secondary grades and in the LD category. In addition, they reported that ELLs placed in programs that offered the least native language support were more likely to be identified for special education. Finally, larger proportions of low-socioeconomic ELLs were found in the LD category and larger proportions of high-socioeconomic ELLs were placed in the SLI category.

The Sociohistorical Context of Overrepresentation: Power and the Structural Weight of Race

Two studies focused on power and racial and political structures. These studies conceptualized overrepresentation as associated to race relations in particular regions and their implications for education policies and programs. Although these studies also utilized sociodemographic and economic variables, they

assumed that these variables were related to race relations and power differentials. The studies were also grounded in the assumption that structural factors, such as race and power, shape school districts' and individuals' (e.g., teachers, parents, administrators) decisions. These studies accounted for 5% of the studies, and they were published in sociology journals.

For example, Eitle (2002) focused on the relationship between school districts' structural factors, political and economic structures, school segregation policies, and the placement of African American students in special education in the MMR category. The authors utilized data from the OCR and NCES, obtaining a sample of 981 school districts across the nation. School district structures were operationalized as district enrollment demographics, the district location (e.g., urban, rural, or suburban), and the proportion of special education students receiving education outside the district. Racial and political-economic structures were operationalized as African American and White household income and level of education, school desegregation policies, and the proportion of White students enrolled in private school. The findings suggested that the proportion of African American students enrolled in the district was negatively correlated to the representation of these students in MMR programs, that federal orders to desegregate schools were associated with African American representation in MMR programs, and that districts in the South that had a history of segregation had a higher proportion of African American students in these MMR programs.

In another study, Ong-Dean (2006) studied the historical relations between race, class privilege, and LD identification. The author conducted a regression analysis based on the OCR data from California districts in the years 1976, 1986, and 1998. The student samples for each of these years were 2,418,761; 2,498,780; and 3,382,510, respectively. Ong-Dean argued that in the 1970s, privileged White children received the most LD diagnosis but that over time, this rate diminished, whereas the proportion of African American and Hispanic students identified as LD increased. Furthermore, over time, there was a stronger negative correlation between the proportion of CLD students enrolled in the district and placement in the LD category. The author concluded that as the LD diagnosis became institutionalized and LD prevalence increased drastically, it changed from being a privileged service for privileged students that met parents' interests to an institutionalized means

for school professionals to access the growing amount of funding dedicated to educate students with disabilities and to comply with political pressures to minimize the enrollment of CLD students in the MMR category.

The Technical Dimension of Overrepresentation: Enacting and Mediating Professional Practices

We located 26 (62%) studies that were concerned with the professional practices carried out to determine a child's disability diagnosis. These studies addressed individuals' biases in referrals and student perceptions, assessment issues, other beliefs, and decision-making processes in eligibility team meetings.

Mediators of professional practices: Individuals' biases in referrals and student perceptions. We identified nine studies focusing on school professionals' biases. Four studies were based in simulated case scenarios (e.g., see studies by Prieto and Zucker, 1981; Tobias, Cole, Zibrin, & Bodlakova, 1982; Tobias, Zibrin, & Menell, 1983; Zucker & Prieto, 1977), four studies used primary data collected by the researchers, and one study collected secondary data from students' files (Gottlieb, Gottlieb, & Trongone, 1991). In contrast with the trend observed in the whole data set, half of these studies were published in the late 1970s and early 1980s, and the other half was distributed in the remaining years.

The studies examining teachers' racial bias produced mixed results. For example, Zucker and Prieto (1977) examined the effects of race and gender in the referral decisions of 280 special educators enrolled in graduate school. Study participants were presented with a fictitious case study and were asked to respond to a set of questions regarding MMR placement. All the case studies were identical except that in some instances, the student was described as White male, and in others, as a Latino male. Findings suggested teacher placement bias toward Latino learners. These findings were replicated in several subsequent studies focusing not only on MMR but also in the EBD category (Prieto & Zucker, 1981; Tobias et al., 1982).

However, other studies did not support teacher racial bias (Bahr, Fuchs, Stecker, & Fuchs, 1991; Cullinan & Kauffman, 2005; Gottlieb et al., 1991; MacMillan, Greshman, & Bocian, 1996; Shinn, Tindal, & Spira, 1987; Tobias, Zibrin, & Menell, 1983). For example, MacMillan et al. (1996) compared 150 children recommended for special education based on cognitive and academic achievement

standardized measures and behavioral scales to determine racial and gender differences. White students scored higher on the tests and presented fewer incidents of behavioral problems than African American students. The authors concluded,

Contrary to the notions that minority group children are discriminated against by teachers in the referral process, these findings suggest that those Black and Hispanic students who were referred are significantly lower on VIQ and reading than their White counterparts. (MacMillan et al., 1996, p. 148)

Cullinan and Kauffman (2005) studied racial bias in teachers' perceptions of behavioral problems related to the five characteristics of the EBD eligibility criteria (i.e., inability to build or maintain interpersonal relationships; inability to learn that cannot be explained by intellectual, health, or sensory factors; inappropriate types of behavior or feelings under normal circumstances; a pervasive mood of unhappiness or depression; and a tendency to develop physical symptoms or fears associated with personal or school problems). The researchers examined the ratings of the *Scale for Assessing Emotional Disturbance* (SAED) provided by African American and White teachers for 769 EBD students. The findings indicated that there were no significant interaction effects in two of the subscales (i.e., Inability to Learn and Relationship Problems). Regarding the Inappropriate Behavior subscale, the findings indicated that African American middle school students rated by White educators had the most inappropriate behavior. However, the Unhappiness or Depression and Physical Symptoms or Fear subscales indicated that regardless of race and grade level, White students were judged to exhibit these behaviors at a greater extent than African American students. Cullinan and Kauffman concluded, "The results did not support the position that, among students with ED, overrepresentation of African Americans arises from racial bias in teachers' perceptions of emotional and behavioral problems" (p. 393).

Assessment issues. We found nine studies that addressed issues related to overrepresentation from an assessment perspective. The majority of these studies focused on the LD category ($n = 7$). Only one study focused on the MMR category (Nagliery & Rojahn, 2001), and one focused on both LD and MMR category (Slate & Jones, 1995).

Nagliery and Rojahn (2001) conducted a study comparing the *Wechsler Intelligence Scale for*

Children—Third Edition (WISC-III) and the *Cognitive Assessment System* (CAS) for a sample of 78 White and African American students with MMR. The authors concluded that the most widely used intelligence scale, WISC-III, classified disproportionately more African American students than White students for the MMR category than the CAS. Nagliery and Rojahn suggested that the differences in classification rates between the WISC-III and the CAS were due to differences in the content of those tests.

In another study, Coffey and Obringer (2000) conducted a study on CLD rural students in Mississippi to examine discrepancy formula methods. He restricted the assessment formulas by using a full-scale IQ instead of using only the verbal scale and limiting eligibility to students who had achievement scores one and a half standard deviations below their full scale. The authors concluded that broad discrepancy formulas contributed to the overrepresentation of CLD rural students in special education services in the state of Mississippi.

Palmer, Olivarez, Willson, and Fordyce (1989) examined the influence of ethnicity and English proficiency on the prediction of achievement based on students' scores on the *Wechsler Intelligence Scale for Children—Revised* and the *Kaufman Assessment Battery for Children*. The findings suggest that both intelligence measures overpredicted the academic achievement of students identified as African American and Latino, which increases the likelihood that these students evidence severe discrepancies between intelligence and academic measures when being evaluated for special education under the LD category. Furthermore, this overprediction was more severe for Latino students identified as ELL than for those Latino students who were proficient in English.

Other beliefs studies. Two studies examined professionals' beliefs about overrepresentation, and one study examined educators' beliefs about African American families living in poverty. Skiba et al. (2006) conducted a qualitative study to understand the processes that may contribute to overrepresentation of CLD students in special education services. The authors interviewed 66 educators to explore their assumptions about overrepresentation, which, the authors assumed, might contribute to eligibility decisions. The study participants stated that poverty and the risk factors associated with it contributed to the unequal representation of CLD students in special education. In addition, they reported the lack of

resources and training to deal with challenging behaviors. Finally, the practitioners stated that overrepresentation is fed by a mismatch of the students' cultures and the school culture.

Kearns, Ford, and Linney (2005) conducted a mixed-design study to understand school psychologists' perspectives on the overrepresentation of African American students in special education. The findings suggested that psychologists explained overrepresentation from a cultural disadvantage point of view. The psychologists associated overrepresentation with a lack of parental involvement and failure to value educational experiences, teen pregnancy, and pressure from parents and teachers as reasons for disproportionality. Furthermore, psychologists asserted that this problem will continue to exist as long as poverty persisted among African Americans.

Harry, Klingner, and Hart (2005) conducted three case studies to describe the general atmosphere of negativity in schools toward African American families living in poverty. The purpose of the study was "to challenge the belief that African American parents living in poverty are the cause of their children's learning difficulties" (Harry et al., 2005, p. 101). The findings suggested that school professionals had negative beliefs about African Americans living in poverty, although they knew very little about the families that they served. The authors wrote, "Lacking first hand knowledge, many teachers simply assumed that features such as single motherhood, large family size, drug abuse, or incarceration were all they needed to know about the ways families functioned" (Harry et al., 2005, p. 110). The authors concluded that the cultural capital that African American families living in poverty have within their communities was not recognized in schools.

Representation and decision making in eligibility team meetings. We identified five articles that studied multidisciplinary and CSTs and their eligibility decisions. These studies examined inadequacies of the team participants' decisions (e.g., school psychologists, teachers), their practices, and their perceptions about CLD families that affect eligibility decision-making processes. These five studies were published in the 2000s, which may indicate an emerging trend toward examining how eligibility decisions are made and the appropriateness of these decisions. In contrast to the general trend of the whole data set, most of these studies (3) had qualitative designs, using interviews, transcripts of meetings, and observational data

for the analyses (Klingner & Harry, 2006; Knotek, 2003, Rogers, 2002). One study collected eligibility reports (Wilkinson, Ortiz, Robertson, & Kushner, 2006), and one collected odds ratio data (Gravois & Rosenfield, 2006).

For example, Klingner and Harry (2006) conducted an ethnographic study to examine how CST members decided special education placement for ELLs. The findings yielded that school professionals struggled to differentiate language acquisition from LD, they were confused about when to refer ELLs, lack of English proficiency was misinterpreted as low IQ or LD, and there was an overreliance in test scores. Additional findings included that prereferral strategies were rarely recommended, psychologists had the highest authority in the teams, and bilingual assessors were misused.

Wilkinson et al. (2006) evaluated the appropriateness of eligibility decisions that led to ELL LD placement for reading-related problems. An expert panel examined the multidisciplinary team reports, concluding that of the 21 reports evaluated, 10 of the students had learning problems that were not necessarily related to an LD diagnosis or needed more information to make an eligibility decision, and 6 students appeared to qualify under the LD category but not necessarily for reading-related problems. Only five decisions appeared to be appropriate.

Knotek (2003) conducted an ethnographic study to examine two multidisciplinary teams in rural Carolina. He found that when students either were from low socioeconomic status or presented behavior problems, the problem-solving process became more subjective. This means that the multidisciplinary team focused more on the students' profiles (i.e., low socioeconomic status and problem behaviors) than on the original referral reason, setting the locus of the problem on the student rather than on the school and its educational practices. Knotek concluded, "This tendency may contribute to the overrepresentation of African-American students in referrals for and placement in special education because compared to their white peers, African-American students are overrepresented in low-SES categories and behavioral referrals" (Knotek, 2003, p. 13).

Drawing from a 2-year ethnographic study, Rogers (2002) used discourse analysis to examine two special education eligibility meetings for an adolescent female identified for SLI services and multiple disabilities. The findings indicated a clear contrast between the two meetings. The first meeting lasted almost an hour, and

the participants utilized formal evidence to document the student's deficits. In addition, in this meeting, the mother of the student had very little turns during the discussion, and a decision was made to place the student in a special education self-contained classroom. A year after the student was placed in special education, the Individualized Education Program team met to reevaluate the student's placement. Unlike the first meeting, the reevaluation meeting focused on the students' academic and behavioral progress and strengths. However, no formal evidence was presented to support this progress. Furthermore, the second meeting was more informal, and the students' mother participated more than in the first meeting. At the end of the meeting, the student and her mother decided to continue the special education placement. Rogers concluded that institutional discursive practices of the team had an effect on the student's and her mother's decision to stay in special education.

Discussion

We discuss in this section the review's main findings, and we conclude with a few comments about implications for research, practice, and policy. The results related to the first review question (i.e., What are the characteristics of overrepresentation research?) offer important insights on this emerging knowledge base. Our analysis suggests overrepresentation research is surprisingly new, restricted largely to a special education audience, examined mostly with a quantitative lens, predominantly concerned with African American and LD students, and has a focus on national or regional patterns (i.e., particularly, the South).

Attention to overrepresentation increased significantly since 2000—more than half of the articles were published between 2000 and 2006, with one third appearing since 2004. This increase might be explained by the fact that the 1997 and 2004 reauthorizations of IDEA placed greater emphasis on the needs and identification of CLD students. These amendments called for state educational agencies to decrease racial disproportionality and pay attention to ethnic, cultural, racial, and linguistic differences (Overton, 2006). Starting in the 2008–2009 school year, new accountability measures will include indicators of disproportionality, so we might anticipate a continued attention to this problem in the research community.

In addition, this research has been published mostly in special education journals. It is interesting that this research has targeted this audience, considering that many of the reviewed studies show overrepresentation is associated with forces related to institutional and professional factors that transcend the field of special education (e.g., diversity of student enrollment at the school and district levels, professional beliefs about minority students, school poverty levels). It is unfortunate that the publication pattern we identified suggests researchers continue to believe overrepresentation is a special education problem although the reviewed evidence does not support such assumption. We speculate that partly because of this assumption, there is a scarcity of research studies linking overrepresentation with opportunity to learn in general education or on the precursors to special education referrals in general education classrooms.

The last two main characteristics of the identified studies was an emphasis on LDs and African American students. LD is indeed an important group to include in this research, considering that it is the larger disability category in the nation. Consistent with the changes observed in the past 30 years in the prevalence of MMR and LD, the overrepresentation literature began with a focus on the former category (Dunn, 1968), and over time, the focus switched to the LD category. Sociohistorical factors, such as the ones reported in Ong-Dean (2006; e.g., increasing proportions of African American and Latino students in the LD category) may have contributed to this shift. Litigation related to MR identification, changes in policy, and the controversies around the definition and measurement of LDs (e.g., discrepancy formulas), on the other hand, might have created a fertile context for the potential misidentification of African American students and other ethnic groups. New developments in the definition, assessment, and treatment of LDs might have an impact on LD disproportionality.

African Americans are indeed an important ethnic group to include in this research, considering that they have been the most affected throughout the history of overrepresentation. Nevertheless, the work done with this group has neglected several key issues. One is the diversity within African American communities. The differential impact of poverty as a predictor for overrepresentation for this population suggests that within-group diversity might play a mediating role in placement probability. Other factors, such as regional variability in linguistic

practices, nationality or heritage (e.g., Latino–Puerto Rican), gender, education level, local history of racial tensions with the dominant community, and so on, may play consequential roles in the educational experiences of African American learners.

The second question of this review was concerned with how researchers have framed this problem. Our analysis suggests that overrepresentation research has been largely concerned with either sociodemographic traits of students and contexts or professionals' practices. A key theoretical assumption of the former line of inquiry is that people's (e.g., professionals, students) performance is caused by their own characteristics or features of their contexts. An example of this logic is the premise that the overrepresentation of ethnic minority students is largely the result of growing up in poverty or attending poorly funded schools. By focusing on inputs (e.g., exposure to poverty) and outcomes (e.g., special education placement), studies on sociodemographic characteristics did not shed light on the role of policies, educators' beliefs, school climate, and other local practices that might have mediated how overrepresentation affected some (but not all) ethnic groups in certain disability categories. Thus, the research on sociodemographic characteristics of individuals and contexts may default to oversimplifying the problem by blaming poverty, health factors, and the history of low achievement of CLD groups as the sole explanations for overrepresentation. A potential consequence of this line of research is that it may end up supporting a deficit explanation that overlooks the sociodemographic and cultural *resources* of CLD students and the sociohistorical and political factors that constrain CLD groups' access and opportunities in education. Deficit views do not account for the cases that beat the odds, either. Furthermore, if overrepresentation is thought to be caused exclusively by factors, such as poverty, that predict poor schooling outcomes, it would be justifiable to place all students living in poverty in special education (Wagner et al., 2006).

Although a correlation has been documented between poverty and negative developmental and educational outcomes, it is interesting that some of the very findings from sociodemographic studies do not always support their implicit premises—for example, certain ethnic minority students have a higher chance to be identified with certain disabilities in affluent schools; student poverty does not add significantly to the prediction of overrepresentation in regression models. Indeed, this group of studies offered intriguing

findings that make a strong case for additional studies that take into account local practices, participants' interpretive processes, and institutional climate. For instance, factors such as the school enrollment of an ethnic group, the percentage of minority teachers in a district, or the poverty level of districts or schools had differential (sometimes contradictory) values in the prediction of overrepresentation, depending on the disability category and student ethnic background. Thus, these findings confirm that future overrepresentation research will benefit from situated analysis of professional practices and local sociodemographic conditions using an analytic perspective that accounts for the interplay of macro and micro forces.

In turn, studies concerned with the role of various professional practices have provided information about the complexities inherent in eligibility decisions, teacher referral decisions, and professionals' beliefs and decisions about CLD students and their families. These findings could potentially inform and confirm each other. For instance, negative beliefs about CLD students may be supported by inaccurate assessments that point to the deficits of CLD students, which in turn affect eligibility decisions. Future studies will have to make these potential connections explicit.

An exclusive attention to technical aspects of professional practices can mask assumptions about difference that are historically and culturally situated. For example, many assessment studies did not examine the assumptions about ability and intelligence that inform such tools. Padilla (2004) stated that there is a set of assumptions that are still operating in today's educational research. These assumptions include that the White, English-speaking middle class is the standard against which other groups are compared, that instruments such as IQ tests are universally applicable, and that sources of potential variance can later be discarded. These assumptions affect not only assessments but other professional practices as well.

Although some of these studies move us away from a deficit view of CLD students, they sometimes project a deficit view of school professionals and their practices. The professional practice framework seems to assume school professionals are rational actors that make independent and decontextualized decisions. Nonetheless, these individuals' beliefs and actions are constrained by their own limited understanding of the intersection of culture and learning and by the cultural tools, roles, resources, assumptions, and policies of institutions. On the other hand,

studying the deficits of professionals may lead to the conclusion that overrepresentation can be resolved by only providing professional development. Although professional development is necessary, it is insufficient to address the problem. Attention to other systemic forces (as suggested by the other strands of research reviewed above) is required.

Before we discuss the implications of our findings, we must note limitations of this review. We did not include in our study selection criteria books, book chapters, technical reports, or papers presented at conferences. This decision excluded significant studies published in a book format. For example, Harry and Klingner (2006) and Mehan et al. (1986) were not included in the analysis, but they were used as references in the manuscript. Harry and Klingner also published aspects of their larger study in journals, which were included in this review. Similarly, one published meta-analysis was not included because of the reasons stated above. It will be necessary to contrast the findings obtained from the different studies reviewed vis-à-vis meta-analyses of this problem. In addition, we focused only on overrepresentation research. It is critical to examine the research on underrepresentation, because this is a neglected area of work that could benefit from a thorough analysis of the empirical literature. Similar reviews of the literature should also be conducted on the disproportionate representation of minority students in low-incidence disabilities as well as include research on disability placements for students served in non-public educational settings.

Implications for Research

Our findings suggest that overrepresentation is a complex phenomenon that has been largely concerned either with the sociodemographic context where CLD students are identified for special education or with professional practices. We have discussed the limitations of these frameworks in the previous section. Thus, we argue future overrepresentation research must broaden its theoretical frameworks to keep up with the latest developments in the social sciences. The study of overrepresentation must involve the integration of other disciplines and theoretical frameworks. Researchers in general education and other areas of education (e.g., bilingual education) and related disciplines (e.g., school psychology, sociology, and anthropology of education) can contribute significant insights to our understanding of this problem's antecedents as well as other facets of overrepresentation that have been ignored.

The integration of other disciplines and alternative theoretical frameworks in the study of this problem will allow researchers to examine systematically micro and macro forces, school professionals' practices, institutional arrangements and climates shaped by policies, and CLD students' educational experiences in the context of the overrepresentation problem. Furthermore, the disciplined use of theories and methods from other disciplines will result in more qualitative and mixed-design studies, which were scarce in the reviewed literature. Qualitative and mixed-design studies are needed to provide a deeper understanding of the processes that lead to this problem and how placement patterns are created from the vantage points of various actors (e.g., teachers, administrators, parents, students) at multiple levels of the system.

Future research should also recognize heterogeneity between and within CLD and disability groups. If these variations are not addressed, studies could mislead the interpretations of research results (Padilla, 2004). In addition, although many studies used samples including all federal racial categories, there is very little research focusing on the overrepresentation of Native Americans, which is one of the two most affected groups at the national level. Future research should examine in depth the experience of these students in the educational system, acknowledging the heterogeneity of this group and its significant diversity related to cultural practices.

The Need for Systemic Change: Implications for Policy and Practice

The three frameworks discussed in this review suggest that change is needed at the policy and practice levels. Policy and practice efforts should not be isolated but integrated in a framework for systemic change. Response to intervention (RTI) and schoolwide positive behavior support (SWPBS) may be the first steps toward policy and practice agendas that target schools' capacity to provide learning opportunities to *all* students. For instance, because RTI models stress the availability of learning opportunities before disability identification occurs, they have the potential for addressing cultural and linguistic differences when making special education placement decisions. Furthermore, RTI has the potential to offer meaningfully integrated and cohesive systems of supports. Policies should provide financial incentives for districts and schools to implement these systemic interventions. On the other hand, questions have been raised about the

lack of specificity regarding equity and cultural differences in RTI and SWPBS. These questions must be answered in the immediate future.

We also argue that policy should require more rigorous professional training on CLD students. This must involve not only a required class on this topic but also ongoing and well-supported practicum placements in urban and rural schools where large numbers of CLD students are enrolled. Moreover, policy makers and school professionals should give careful consideration to the substantial guidance about ethical and culturally responsive practices provided by the most prominent professional organizations in the general and special education and school psychology fields.

We conclude with the same metaphor with which we started this article: Overrepresentation is like the miners' canary. The complexity of the three frameworks reviewed (i.e., sociodemographics, sociohistorical, and professional practices) suggests that the problem does not involve only the canary (i.e., overrepresentation of certain groups) but everyone in the coal mine (i.e., the educational system). The literature review findings have substantial implications for future research that get at the heart of the overrepresentation debate and its concomitant paradoxes: What does it mean to be disabled in an increasingly global and transcultural society? How are historical struggles over a group's status in a society's hierarchy played out in this problem? What long-term consequences are attached to special education placement decisions, and to what extent do these decisions contribute to cultural reproduction or change for the participation of certain groups in a given society? Special educators have the unique opportunity to build coalitions of interdisciplinary researchers to begin addressing these questions and contribute to reshape how this long-standing problem is conceptualized, studied, and addressed.

Appendix

Studies Identified for the Review

1. Sociodemographic Characteristics of Individuals and Their Contexts

- Arguelewicz, N. (1983). Effects of ethnic membership, socioeconomic status, and home language on LD, EMR, and EH placements. *Learning Disability Quarterly*, 6(2), 195–200.
- Artiles, A. J., Aguirre-Munoz, Z., & Abedi, J. (1998). Predicting placement in learning disabilities categories: Do predictors vary by ethnic groups? *Exceptional Children*, 64(4), 543–559.

- Artiles, A. J., Rueda, R., Salazar, J. J., & Higuera, I. (2005). Within group diversity in minority disproportionate representation: English language learners in urban schools. *Exceptional Children*, 71(3), 283–300.
- Coutinho, M. J., Oswald, D. P., & Best, Al. M. (2002). The influence of sociodemographics and gender on the disproportionate representation of minority students as having learning disabilities. *Remedial and Special Education*, 23(1), 49–59.
- Coutinho, M. J., Oswald, D. P., Best, Al. M., & Forness, S. R. (2002). Gender and sociodemographic variables and the disproportionate representation of culturally and linguistically diverse students with emotional disturbance. *Behavioral Disorders*, 27(2), 109–125.
- Delgado, C. F., & Scott, K. G. (2006). Comparison of referral rates for preschool children at risk for disabilities using information obtained from birth certificates. *The Journal of Special Education*, 40(1), 28–35.
- Hosp, J. L., & Reschly, D. J. (2004). Disproportionate representation of minority students in special education: Academic, demographics, and economic predictors. *Exceptional Children*, 70(2), 185–199.
- Oswald, D. P., Coutinho, M. J., Best, Al. M., & Nguyen, N. (2001). Impact of sociodemographic characteristics on the identification rates of minority students as having mental retardation. *Mental Retardation*, 39(5), 351–367.
- Oswald, D. P., Coutinho, M. J., Best, Al. M., & Singh, N. N. (1999). Ethnic representation in special education: The influence of school related economic and demographic variables. *The Journal of Special Education*, 32(4), 194–206.
- Serwatka, T. S., Deering, S., & Grant, P. (1995). Disproportionate representation of African-Americans in emotionally handicapped classes. *Journal of Black Studies*, 25(4), 492–506.
- Skiba, R. J., Poloni-Staudinger, L., Simmons, A. B., Feggings-Azziz, R., & Chung, C. G. (2005). Unproven links of poverty: Can poverty explain ethnic disproportionality in special education? *The Journal of Special Education*, 39(3), 130–144.
- Yeargin-Allsopp, M., Drews, C. D., Decouflé, P., & Murphy, C. C. (1995). Mild mental retardation in Black and White children in metropolitan Atlanta: A case-control study. *American Journal of Public Health*, 85(3), 324–328.
- Yeh, M., Forness, S. R., Ho, J., McCabe, K., & Hough, R. L. (2004). Parental etiological explanations and disproportionate racial/ethnic representation in special education services for youths with emotional disturbance. *Behavioral Disorders*, 29(4), 348–358.
- Zhang, D., & Katsiyannis, A. (2002). Minority representation in special education: A persistent challenge. *Remedial and Special Education*, 23(3), 180–187.

2. Sociohistorical Studies

- Eitle, T. M. (2002). Special education or racial segregation: Understanding variation in the representation of Black students in educable mentally handicapped programs. *Sociological Quarterly*, 43(4), 575–605.
- Ong-Dean, C. (2006). High roads and low roads: Learning disabilities in California, 1976–1998. *Sociological Perspectives*, 49(1), 91–113.

3. The Technical Dimension of Overrepresentation: Enacting and Mediating Professional Practices:

Assessment Issues

- Braden, J. P., & Weiss, L. (1988). Effects of simple difference versus regression discrepancy methods: An empirical study. *Journal of School Psychology, 26*, 133–142.
- Coffey, K. M., & Obringer, S. J. (2000). Culturally diverse rural students at risk for LD classification. *Rural Especial Education Quarterly, 19*(20). Retrieved on December 21, 2006, from Education Full Text.
- Figueroa, R. A., & Newsome, P. (2006). The diagnosis of LD in English language learners: Is it nondiscriminatory? *Journal of Learning Disabilities, 39*(3), 206–214.
- McLesky, J., Waldron N. L., & Wornhoff, S. A. (1990). Factors influencing the identification of Black and White students with learning disabilities. *Journal of Learning Disabilities, 23*(6), 362–366.
- Nagliery, A. J., & Rojahn, J. (2001). Intellectual classification of Black and White children in special education programs using the WISC-III and the Cognitive Assessment System. *American Journal on Mental Retardation, 106*(4), 359–367.
- Overton, T., Fielding, C., & Simonsson, M. (2004). Decision making determining eligibility of culturally and linguistically diverse learners: Reasons given by assessment personnel. *Journal of Learning Disabilities, 37*(4), 319–330.
- Palmer, J. D., Olivarez, A., Willson, V. L., & Fordyce, T. (1989). Ethnicity and language dominance: Influence of the prediction of achievement based on intelligence test scores in non-referred and referred samples. *Learning Disabilities Quarterly, 12*(4), 261–274.
- Payette, K. A., Clarizio, H. F., Phillips, S. E., & Bennet, D. E. (1995). Effects of simple and regressed discrepancy models and cutoffs on severe discrepancy determination. *Psychology in the Schools, 32*, 93–102.
- Slate, J. R., & Jones, C. H. (1995). Preliminary evidence of the validity of the WISC III for African American students undergoing special education evaluation. *Educational and Psychological Measurement, 55*(6), 1039–1046.

Mediators of Professional Practices: Individuals' Biases in Referrals

- Bahr, M. W., Fuchs, D., Stecker, P. M., & Fuchs, L. S. (1991). Are teachers perceptions of difficult-to teach students racially biased? *School Psychology Review, 20*, 599–608.
- Cullinan, D., & Kauffman, J. M. (2005). Do race of student and race of teacher influence ratings of emotional and behavioral problem characteristics of students with emotional disturbance? *Behavioral Disorders, 30*(4), 392–402.
- Gottlieb, J., & Gottlieb, B. W., & Trongue, S. (1991). Parent and teacher referrals for a psychoeducational evaluation. *The Journal of Special Education, 27*, 155–167.
- MacMillan, D. L., Gresham, F. M., & Bocian, K. M. (1996). Comparison of students nominated for prereferral interventions by ethnicity and gender. *The Journal of Special Education, 30*(2), 133–151.
- Prieto, A. G., & Zucker, S. H. (1981). Teacher perception of race as a factor in the placement of behaviorally disordered children. *Behavioral Disorders, 7*, 34–38.

- Shinn, M. R., Tindal, G. A., & Spira, D. A. (1987). Special education referrals as an index of teacher tolerance: Are teachers imperfect tests? *Exceptional Children, 54*(1), 32–40.
- Tobias, S., Cole, C., Zibrin, M., & Bodlakova, V. (1982). Teacher-student ethnicity and recommendations for special education referrals. *Journal of Educational Psychology, 74*(1), 72–76.
- Tobias, S., Zibrin, M., & Menell, C. (1983). Special education referrals: Failure to replicate student teacher ethnicity interaction. *Journal of Educational Psychology, 75*(5), 705–707.
- Zucker, S. H., & Prieto, A. G. (1977). Ethnicity and teacher bias in educational decisions. *Instructional Psychology, 4*, 2–6.

Other Beliefs

- Harry, B., Klingner, J., & Hart, J. (2005). African-American families under fire: Ethnographic views of families' strengths. *Remedial and Special Education, 12*(2), 101–112.
- Kearns, T., Ford, L., & Linney, J. A. (2005). African American student representation in special education programs. *Journal of Negro Education, 74*(4), 297–310.
- Skiba, R. J., Simmons, A. B., Ritter, S., Kohler, K., Henderson, M., & Wu, T. (2006). The context of minority disproportionality: Practitioner perspectives on special education referral. *Teachers College Records, 108*(7), 1424–1459.

Representation and Decision Making in Eligibility Team Meetings

- Gravois, T. A., & Rosenfield, S. A. (2006). The impact of instructional consultation teams on the disproportionate referral and placement of minority students in special education. *Remedial and Special Education, 27*(1), 42–52.
- Klingner, J. K., & Harry, B. (2006). The special education referral and the decision-making process for English language learners: Child study team meetings and placement conferences. *Teachers College Record, 108*(11), 2247–2281.
- Knotek, S. (2003). Bias in problem solving and the social process of student study team: A qualitative investigation. *The Journal of Special Education, 37*(1), 2–14.
- Rogers, R. (2002). Through the eyes of the institution: A critical discourse analysis of decision making in two special education meetings. *Anthropology and Education Quarterly, 33*(2), 213–237.
- Wilkinson, C. Y., Ortiz, A. A., Robertson, P. M., & Kushner, M. I. (2006). English language learners with reading-related LD: Linking data from multiple sources to make eligibility determinations. *Journal of Learning Disabilities, 39*(2), 129–141.

Notes

1. The risk ratio provides the likelihood of a group to be identified for special education in comparison with other groups. For more detailed information about the risk ratio and other methods to calculate overrepresentation, see Bollmer, Bethel, Garrison-Mogren, and Brauen (2007) and Donovan and Cross (2002).

2. An example of the latter case was a meta-analysis reported by Hosp and Reschly (2003). The authors worked with nine studies plus an additional study conducted in New York that only reported proportions (not frequencies). Using the New York's school budget report data, Hosp and Reschly calculated the proportions for the districts'

enrollment and derived the frequencies by student racial background. However, the use of this procedure created "a degree of uncertainty because the budget report data were from the 1997-1998 school year, whereas the [selected New York study] data were from the 1992-1993" year (Hosp & Reschly, 2003, p. 72). This point was further complicated by the fact that "most of the effect sizes [in the Hosp & Reschly study] were derived from a single research study" (Hosp & Reschly, 2003, p. 77) (i.e., the aforementioned New York study).

References

- Arguelewicz, N. (1983). Effects of ethnic membership, socioeconomic status, and home language on LD, EMR, and EH placements. *Learning Disability Quarterly*, 6(2), 195-200.
- Artiles, A. J. (2003). Special education's changing identity: Paradoxes and dilemmas in views of culture and space. *Harvard Educational Review*, 73, 164-202.
- Artiles, A. J., Aguirre-Munoz, Z., & Abedi, J. (1998). Predicting placement in learning disabilities categories: Do predictors vary by ethnic groups? *Exceptional Children*, 64(4), 543-559.
- Artiles, A. J., Rueda, R., Salazar, J. J., & Higareda, I. (2005). Within group diversity in minority disproportionate representation: English language learners in urban schools. *Exceptional Children*, 71(3), 283-300.
- Artiles, A. J., & Trent, S. (2000). Representation of culturally/linguistically diverse students. In C. R. Reynolds & E. Fletcher-Jantzen (Eds.), *Encyclopedia of special education* (Vol. 1, 2nd ed., pp. 513-517). New York: Wiley.
- Artiles, A. J., Trent, S., & Kuan, L. (1997). Learning disabilities empirical research on ethnic minority students: An analysis of 22 years of studies published in selected refereed journals. *Learning Disabilities Research and Practice*, 12(2), 82-91.
- Bahr, M. W., Fuchs, D., Stecker, P. M., & Fuchs, L. S. (1991). Are teachers' perceptions of difficult-to teach students racially biased? *School Psychology Review*, 20, 599-608.
- Bollmer, J. B., Bethel, J., Garrison-Mogren, R., & Brauen, M. (2007). Using the risk ratio to assess racial/ethnic disproportionality in special education at the school-district level. *The Journal of Special Education*, 41(3), 186-198.
- Coffey, K. M., & Obringer, S. J. (2000). Culturally diverse rural students at risk for LD classification. *Rural Especial Education Quarterly*, 19(20). Retrieved on December 21, 2006, from Education Full Text.
- Coutinho, M. J., & Oswald, D. P. (2000). Disproportionate representation in special education: A synthesis and recommendations. *Journal of Child and Family Studies*, 9(2), 135-156.
- Coutinho, M. J., Oswald, D. P., & Best, Al. M. (2002). The influence of sociodemographics and gender on the disproportionate representation of minority students as having learning disabilities. *Remedial and Special Education*, 23(1), 49-59.
- Coutinho, M. J., Oswald, D. P., Best, Al. M., & Forness, S. R. (2002). Gender and sociodemographic variables and the disproportionate representation of culturally and linguistically diverse students with emotional disturbance. *Behavioral Disorders*, 27(2), 109-125.
- Cullinan, D., & Kauffman, J. M. (2005). Do race of student and race of teacher influence ratings of emotional and behavioral problem characteristics of students with emotional disturbance? *Behavioral Disorders*, 30(4), 392-402.
- Delgado, C. F., & Scott, K. G. (2006). Comparison of referral rates for preschool children at risk for disabilities using information obtained from birth certificates. *The Journal of Special Education*, 40(1), 28-35.
- de Valenzuela, J. S., Copeland, S. R., Qi, H. C., & Park, M. (2006). Examining educational equity: Revisiting the disproportionate representation of minority students in special education. *Exceptional Children*, 72(4), 425-441.
- Donovan, S., & Cross, C. (Eds.). (2002). *Minority students in special and gifted education*. Washington, DC: National Academy Press.
- Dunn, L. M. (1968). Special education for the mildly retarded: Is much of it justifiable? *Exceptional Children*, 35(1), 5-21.
- Eitle, T. M. (2002). Special education or racial segregation: Understanding variation in the representation of Black students in educable mentally handicapped programs. *Sociological Quarterly*, 43(4), 575-605.
- Flather, M. D., Farkouh, M. E., & Yusuf, S. (1997). Strengths and limitations of meta-analysis: Larger studies may be more reliable. *Controlled Clinical Trials*, 18, 568-579.
- Gottlieb, J., Gottlieb, B. W., & Truong, S. (1991). Parent and teacher referrals for a psychoeducational evaluation. *The Journal of Special Education*, 27, 155-167.
- Gravois, T. A., & Rosenfield, S. A. (2006). The impact of instructional consultation teams on the disproportionate referral and placement of minority students in special education. *Remedial and Special Education*, 27(1), 42-52.
- Guinier, L., & Torres, G. (2002). *The miner's canary*. Cambridge, MA: Harvard University Press.
- Harry, B., & Klingner, J. (2006). *Why are so many minority students in special education? Understanding race and disability in schools*. New York: Teachers College Press.
- Harry, B., Klingner, J., & Hart, J. (2005). African-American families under fire: Ethnographic views of families' strengths. *Remedial and Special Education*, 12(2), 101-112.
- Heller, K. A., Holtzman, W., & Messick, S. (Eds.). (1982). *Placing children in special education: A strategy of equity*. Washington, DC: National Academy Press.
- Henderson, C. (2001). *College freshmen with disabilities, 2001: A biennial statistical profile*. Washington, DC: American Council on Education.
- Hosp, J. L., & Reschly, D. J. (2003). Referral rates for intervention or assessment: A meta-analysis of racial differences. *The Journal of Special Education*, 37(2), 67-80.
- Hosp, J. L., & Reschly, D. J. (2004). Disproportionate representation of minority students in special education: Academic, demographics, and economic predictors. *Exceptional Children*, 70(2), 185-199.
- Individuals with Disabilities Education Improvement Act, P.L. 108-446, 20 U.S.C. § 1400-87. (2004). (Reauthorization of the Individuals with Disabilities Education Act of 1990.)
- Kearns, T., Ford, L., & Linney, J. A. (2005). African American student representation in special education programs. *Journal of Negro Education*, 74(4), 297-310.
- Klingner, J. K., Artiles, A. J., Kozleski, E., Harry, B., Zion, S., Tate, W., et al. (2005). Addressing disproportionate representation of culturally and linguistic diverse students in special education through cultural responsive educational systems. *Education and Policy Analysis Archives*, 13(38). Retrieved April 10, 2006, from <http://epaa.asu.edu/epaa/v13n38/>

- Klingner, J. K., & Harry, B. (2006). The special education referral and the decision-making process for English language learners: Child study team meetings and placement conferences. *Teachers College Record*, 108(11), 2247–2281.
- Knotek, S. (2003). Bias in problem solving and the social process of student study team: A qualitative investigation. *The Journal of Special Education*, 37(1), 2–14.
- MacMillan, D. L., Gresham, F. M., & Bocian, K. M. (1996). Comparison of students nominated for prereferral interventions by ethnicity and gender. *The Journal of Special Education*, 30(2), 133–151.
- MacMillan, D. L., & Reschly, D. J. (1998). Overrepresentation of minority students: The case for greater specificity or reconsideration of the variables examined. *The Journal of Special Education*, 32(1), 15–24.
- Mehan, H., Hertweck, A., & Miehls, J. L. (1986). *Handicapping the handicapped: Decision making in student's educational careers*. Stanford, CA: Stanford University Press.
- Nagliery, A. J., & Rojahn, J. (2001). Intellectual classification of Black and White children in special education programs using the WISC-III and the Cognitive Assessment System. *American Journal on Mental Retardation*, 106(4), 359–367.
- National Center for Culturally Responsive Education Systems. (n.d.). *Disproportionality by race and disability 2003–2004* [Data file]. Retrieved March, 2008, from http://nccrest.eddata.net/maps/index.php?id=47&col=RACE_RRPU&f1=2003-2004
- Ong-Dean, C. (2006). High roads and low roads: Learning disabilities in California, 1976–1998. *Sociological Perspectives*, 49(1), 91–113.
- Osher, D., Woodruff, D., & Sims, A. E. (2002). Schools make a difference: The overrepresentation of African American youth in special education and the juvenile justice system. In D. J. Losen & G. Orfield (Eds.), *Racial inequities in special education* (pp. 93–116). Cambridge, MA: Harvard Education Press.
- Oswald, D. P., Coutinho, M. J., Best, A. M., & Nguyen, N. (2001). Impact of sociodemographic characteristics on the identification rates of minority students as having mental retardation. *Mental Retardation*, 39(5), 351–367.
- Oswald, D. P., Coutinho, M. J., Best, A. M., & Singh, N. N. (1999). Ethnic representation in special education: The influence of school related economic and demographic variables. *The Journal of Special Education*, 32(4), 194–206.
- Overton, T. (2006). *Assessing learners with special needs* (5th ed.). Upper Saddle River, NJ: Pearson Education.
- Padilla, A. M. (2004). Quantitative methods in multicultural education research. In J. Banks & C. Banks (Eds.), *Handbook of research on multicultural education* (2nd ed., pp. 127–145). San Francisco: Jossey-Bass.
- Palmer, J. D., Olivarez, A., Willson, V. L., & Fordyce, T. (1989). Ethnicity and language dominance: Influence of the prediction of achievement based on intelligence test scores in non-referred and referred samples. *Learning Disabilities Quarterly*, 12(4), 261–274.
- Parish, T. (2000, November). *Disparities in the identification of funding and provision of special education*. Paper presented at the Conference on Minority Issues in Special Education in Public Schools, Cambridge, MA.
- Patton, J. M. (1998). The disproportionate representation of Afro-American in special education: Looking behind the curtain for understanding and solutions. *The Journal of Special Education*, 32, 25–31.
- Pilla, T. (2000). *Alaskan natives and other minorities in the special education programs for four Alaskan school districts*. Washington DC: U.S. Commission on Civil Rights. (ERIC Document Reproduction Service No. ED499957)
- Prieto, A. G., & Zucker, S. H. (1981). Teacher perception of race as a factor in the placement of behaviorally disordered children. *Behavioral Disorders*, 7, 34–38.
- Rogers, R. (2002). Through the eyes of the institution: A critical discourse analysis of decision making in two special education meetings. *Anthropology and Education Quarterly*, 33(2), 213–237.
- Serwatka, T. S., Deering, S., & Grant, P. (1995). Disproportionate representation of African-Americans in emotionally handicapped classes. *Journal of Black Studies*, 25(4), 492–506.
- Shinn, M. R., Tindal, G. A., & Spira, D. A. (1987). Special education referrals as an index of teacher tolerance: Are teachers imperfect tests? *Exceptional Children*, 54(1), 32–40.
- Skiba, R. J., Poloni-Staudinger, L., Gallini, S., Simmons, A. B., & Feggings-Azziz, R. (2006). Disparate access: The disproportionality of African American students with disabilities across educational environments. *Exceptional Children*, 72(4), 411–424.
- Skiba, R. J., Poloni-Staudinger, L., Simmons, A. B., Feggings-Azziz, R., & Chung, C. G. (2005). Unproven links of poverty: Can poverty explain ethnic disproportionality in special education? *The Journal of Special Education*, 39(3), 130–144.
- Skiba, R. J., Simmons, A. B., Ritter, S., Kohler, K., Henderson, M., & Wu, T. (2006). The context of minority disproportionality: Practitioner perspectives on special education referral. *Teachers College Record*, 108(7), 1424–1459.
- Slate, J. R., & Jones, C. H. (1995). Preliminary evidence of the validity of the WISC III for African American students undergoing special education evaluation. *Educational and Psychological Measurement*, 55(6), 1039–1046.
- Tobias, S., Cole, C., Zibrin, M., & Bodlakova, V. (1982). Teacher-student ethnicity and recommendations for special education referrals. *Journal of Educational Psychology*, 74(1), 72–76.
- Tobias, S., Zibrin, M., & Menell, C. (1983). Special education referrals: Failure to replicate student teacher ethnicity interaction. *Journal of Educational Psychology*, 75(5), 705–707.
- U.S. Department of Education. (2006). *26th annual report to Congress on the implementation of the Individuals with Disabilities Education Act, 2004*. Jessup, MD: Ed Pubs. (ERIC Document Reproduction Service No. ED494709)
- Wagner, M., Newman, L., Cameto, R., Levine, P., & Garza, N. (2006). *An overview of findings from Wave 2 of the National Longitudinal Transition Study-2 (NLTS2)*. Menlo Park, CA: SRI International. Retrieved May 14, 2008, from http://www.nlts2.org/reports/2006_08/nlts2_report_2006_08_complete.pdf
- Wilkinson, C. Y., Ortiz, A. A., Robertson, P. M., & Kushner, M. I. (2006). English language learners with reading-related LD: Linking data from multiple sources to make eligibility determinations. *Journal of Learning Disabilities*, 39(2), 129–141.

- Yeargin-Allsopp, M., Drews, C. D., Decouflé, P., & Murphy, C. C. (1995). Mild mental retardation in Black and White children in metropolitan Atlanta: A case-control study. *American Journal of Public Health, 85*(3), 324–328.
- Yeh, M., Forness, S. R., Ho, J., McCabe, K., & Hough, R. L. (2004). Parental etiological explanations and disproportionate racial/ethnic representation in special education services for youths with emotional disturbance. *Behavioral Disorders, 29*(4), 348–358.
- Zhang, D., & Katsiyannis, A. (2002). Minority representation in special education: A persistent challenge. *Remedial and Special Education, 23*(3), 180–187.
- Zucker, S. H., & Prieto, A. G. (1977). Ethnicity and teacher bias in educational decisions. *Instructional Psychology, 4*, 2–6.
- Zucker, S. H., Prieto, A. G., & Rutherford, R. B. (1979). Racial determinants of teachers' perceptions of placement of the educable mentally retarded. *Exceptional Child Education Resources, 11*, 1.
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