

**Demographic Characteristic Reporting Practices in  
the *American Journal of Speech-Language Pathology***

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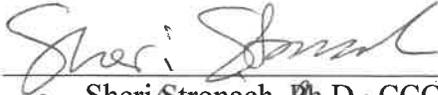
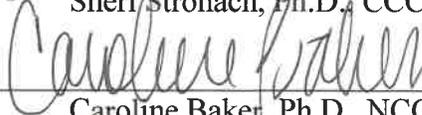
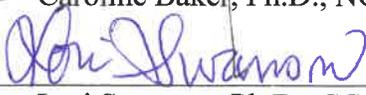
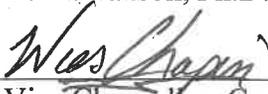
Paige Nelson, B.S.

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|--|---------|
|  | 4/27/22 |
| Sheri Stronach, Ph.D., CCC-SLP   | Date    |
|  | 4/27/22 |
| Caroline Baker, Ph.D., NCC, LSC  | Date    |
|  | 4/27/22 |
| Lori Swanson, Ph.D., CCC-SLP   | Date    |
|  | 5/2/22  |
| Assoc. Vice Chancellor, Graduate Studies   | Date    |

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**Abstract**

The diversity of the United States population is increasing, and thus the field of speech-language pathology must be able to not only effectively treat diverse individuals but understand demographic's effects on medical diagnosis, treatment diagnosis, and overall assessment and intervention. Speech-language pathologists' use of evidence-based practice requires research that is representative and effective for the individuals receiving speech-language services. There currently exists significant underrepresentation and overall underreporting of the demographic characteristics of speech-language pathology research participants. Empirical research articles and notes from the *American Journal of Speech-Language Pathology* were reviewed and analyzed to gather data concerning the levels and trends of reporting participants' race, ethnicity, home language, and bilingualism. Current speech-language pathology graduate students were surveyed about their perceptions and reactions to the reporting of participant demographic characteristics. Participant race/ethnicity was reported in 39%, participant home language was reported in 46%, and inclusion of bilingual participants was reported in 15% of research articles and notes. More than 60% of the graduate students were surprised by the frequency of which participant demographic characteristics were reported and believed ASHA journals should require authors to report on participants' demographics. In conclusion, the findings highlighted a need for inclusion and reporting of diverse participants and their demographics. This is crucial to most effectively assess and treat all individuals requiring speech-language services.

## Introduction

With the increasing diversity of the United States population (U.S. Census Bureau, 2019), the field of speech-language pathology must be able to not only effectively treat diverse individuals but understand how and why an individual's demographics may affect a medical diagnosis, treatment diagnosis, and overall assessment and intervention. The past several censuses have shown an increase in racial and ethnic diversity among the United States population. The 1980 U.S. Census found non-Hispanic White citizens accounted for almost 80% of the population while Black citizens were at 11.5%, Hispanics/Latinos at 6.5%, and Asian Americans at 1.8% (Census Scope, 1980). According to the newest U.S. Census data, the non-Hispanic White population has declined to 60.1%, while other racial/ethnic populations have increased; the Black population is at 13.4%, Hispanic/Latino at 18.5%, and Asian American at 5.9% (U.S. Census Bureau, 2019).

The number of culturally and linguistically diverse people in need of speech-language services is disproportionate to the number of qualified speech-language pathologists (SLPs) to provide such services (Quach & Tsai, 2017). The American Speech-Language-Hearing Association (ASHA) reports that 92% of SLPs identify as White and of them, 95% identify as not Latino or Hispanic (2019). Additionally, only 7% of ASHA-certified SLPs self-identify as bilingual service providers, and just 63% of those providers are Spanish-speaking professionals (Quach & Tsai, 2017). These disproportions negatively impact the assessment and treatment of culturally and linguistically diverse individuals, as many SLPs may not be able to provide the high-quality level of care and services that are appropriate and deserved.

Evidence-based practices (EBP) are considered the gold standard for clinical intervention (Dodd, 2007). However, if the evidence-based interventions are only generalizable to White,

middle-class, English-speaking populations, they cannot be rightfully implemented in settings with diverse populations (West et al., 2016). Representative population samples need to exist in research for SLPs to effectively treat individuals with diverse characteristics (Hammer, 2012). Even if the demographic variables are not considered topic-specific, the inclusion supplies readers with important contextual information to aid in the interpretation of research findings (Crosby et al., 2010). Furthermore, individuals from diverse backgrounds have been found to experience dramatic health disparities compared to individuals from the White, middle-class, English-speaking “mainstream” population (Hammer, 2012). These health discrepancies exist in the prevalence, study, and treatment of culturally and linguistically diverse individuals.

With the changing demographics nationwide, it is imperative that speech-language research adequately reports its participant demographics as well as actively seeks to include and recruit participants from diverse backgrounds. As reported by the American Speech-Language-Hearing Association in 2019, the field of communication sciences and disorders is one among many that are lacking in diversity and indicating no improvements. Hammer (2011) emphasized the need for increasing participant diversity in research due to recent reviews (Ellis, 2009; Ingelbret et al., 2010) showing the existence of significant underrepresentation and overall underreporting. As the diversity of the United States population has been and continues to increase, SLPs will have increasingly diverse caseloads. If SLPs are to effectively serve individuals from cultures other than their own, there must be adequate reporting and inclusion in research that addresses the needs of all clients from all backgrounds. Hammer argues that at a minimum, it should be standard practice for researchers to provide demographic information including participants’ age, gender, race and ethnicity, socioeconomic status, educational level, and languages spoken (2011). These characteristics and their descriptions are important and

relevant for the interpretation of results, especially to allow for generalization of findings, determining validity and reliability, and overall increasing understanding of variations that exist among different populations.

Many journal article reviews documenting reporting of race and ethnicity have focused on studies involving children. This has not gone unnoticed in the field of speech-language pathology either; in a 2012 editorial, Hammer writes “I have been struck by how few studies submitted...attend to the cultural, racial/ethnic, and socioeconomic diversity that exists within the adult population.” Given that children are not the only population treated by SLPs and there are many adults in need of speech and language interventions, research must investigate the role that race, ethnicity, and other demographics play for these adults. In a literature review conducted on people of color with traumatic brain injury (TBI), findings revealed the following: more Black individuals sustained moderate to severe TBIs, 78% of the examined TBI studies did not report information concerning race and/or ethnicity, and White individuals were more likely to receive further care for head trauma and less likely to be sent home following moderate or severe head injuries (Brenner et al., 2020).

Individuals with TBI are not the only clinical population of which race/ethnicity is a factor. According to the Centers for Disease Control and Prevention, the risk of experiencing a first stroke is twice as high for Black individuals compared to White individuals, and Black individuals have the highest death rate among those with strokes (2022). A study evaluating the reporting of demographics in aphasia treatment literature found 97.1% and 93.5% of publications reported participant age and sex, respectively; however, participant race/ethnicity was only reported in 28.1% of the reviewed studies (Nguy et al., 2022). Furthermore, the publications that reported participant race/ethnicity were found to include 86.5% White participants, 11.0% Black

participants, 2.0% Hispanic/Latino participants, and 0.5% Asian and other racial category participants. These rates of inclusion by race/ethnicity are not reflective of the current stroke survivor populations either; Nguy et al. cited that “significantly more White and less Black participants” were included in the studies and Black participants specifically were included at approximately half of what would be expected for an estimated representative population of stroke survivors. All the above literature review results aid in corroborating the existence of health discrepancies between White and non-White groups.

Other studies of adult neurogenics were examined in the *American Journal of Speech-Language Pathology* (AJSLP) and the *Journal of Speech, Language, and Hearing Research* (JSLHR) to examine their reporting of race and ethnicity. It was concluded that 5 of 34 articles (14.7%) published in AJSLP and 11 of 82 articles (13.4%) published in JSLHR in the area of adult neurogenic communication adequately reported the race and ethnicity of participants between the time period of 1997 to 2007 (Ellis, 2009). These numbers are insufficient to allow for the validity and generalization of the results of studies of neurologically-based disorders in adults.

In contrast to the scarce amount of literature reflecting upon diversity within the adult population, there is more literature available relating to the inclusion and reporting of the diversity of children with autism spectrum disorder (ASD). One review of importance conducted by Pierce et al. (2014) examined whether ethnicity of research participants has been adequately reported in three different autism-related journals over the course of six years. The journals examined were *Autism*, *Focus on Autism and Other Developmental Disabilities*, and *Journal of Autism and Developmental Disorders*. It was emphasized that research published in these articles have the potential to make a widespread impact on instructional practices and educational

policies relating to ASD; for these reasons, it is critical for researchers to include participant ethnicity to benefit advancements in diagnosis, assessment, and intervention. Overall, it was found that 72% of the articles reviewed did not include reports or descriptors of ethnicity for research participants and 54% of those articles did not analyze ethnicity as a variable when determining the overall applicability of the study findings.

More recently, Steinbrenner et al. (2022) conducted an update of a previously completed systematic review (Wong et al., 2015) examining inequities and disparities within autism-related practice and research. The intent of the review was to investigate the percentage of autism intervention literature from 1990 – 2017 reporting participant race/ethnicity, how the reporting of data changed over time, and the percentages of inclusion across race/ethnicity categories. Of the 1,013 total studies included in the systematic review, data analysis showed race/ethnicity data was reported in just under 25% of studies. Analysis of reporting trends over time found an increase in the reporting of race and ethnicity over the 27 years included in the review (1% per year), with a modestly increasing change in the trend over the last 5 years (1.9% per year). In terms of racial and ethnicity categories, White participants held the highest overall inclusion rate at 81% followed by Black, Asian, and Hispanic/Latino participants with substantially lower inclusion rates ranging from 20 to 57%. Study participants from other race/ethnicity categories including Middle Eastern, Native Hawaiian, other Pacific Islanders, Native American, etc. represented a very low percentage of <1 to 6% inclusion. Despite the slight increasing trend in race/ethnicity reporting over time, the overall rates of reporting to date are still alarmingly low.

Another autism-related review conducted by West et al. (2016) examined the characteristics of participants in research on using EBP for learners with ASD. Articles were reviewed for the extent to which studies described participant race, ethnicity, and nationality

(REN); the results confirmed that literature on using EBP for learners with ASD does not adequately include or report participants whose REN is something other than White, Caucasian, or European American. In this review, the limited diversity of participants was largely due to authors not collecting the demographic information of their participants' REN. Regarding the social skills of children with ASD, research studies published on the effectiveness of group-based social skills interventions (GSSI) were reviewed to determine the extent to which different diverse groups were represented (Safer-Lichtenstein et al., 2019). The studies published on GSSI were found to routinely report on participant gender and race/ethnicity, unlike many other empirical research articles published in ASD journals. However, similarly to those other empirical research articles, the GSSI studies that did report race/ethnicity had a majority of male and White participants.

A study conducted by Robertson et al. (2017) examined the racial and socioeconomic status demographics of children with ASD and their parents who have participated in studies of parent-implemented interventions for reducing problem behavior to identify whether research participants resemble the general population. The analyses concluded that race was only reported in 39% of studies; furthermore, there was an overrepresentation of parent participants with college or graduate degrees, married parent participants, and White child participants and an underrepresentation of parents with less than high school education, parents who were not married or cohabiting, and Hispanic and African American children. Also reviewing research on reducing challenging behaviors, Steed and Kranski (2020) found “across 53 articles reviewed, almost all studies reported gender, most reported disability, fewer than half reported race/ethnicity, and much fewer reported socioeconomic status and the language of the children.” They also reported a significant overrepresentation of boys and Black children included in

studies of challenging behaviors in children with ASD. These findings are of particular interest as there is a higher prevalence of boys with ASD and Black children have been disproportionately identified by schools as having disabilities and problem behaviors.

It is evident that participant race and ethnicity are underrepresented and underreported in research, but languages spoken by participants are even more rarely explored. Steed and Kranski (2020) examined participant language and its relevance to intervention and external validity. Only four of the 53 articles reviewed described the language of the participants, and of the 97 total participants whose language was reported, there were 77 who spoke English and 20 who spoke some Spanish. As the diversity of the United States population increases not only does race and ethnicity of the population become more diverse, but the diversity of languages spoken in the country increases as well. This upward trend in linguistic diversity has been shown in data collected through the U.S. Census as well; in 1980, 11% of the population lived in households where a language other than English was spoken, and this number had increased to 25.6% of the population by 2011 (Wiley, 2014). Quach and Tsai additionally report that “one in five United States residents speaks a language other than English at home, with over 350 languages spoken in the nation” (2017). Language is a critically important demographic to consider in research and the field of speech-language pathology, and further representation and reporting is necessary.

After examining the reporting practices of research participant diversity in a variety of journals and reviewing its importance, it can be concluded that a lack and inconsistency of reporting demographics exist. Behind age and gender, race and ethnicity are the next highest participant demographic included in reports, while still severely lacking. Home language of participants falls even further behind, although is not any less important or relevant when treating diverse populations. Limited participant diversity hinders the external validity of

intervention research findings. The significance of including diverse individuals in research cannot be overstated, and in order for SLPs to effectively and appropriately provide intervention services, they must be able to generalize the research to the population they are treating.

The current study set out to examine the reporting practices of research participant demographic characteristics in a variety of empirical research articles and research notes published in the *American Journal of Speech-Language Pathology* (AJSLP), as well as the importance of reporting participant demographics (more specifically, race, ethnicity, and home or native language). In addition to exploring the available research literature, the study investigated future SLPs' perceptions of and attitudes towards this topic. The study addressed the following research questions:

(a) What percentage of empirical research studies in the *American Journal of Speech-Language Pathology* reported participant demographics including race, ethnicity, home language, and bilingualism in articles published from 2012 - 2021?

(b) What are current speech-language pathology graduate students' perceptions of the importance of reporting demographic characteristics?

(c) What are the speech-language pathology graduate students' reactions to completing an assignment exploring reporting practices?

It was hypothesized that empirical research studies in the *American Journal of Speech-Language Pathology* would exhibit low reporting rates of participants' race/ethnicity and home language and have low inclusion rates of bilingual participants.

## **Methods**

The authors obtained ethics approval from the university's institutional review board prior to beginning the study (IRB-FY2021-148).

### ***Study 1***

The procedure for selecting empirical research studies to be included in this review consisted of a search of research articles and research notes from *AJSLP*, from Volume 21, Issue 1 in the year 2012 to Volume 30, Issue 4 in the year 2021 for an extensive sample. A total of 44 issues were included for review between the years 2012 to 2021. This sample included four publications of special issues including Issues 3S, 2S, and 1S from Volume 30 published in 2021, and Issue 1S from Volume 29 published in 2020. There were seven special issues from the time frame that were not included in the sample: Issue 2S from Volume 29 in 2020, Issues 2S and 1S from Volume 28 in 2019, Issues 3S and 1S from Volume 27 in 2018, Issue 2S from Volume 26 in 2017, and Issue 4S from Volume 25 in 2016. There were no special issues published between the years of 2012 to 2015. This journal was selected for review because of its representation of areas of communication, its high volume of publications, and credibility in the speech-language pathology field.

The first round of data from the research articles and research notes were collected by 39 speech-language pathology first- and second-year graduate students from the Communication Sciences and Disorders graduate program at a small midwestern university. All graduate students were enrolled in the graduate-level Research Methods course. All participants identified as female, and no other demographic characteristics were collected. Students were notified that

inclusion of their data was optional and would not affect their course grade; those wishing to include their collected data signed informed consent.

Each speech-language pathology graduate student was assigned a specific volume and issue from *AJSLP* by the Research Methods course professor. The participants and methods sections of each research article and research note were examined for participant demographic characteristics including race and ethnicity, home language, and inclusion of bilinguals. Tables were also examined for reporting of demographic characteristics. The data collection process included several steps: (1) identifying the area of communication, (2) indicating whether participants' race/ethnicity was reported (yes/no), (3) indicating whether participants' home language was reported (yes/no), and (4) indicating if bilingual participants were included (yes/no). Nine areas of communication were included as options: articulation/phonology, fluency, voice and resonance, expressive/receptive language, hearing, swallowing, cognitive aspects, social aspects, and communication modalities which is also referred to as AAC. A tenth option of not applicable (N/A) was included for articles and notes that did not fall under any area of communication. Articles that described participants by their geographical region were reported as "no" regarding the reporting of race/ethnicity. Reporting of dialects of English was also included as reporting a home language.

After pulling and organizing the collected data, the authors collected a second round of data from the missing volumes and issues within the time frame of 2012-2021. A total of 577 research articles and research notes were included in the data set for review. After the data was pulled, it was cleaned by the authors and then 15% ( $n = 86$ ) was double coded to ensure reliability of the data collected. There was agreement between coders for 95% ( $n = 244$ ) of the

double coded data points, and the authors decided that all collected data from the 577 empirical research articles and notes were to be included in the present study.

### *Study 2*

To determine speech-language pathology graduate students' perceptions and reactions relating to the reporting of demographic characteristics in empirical research articles from AJSLP, the authors developed a six-question survey with a combination of Likert-type scale and open-ended questions (see Appendix). Participants consisted of a total of 23 first- and second-year graduate students from the Communication Sciences and Disorders graduate program at a small midwestern university. All graduate students were enrolled in the graduate-level Research Methods course. All participants identified as female, and no other demographic characteristics were collected. All students were notified that participation in the online survey was optional and voluntary, and their decision to participate would not affect their course grades. Students who opted to take the online survey gave their informed consent. Qualtrics was used for data collection and analysis of results.

## **Results**

### *Study 1*

Following the completion of data collection and analyzation of the total 577 empirical research articles and research notes, the following participant demographic characteristic reporting rates were observed. Of the examined research studies, participant race/ethnicity data were reported in 39% ( $n = 277$ ), participant home language data were reported in 46% ( $n = 263$ ), and inclusion of bilingual participants were reported in 15% ( $n = 86$ ).

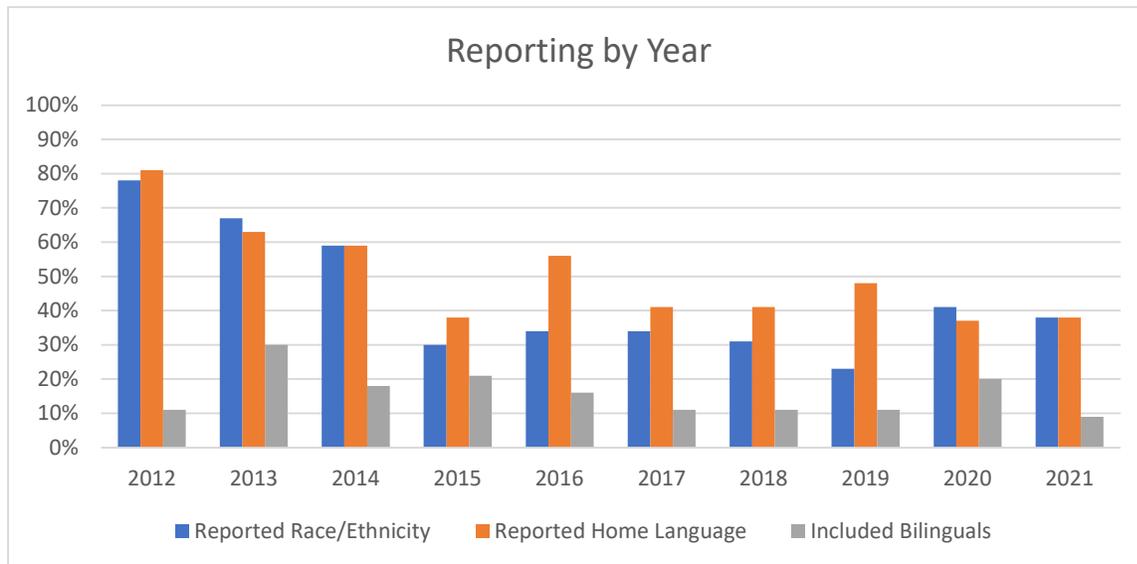
To examine changes in reporting trends over time, we compared the number and percentages of data points reported in the empirical research articles and notes from year to year between 2012 and 2021. Annual trends in results for reporting can be found in Table 1 and Figure 1. There was variability from year to year across all demographic characteristics.

Regarding participant race/ethnicity, the highest reporting percentage was 78% ( $n = 21$ ) of a total 27 articles in 2012 and the lowest reporting percentage was 23% ( $n = 17$ ) of a total 75 articles in 2019. Reporting home language was highest in 2012 with 81% ( $n = 22$ ) of a total 27 articles and lowest in 2020 with 37% ( $n = 40$ ) of a total 107 articles. Inclusion of bilinguals was reported in a high of 30% ( $n = 9$ ) of a total 30 articles in 2013 and a low of 9% ( $n = 9$ ) of a total 95 articles in 2021. While the percentage of articles fluctuated with changing denominators, the number of articles reporting demographic characteristics stayed within a small range.

**Table 1** Demographic reporting in the American Journal of Speech-Language Pathology by year.

| Year | Total empirical articles | Articles reporting race/ethnicity<br><i>n</i> (%) | Articles reporting home language<br><i>n</i> (%) | Articles with bilingual participants<br><i>n</i> (%) |
|------|--------------------------|---|--|--|
| 2012 | 27                       | 21 (78%)  | 22 (81%)   | 3 (11%)  |
| 2013 | 30                       | 20 (67%)  | 19 (63%)   | 9 (30%)  |
| 2014 | 39                       | 23 (59%)  | 23 (59%)   | 7 (18%)  |
| 2015 | 47                       | 14 (30%)  | 18 (38%)   | 10 (21%)   |
| 2016 | 32                       | 11 (34%)  | 18 (56%)   | 5 (16%)  |
| 2017 | 64                       | 22 (34%)  | 26 (41%)   | 7 (11%)  |
| 2018 | 61                       | 19 (31%)  | 25 (41%)   | 7 (11%)  |
| 2019 | 75                       | 17 (23%)  | 36 (48%)   | 8 (11%)  |
| 2020 | 107                      | 44 (41%)  | 40 (37%)   | 21 (20%)   |
| 2021 | 95                       | 36 (38%)  | 36 (38%)   | 9 (9%)   |

**Figure 1** Demographic reporting in the American Journal of Speech-Language Pathology by year.

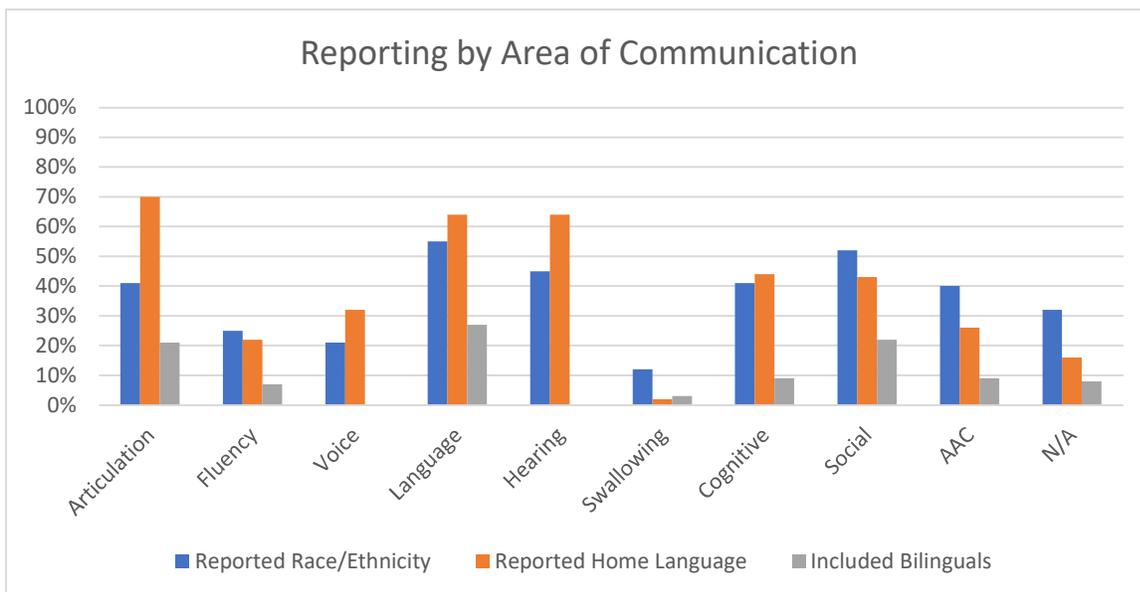


Trends across reporting participant demographic characteristics was additionally examined across areas of communication. Results broken down by area of communication can be found in Table 2 and Figure 2. Participant race/ethnicity was reported the most in expressive/receptive language research with a total of 55% ( $n = 91$ ) of 166 articles and reported the least in swallowing research with a total of 12% ( $n = 7$ ) of 58 articles. Home language was reported the most in articulation/phonology research with the high 70% ( $n = 69$ ) of 98 articles and reported the least in swallowing research with 2% ( $n = 1$ ) of a total of 58 articles. Reporting inclusion of bilinguals was highest in expressive/receptive language research with 27% ( $n = 44$ ) of 166 articles and lowest in both hearing research and voice and resonance research with 0% ( $n = 0$ ) of a total of 11 and 57 articles, respectively.

**Table 2** Demographic reporting in the American Journal of Speech-Language Pathology by area of practice.

| Area         | Total empirical articles | Articles reporting race/ethnicity<br><i>n</i> (%) | Articles reporting home language<br><i>n</i> (%) | Articles with bilingual participants<br><i>n</i> (%) |
|--------------|--------------------------|---|--|--|
| Articulation | 98                       | 40 (41%)  | 69 (70%)   | 21 (21%)   |
| Fluency      | 28                       | 7 (25%)   | 6 (22%)  | 2 (7%)   |
| Voice        | 57                       | 12 (21%)  | 18 (32%)   | 0 (0%)   |
| Language     | 166                      | 91 (55%)  | 107 (64%)  | 44 (27%)   |
| Hearing      | 11                       | 5 (45%)   | 7 (64%)  | 0 (0%)   |
| Swallowing   | 58                       | 7 (12%)   | 1 (2%)   | 2 (3%)   |
| Cognitive    | 68                       | 28 (41%)  | 30 (44%)   | 6 (9%)   |
| Social       | 23                       | 12 (52%)  | 10 (43%)   | 5 (22%)  |
| AAC          | 44                       | 17 (40%)  | 11 (26%)   | 4 (9%)   |
| N/A          | 25                       | 8 (32%)   | 4 (16%)  | 2 (8%)   |

**Figure 2** Demographic reporting in the American Journal of Speech-Language Pathology by area of practice.



**Study 2**

The results of this second study are organized based on the following two research questions; first, what are current speech-language pathology graduate students' perceptions of the importance of reporting demographic characteristics? and second, what are the speech-language pathology graduate students' reactions to completing an assignment exploring reporting practices?

The first survey question asks, "How would you rate the importance of reporting the following participant demographics in research?" Using a Likert-type scale, the 23 graduate student participants ranked the importance of the following demographic characteristics between the numerical values of 1-5: Languages Spoken, Race/Ethnicity, Gender, Socioeconomic Status, and Educational Level. The participants ranked Languages Spoken highest with a mean of 4.61 ( $SD = 0.57$ ); Race/Ethnicity and Socioeconomic Status were ranked next with means of 4.30 ( $SD = 0.80$ ); Educational Level followed with a mean of 4.22 ( $SD = 0.83$ ), and Gender was ranked last with a mean of 3.87 ( $SD = 1.03$ ).

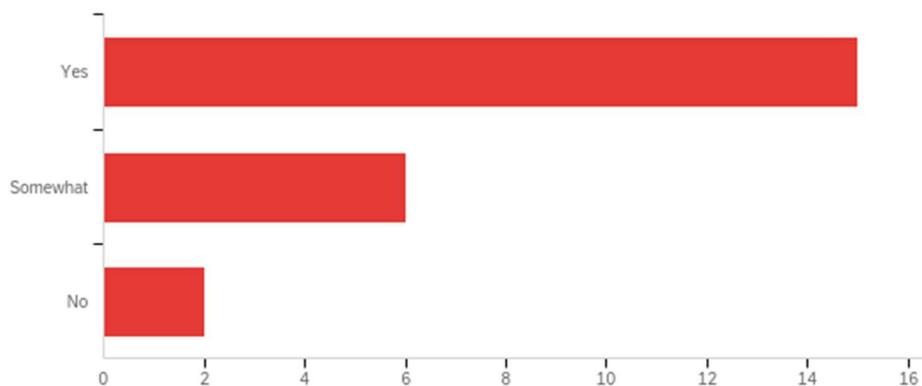
**Table 3** Results of survey question 1: "How would you rate the importance of reporting the following participant demographics in research?"

| # | Field                | Minimum | Maximum | Mean | Std Deviation | Variance | Count |
|---|----------------------|---------|---------|------|---------------|----------|-------|
| 1 | Languages spoken     | 3.00    | 5.00    | 4.61 | 0.57          | 0.33     | 23    |
| 2 | Race/ethnicity       | 3.00    | 5.00    | 4.30 | 0.80          | 0.65     | 23    |
| 3 | Gender               | 2.00    | 5.00    | 3.87 | 1.03          | 1.07     | 23    |
| 4 | Socioeconomic status | 3.00    | 5.00    | 4.30 | 0.80          | 0.65     | 23    |
| 5 | Educational level    | 3.00    | 5.00    | 4.22 | 0.83          | 0.69     | 23    |

The second survey question asks, “When doing your journal article summary assignment, were you surprised by the frequency of demographic reporting?”, to which 65.22% ( $n = 15$ ) responded Yes, 26.09% ( $n = 6$ ) responded Somewhat, and 8.70% ( $n = 2$ ) responded No (See Figure 3). When prompted to explain their reaction to the second survey question, students’ responses included an overarching theme of surprise at the lack of demographic characteristics reported. One student responded “I’m surprised at the number of journal articles that didn’t include this information. Seems like these factors are incredibly important in considering how cultural, economic, and social factors of participants might affect their performance with the study.” Another student wrote,

“In a profession that places so much emphasis on the importance of home language, culture, and understanding how differences in cultural groups do not mean that the individual has a disorder, it was striking to see how much of the research didn’t account for these factors and report them in their studies.”

**Figure 3** Student responses to survey question 2: “When doing your journal article summary assignment, were you surprised by the frequency of demographic reporting?”



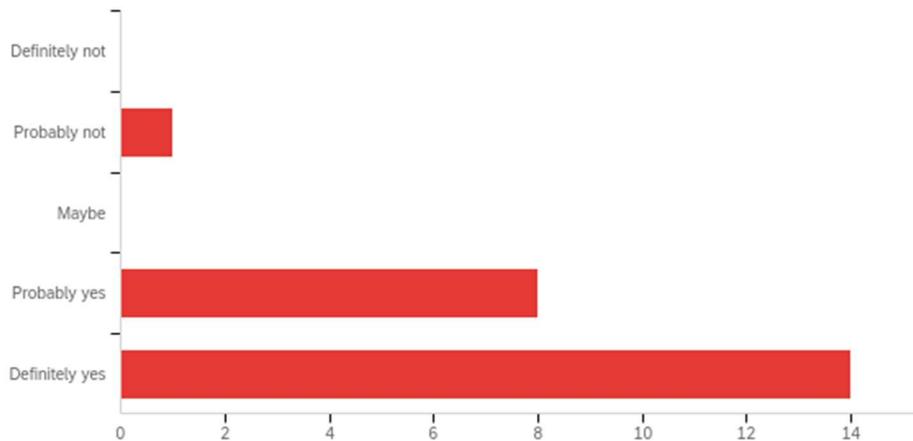
The fourth survey question asks, “Do you think ASHA journals should require authors to report demographic characteristics such as languages spoken and race/ethnicity when submitting articles?” to which 60.87% ( $n = 14$ ) students responded Definitely Yes, 34.78% ( $n = 8$ ) of students responded Probably Yes, and 4.35% ( $n = 1$ ) student responded Probably Not (See Figure 4). When prompted to explain their rationale for the previous question, the students’ responses touched on the importance of reporting demographic characteristics for generalizability and interpreting data and results. One student wrote,

“Individuals with different backgrounds need to be equally represented in research because we work with a variety of populations in the field. If we are going to strive to maintain evidence-based practice, researchers should be involving these demographic characteristics for readers to understand how they can be generalized to the populations we serve. There can be significant differences in generalization if the population is not somewhat synonymous with who we are seeing in the field. A way to begin looking at these issues is to require ASHA journals to report demographic characteristics.”

Another student responded stating that

“Yes, I think reporting is important for readers to get a full image of the results. Also, requiring reporting may encourage researchers to include more diverse participants.”

**Figure 4** Student responses to survey question 4: “Do you think ASHA journals should require authors to report demographic characteristics such as languages spoken and race/ethnicity when submitting articles?”



The sixth and final survey question prompted students to share any additional thoughts they have on demographic reporting in research. One student shared,

“Reporting these demographics not only provides information regarding potential variables in the study but additionally would increase the ability to direct further research from the study. Not reporting these demographics leads to questions and concerns of issues such as validity, but also limits the implications of the study for application to the field and future research.”

Another response read,

“I believe it’s good if used correctly. For example, I think it’s important to note trends of research participants and for our professional community to try and be inclusive in research. Also important for noticing trends and possibly under-represented populations through demographic reporting.”

## Discussion

Variables associated with race and ethnicity, home language, and bilingualism have significant implications for the speech-language pathology field. The use of EBP requires SLPs to refer to published research when determining evaluation and intervention measures to meet the needs of the individuals. If current research does not include or report participant demographic characteristics such as race and ethnicity, home language, or bilingualism, then the research results cannot be considered applicable or effective for all individuals across the spectrum of demographic differences. A study published in 2021 by Ellis, Jacobs, and Kendall, found that evidence in CSD research is predominantly generated with White participants and consequently, results are not always applicable to the increasingly diverse American society. Thus, the purpose of this systematic review was to examine the reporting practices in a variety of empirical research articles and research notes published in *AJSLP*, as well as current graduate students' perceptions of the importance of reporting participant demographics. Through the process of collecting and examining data from *AJSLP* research articles and notes, as well as graduate students' perceptions and opinions, notable findings emerged.

First, we found race/ethnicity data were reported in 39% of articles, home language data were reported in 46% of articles, and inclusion of bilingual participants were reported in 15% of articles. Given that this overall reporting of demographic characteristics is low, it can be determined that more in-depth reporting is necessary in empirical research. As Ellis (2009) reports this step is crucial, as in the absence of reporting, SLPs are less likely to understand health disparities and consider research results as generalizable across individuals. Additionally, there was no increasing trend in the reporting participant demographics over the span of 2012 to 2021 to suggest promising improvements in reporting and inclusion in research.

When broken down by area of communication treated by SLPs, there were obvious disparities in the reporting of race/ethnicity, home language, and bilingualism between areas. Participant race and ethnicity were reported most frequently in studies relating to expressive/receptive language, social aspects, and hearing. Home language of participants was reported the highest among studies relating to articulation/phonology, expressive/receptive language, and hearing. Lastly, inclusion of bilingual participants was reported the most in journals pertaining to expressive/receptive language, social aspects, and articulation/phonology. It was unsurprising to find higher rates of reporting in the areas of expressive/receptive language and articulation/phonology as different languages and dialects affect speech sounds and various aspects of language. Additionally, more frequent reporting among research relating to social aspects of communication was unsurprising when considering the effects of culture on pragmatics. Although the reporting of race/ethnicity, home language, and inclusion of bilingual participants was highest in the respective areas of communication, the rates of reporting remained overall low. If the speech-language pathology field is to provide effective evaluations and interventions for individuals, researchers must begin to systematically and intentionally include and report research participants demographic variables.

Second, the six-question online survey taken by the current speech-language pathology graduate students yielded informative results pertaining to the students' perceptions and reactions to current participant demographic reporting in AJSLP research articles and notes. The graduate students began by ranking various demographic characteristics by importance of reporting in research. Languages Spoken was ranked highest ( $\bar{x} = 4.61$ ,  $SD = 0.57$ ), followed by Race/Ethnicity and Socioeconomic Status tied for second ( $\bar{x} = 4.30$ ,  $SD = 0.80$ ), then Educational Level ( $\bar{x} = 4.22$ ,  $SD = 0.83$ ), with Gender ranked last ( $\bar{x} = 3.87$ ,  $SD = 1.03$ ). The graduate

students' low ranking of gender was surprising, as participant gender is more frequently reported in published research compared to the other demographic characteristics. Additionally, 65.22% of the graduate students responded "Yes" when asked if they were surprised by the frequency of which participant demographic characteristics were reported. Hammer shares the same reactions in her 2012 editorial, writing she was struck by how few studies reported on the diversity existing within the populations included in research. Furthermore, 60.87% of students responded "Definitely Yes" when asked if ASHA journals should require authors of research to report on participants' demographics. All the above notable findings from the present study further highlight the need for inclusion of diverse participants and reporting of their demographic variables.

Ellis (2021) recommends researchers include and report upon diverse populations to enhance the relevance of their results, in order to generate new future research questions and findings. The National Institute of Health (NIH) instituted a policy effective January 18<sup>th</sup>, 2017, requiring all sponsors and investigators of research must report the race/ethnicity of participants involved in their clinical trials, if such data was collected (National Institutes of Health, 2016). An analysis was completed regarding the reporting rates of participant race/ethnicity in published trials in ClinicalTrials.gov both pre- and post-requirement; the study found a notable increase in reporting rates, with 42.0% reporting race/ethnicity among pre-requirement trials compared to 91.4% among post-requirement trials (Fain et al., 2021). This data suggests promising results for increasing the reporting rates following a requirement for authors of published research to report upon participant demographic characteristics.

### ***Limitations***

There were several limitations in the present study. First, all empirical research articles and research notes used for examination and data collection were only taken from one of the three prominent journals in the speech-language pathology field. Second, only journal volumes from the years 2012 to 2021 were included for review. Third, data was not collected regarding which specific races, ethnicities, and home languages were reported upon. If this data were to have been included, the authors would have been able to examine more trends in reporting and compare trends in the inclusion of various races, ethnicities, and languages of research participants. The authors had also decided to not examine the reporting of other participant demographic characteristics including participants' age, gender, socioeconomic status, and more; doing so would have provided a more in depth look into the intersection of various demographics. Additionally, data was not collected regarding the number of participants included in each study. Lastly, there were a limited number of current graduate student speech-language pathology participants that took the online survey regarding their perceptions and reactions to demographic characteristic reporting. The small sample size of graduate students has potential to undermine the confidence in the results of the online-survey. Furthermore, all graduate student participants were enrolled in the same CSD graduate program and Research Methods graduate course; therefore, the students are more likely to have received the same education regarding participant diversity in the speech-language pathology field, and thus more likely to generate similar reactions and perceptions.

### ***Future Directions***

Given the systemic inequities and injustices in society, there must be increased focus on incorporating anti-racist policies and practices into research. A key component of anti-racist

research is the engagement and involvement of community members; one method is community-based participatory research (CBPR), consisting of equitable collaborative relationships between researchers and community (Ellis et al., 2021). Future directions following the present study include examining empirical research articles and notes from the same time period from the other two major ASHA journals, the *Journal of Speech, Language, and Hearing Research* (JSLRH) and *Language, Speech, and Hearing Services in Schools* (LSHSS). This would allow for a comprehensive examination and discussion of the reporting of participant demographic variables across all of the major publishers of research in the speech-language pathology field and is an important next step. Another significant future step involves mandating authors of research to report upon participants' demographic characteristics for publication in journals, as doing so would increase the transparency of the inclusion of diverse individuals in research. Lastly, increasing the diversity in positions of leadership such as editors and authors of published research at AJSLP would be a vital step in the right direction. Roberts et al. (2020) found that editors in chief and editorial board members who were people of color (POC) produced publications that highlighted race at almost triple the rate of White individuals holding the same positions. Additionally, results of the same study found that the race of research participants was dependent on the race of the author, to a degree; for example, participants of color were more common in research conducted by authors of color (65%) versus White authors (48%).

### ***Implications and Conclusion***

Current findings of extremely limited diversity among participants highlight a need to include more diversity in speech-language pathology research. Improvements in the recruitment and inclusion of more diverse participants of various demographic characteristics would increase the generalizability and effectiveness of assessments and interventions for all individuals instead

of solely those from the White, middle-class, English-speaking “mainstream” population. The results of the present study demonstrate that most authors of empirical research articles and notes in AJSLP are not reporting the race/ethnicity and home language of the research participants, nor reporting on inclusion of bilingual participants. This is problematic as there continues to be an increase in the racial and ethnic diversity of the United States population. The current reporting rates in AJSLP stand to leave the field of speech-language pathology unprepared for the increasingly diverse society. Additionally, SLPs in the United States are most commonly White, English-speaking, females. In order to most effectively evaluate and provide intervention for the diverse populations requiring speech-language services, SLPs need available research that is generalizable to each and every individual.

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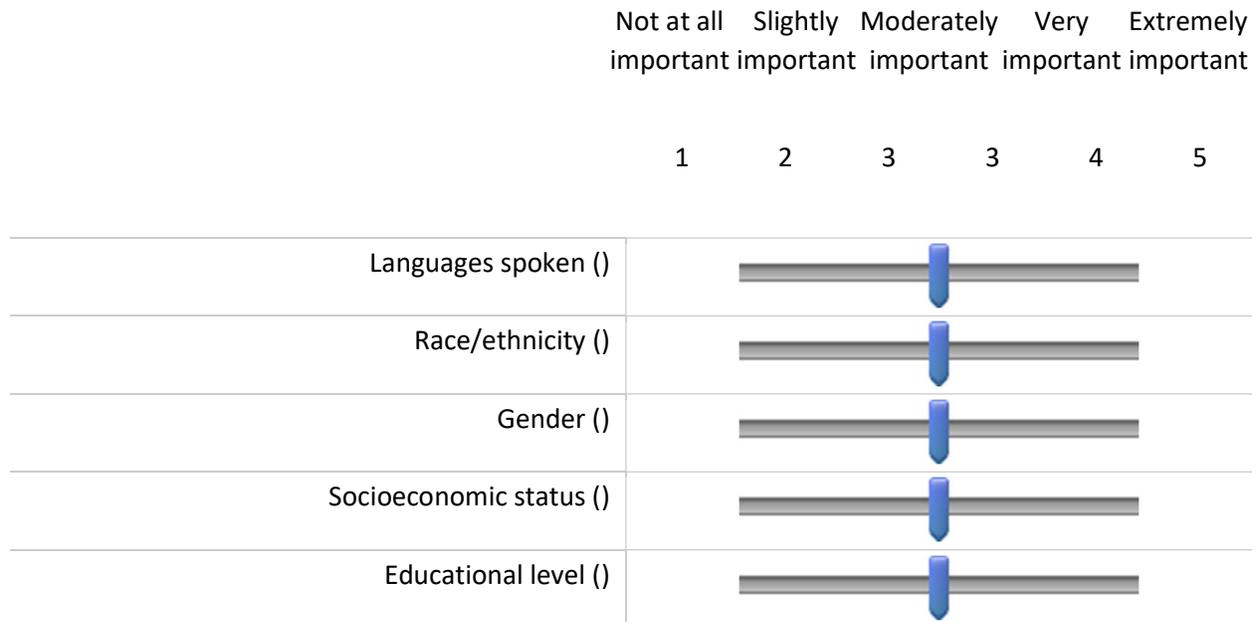
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**Appendix**

**Study 2 Survey**

How would you rate the importance of reporting the following participant demographics in research? (Leave blank if you prefer not to answer)



When doing your journal article summary assignment, were you surprised by the frequency of demographic reporting? (Leave blank if you prefer not to answer)

- Yes (1)
- Somewhat (2)
- No (3)

Explain your reaction to the previous question. (Leave blank if you prefer not to answer)

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Do you think ASHA journals should require authors to report demographic characteristics such as languages spoken and race/ethnicity when submitting articles? (Leave blank if you prefer not to answer)

- Definitely not (1)
- Probably not (2)
- Maybe (3)
- Probably yes (4)
- Definitely yes (5)
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Explain your rationale for the previous question. (Leave blank if you prefer not to answer)

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Please share any additional thoughts you have on demographic reporting in research. (Leave blank if you prefer not to answer)

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