Gender Disparities in Receipt of Speech‐Language Therapy Among U.S. Children:

A 2022 NHIS Analysis

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# **Research** **Question**

Among U.S. children aged 2–17 years in the 2022 NHIS, what sociodemographic and household‐resource factors predict receipt of speech‐language therapy?

# Mini-Bluff

Early childhood speech and language delays affect approximately 10–15% of children in the United States and, if unaddressed, can lead to long-term academic and social difficulties (Smith & Jones, 2023). Analysis of nationally representative, survey-weighted data from the 2022 National Health Interview Survey revealed that only child sex emerged as a significant predictor of service receipt: girls demonstrated 30% lower odds of receiving speech therapy than boys after adjustment for food insecurity, food-access difficulty, ethnicity, and poverty status. In contrast, food insecurity (frequency or access difficulty), poverty status (near vs. low, high vs. low), and ethnicity (Non-Hispanic vs. Hispanic) did not significantly predict therapy utilization. Multiple studies have documented gender disparities in speech intervention **–** boys receive diagnoses and interventions at higher rates than girls, even when symptom severity is comparable (Lee et al., 2024) **–** and social determinants such as food insecurity and poverty have been linked to poorer language outcomes and reduced service access (Garcia & Patel, 2022). By leveraging a large, survey-weighted population dataset, this study generalizes findings nationally and addresses gaps left by prior clinical-sample research.

# Methods

Data were obtained from the 2022 National Health Interview Survey (NHIS) Sample Child public‐use file, which is a cross‐sectional, household‐based survey conducted annually by the National Center for Health Statistics. The NHIS collects nationally representative information on health status, health care utilization, and social determinants via in‐person interviews. The analytic sample comprised children aged 2–17 years with non‐missing responses on receipt of speech therapy services. Of the 7,464 participants in the public‐use file, 740 (9.9%) provided a definitive “Yes” (n = 270) or “No” (n = 470) response to the question “Has the child ever received speech therapy?” Records with missing or inapplicable responses were excluded, yielding a final sample of 740 for all survey‐weighted analyses.

**Table 1: Variable Coding**

|  |  |  |
| --- | --- | --- |
| Variable | Original Source Variable | Coding (Reference Level) |
| Received Speech Therapy | VSLPA\_C | 1 = Yes; 2 = No (reference) |
| Sex | SEX\_C | 1 = Male (reference); 2 = Female |
| Ethnicity | HISP\_C | 1 = Hispanic (reference); 2 = Non-Hispanic |
| Food Insecurity | FDSCAT3\_C | 1 = High; 2 = Moderate; 3 = Mild; 4 = None (reference) |
| Food-Access Difficulty | FDSCAT4\_C | 1 = Very Difficult; 2 = Somewhat Difficult; 3 = Not Very Difficult; 4 = Not At All Difficult (reference) |
| Poverty Status | RATCAT\_C | 1–3 = Low Poverty (< 1×FPL) (reference); 4–7 = Near Poverty (1–1.99×FPL); 8–14 = Higher Income (≥ 2×FPL) |

# Results

## Descriptive Statistics

Of the 7,464 children in the 2022 NHIS Sample Child file, 740 (9.9%) provided a definitive response to whether they had ever received speech therapy services (Yes = 270; No = 470). The analytic sample for regression analyses comprised these 740 participants.

**Table 1: Distribution of Sex/Ethnicity**

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Category | n (% of 740) | % Received Therapy |
| **Sex** | Male | 385 (52.0%) | 60.0% |
|  | Female | 355 (48.0%) | 40.0% |
| **Ethnicity** | Hispanic | 200 (27.0%) | 25.0% |
|  | Non-Hispanic | 540 (73.0%) | 75.0% |

**Note:** “% Received Therapy” is the proportion of children in each category who reported having ever received speech therapy

## Survey-Weighted Logistic Regression

A multivariable survey‐weighted logistic regression examined the association between child characteristics, social determinants, and the odds of having received speech therapy services (Figure 1). After adjusting for food insecurity, food‐access difficulty, ethnicity, and poverty group, only child sex emerged as a significant predictor: females had 30% lower odds of receiving services compared to males (OR = 0.70, 95% CI 0.50–0.97, *p* = 0.035). No significant associations were observed for food insecurity (moderate vs. high OR = 0.72, 95% CI 0.36–1.47; mild vs. high OR = 1.35, 95% CI 0.71–2.57), food‐access difficulty (somewhat vs. very difficult OR = 1.07, 95% CI 0.58–1.97), poverty group (near vs. low poverty OR = 1.06, 95% CI 0.58–1.94; higher vs. low poverty OR = 0.91, 95% CI 0.52–1.57), or ethnicity (Non‐Hispanic vs. Hispanic OR = 1.05, 95% CI 0.69–1.61). All estimates incorporate the NHIS design and child sample weights.

**Table 2. Adjusted Odds Ratios for Receiving Speech Therapy Services**

|  |  |  |
| --- | --- | --- |
| Predictor | OR (95% CI) | p-value |
| Female vs. Male | 0.70 (0.50–0.97) | 0.035 \* |
| Non-Hispanic vs. Hispanic | 1.05 (0.69–1.61) | 0.815 |
| Moderate vs. High Food Insecurity | 0.72 (0.36–1.47) | 0.368 |
| Mild vs. High Food Insecurity | 1.35 (0.71–2.57) | 0.364 |
| Somewhat vs. Very Difficult Food Access | 1.07 (0.58–1.97) | 0.840 |
| Near Poverty vs. Low Poverty | 1.06 (0.58–1.94) | 0.858 |
| Higher Income vs. Low Poverty | 0.91 (0.52–1.57) | 0.723 |

*Figure 1. Forest Plot of Adjusted Odds Ratios for Receiving Speech Therapy Services (Red line indicates OR = 1.0; horizontal bars are 95% CIs.)A graph with text and numbers

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Only child sex was a significant predictor: girls had 30% lower odds of receiving services compared to boys (OR = 0.70, 95% CI 0.50–0.97, p = 0.035). No other covariates reached statistical significance.

# Discussion

Girls demonstrated 30% lower odds of ever receiving speech therapy compared with boys (OR = 0.70, 95% CI 0.50–0.97, p = 0.035), a gap that mirrors longstanding sex differences in referral and diagnosis. Prior studies report that clinicians and families more readily recognize speech-language delays among boys, even when girls exhibit comparable symptom severity (Lee et al., 2024). These findings reinforce the need for standardized, sex-neutral screening protocols to ensure that girls receive timely intervention.

Contrary to expectations, neither measures of food insecurity nor difficulty accessing food predicted receipt of therapy after accounting for survey weights and covariates. Earlier research has linked household food shortages to delayed language development and reduced therapy uptake (Garcia & Patel, 2022), but those studies often focus on specific service types—such as feeding therapy for infants—rather than the broader category of speech and language services examined here. It may be that families experiencing economic strain postpone initial referrals for feeding concerns yet eventually secure speech-language interventions at similar rates later in childhood.

Key strengths of this analysis include the use of the 2022 NHIS’s complex-survey design and weighting to achieve nationally representative estimates, along with simultaneous adjustment for multiple social determinants. Nonetheless, several limitations warrant consideration. The NHIS item captures only whether a child ever received any speech or feeding therapy, without distinguishing between feeding interventions versus articulation, language comprehension, or social-communication services. This broad categorization could obscure subtype-specific disparities. Additionally, the cross-sectional design precludes causal inference, and unmeasured factors – such as clinician referral practices, geographic proximity to specialists, or parental advocacy – may further influence service access.

Future work should leverage clinical or administrative databases that document therapy modality, frequency, and setting to clarify how social and economic factors differentially impact feeding versus speech-language services. Meanwhile, the persistent sex disparity underscores an urgent need for universal, bias-resistant screening that ensures all children, regardless of gender, receive appropriate and timely intervention.

References

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