

Who Is Served by Dyslexia Intervention in Arkansas? Patterns in Participation and Representation (2016–2025)

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Abstract: This report examines who is receiving dyslexia intervention services in Arkansas and the extent to which those students are representative of the broader student population. Using statewide public school district-reported data from 2016 through 2025, we descriptively analyze participation across student groups and geographic regions using representation and allocation metrics. We find that:

1. Participation in dyslexia intervention services is uneven across student groups, with students who are economically disadvantaged and students receiving special education services consistently overrepresented, while English Learners, gifted students, and several racial and ethnic groups are underrepresented.
2. Patterns of over- and underrepresentation are stable over time, indicating persistent differences in participation rather than short-term fluctuations.
3. District-level variation in representation is substantial suggesting that local context influences access to intervention services.
4. Regional allocation has become more aligned with enrollment, with some divergence in recent years.

Keywords- Dyslexia intervention participation, student representation, allocation of services, subgroup disparities, English Learners, special education, district-level variation, longitudinal descriptive analysis

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I. Executive Summary

This report examines students receiving dyslexia intervention services in Arkansas and whether those students are representative of the broader student population. Using statewide administrative data from 2016–2025, we describe patterns of participation across student groups and geographic regions using representation and allocation metrics designed to support policy-relevant interpretation.

Three primary findings emerge.

First, **participation in dyslexia intervention is not evenly distributed across student groups.**

Some groups—particularly students who are economically disadvantaged and students receiving special education services—are consistently overrepresented relative to their presence in the population. In contrast, English Learners, gifted students, and several racial/ethnic groups (including Hispanic and Asian students) are consistently underrepresented.

Second, **these patterns are largely stable over time**, suggesting that they reflect persistent features of how the system identifies and serves students rather than short-term fluctuations.

While some groups move toward proportional representation (e.g., gender, some racial groups), others show sustained gaps that do not meaningfully narrow.

Third, **substantial variation exists across districts and regions.** Although regional allocation of services has generally converged toward expected levels over time, district-level analyses reveal wide differences in representation patterns for key student groups—particularly English Learners and students with disabilities. This indicates that where a student is enrolled may influence their likelihood of receiving dyslexia intervention.

These findings are descriptive and do not establish causality. However, the consistency of patterns across time and geography suggests that the system may not be operating uniformly for all students. This raises important questions about identification practices, access to intervention, and the alignment between policy intent and implementation.

II. Overview

Previously, we shared [statewide trends](#) in dyslexia intervention reporting in Arkansas. Our first report was focused on the 2013 legislation that initiated screening and intervention, its original intent, and the changes enacted with legislative modifications in 2015 and 2017, as well as the trends in reporting for dyslexia intervention.

In our second dyslexia report we seek to answer the question *Who is being served under Arkansas's dyslexia requirements?*

We encourage readers to review, ask questions, and wonder as we do—are we serving the students we intended to serve and is the law achieving its aims. These data capture reported dyslexia intervention services and do not necessarily reflect formal IDEA eligibility classifications, diagnostic confirmation, or intervention intensity. This is due to data limitations. First, districts are required to certify whether students are receiving dyslexia intervention and to report the number of students classified with dyslexia. However, the latter is not reported in the state data system. Dyslexia isn't reported as its own category of learning disability. Rather, it is reported either as a Specific Learning Disability (SLD) or students with dyslexia are determined to be eligible under Section 504 of the Individuals with Disabilities Act (Individuals with Disabilities Education Act [IDEA], 2004).

Findings from earlier studies suggest systematic demographic differences in students identified for dyslexia intervention even when based on a universal screener (Odegard, Farris, Middleton, Oslund, and Rimrodt-Frierson, 2020). This suggests it may be helpful to describe who is and who isn't being served among our student groups. Earlier research on dyslexia identification in Texas and Arkansas indicated no change in percentage of students identified with a Specific Learning Disability (SLD) despite both states enacting specific laws for early intervention (Philips and Odegard, 2017). However, these stable SLD rates were accompanied by large variation in district reports of students identified with dyslexia. Philips and Odegard (2017) found that Arkansas districts in 2016, reported a mean percentage of students with dyslexia of 2.19 percent with a median of 1.25 percent, a minimum of 0.0%, and a maximum of 27.07%. The authors concluded, "the most compelling evidence that public schools are under identifying dyslexia is documented by the fact that there is not a single student identified with dyslexia in half of the public schools in Arkansas after the sixth grade" (p. 365).

In this report we describe who is being served and the extent to which that is representative of the population of students within specific groups. We start with state allocation of students receiving dyslexia interventions. We then calculate state, regional, and district representation of major groups of students by year.

We focus on who is receiving therapy /intervention rather than who is identified as having dyslexia because Arkansas collects data on students receiving dyslexia therapy/intervention and students identified as dyslexic are not reported in a distinct category under special services or Section 504.

III. Participants

We use district-certified Student Information System (SIS) enrollment data for the number of students enrolled and SIS Medical Dyslexia files for the number of students reported as receiving dyslexia interventions. Enrollment data includes student demographics enabling us to look at groups of students by demographic characteristics. Again, these data capture reported dyslexia intervention services and do not necessarily reflect formal IDEA eligibility classifications, diagnostic confirmation, or intervention intensity.

IV. Methods

We calculate the statewide percent of students receiving dyslexia intervention by student groups. We include gender, race/ ethnicity, economic disadvantage, English Learners, students in special education services, gifted, homeless, migrant, foster, military dependents, recently arrived English Learners, and former English Learners. First, we calculate the percentage of students in each group receiving dyslexia interventions. However, these percentages may or may not be indicative of population presence. To explore whether groups are represented proportionate to their occurrence in the population, we calculate a representation index and representation gap.

We calculate the total number of students in each subgroup in the state population of enrolled students and the total number of students in the subgroup receiving dyslexia intervention.

For each year and subgroup:

$$\text{Representation Index} = \frac{\% \text{ of students receiving intervention in group}}{\% \text{ of total population in group}}$$

The representation index can be interpreted as follows:

- $= 1.0$ → proportional representation of the group in dyslexia intervention compared to the group's presence in the population.
- > 1.0 → the group is overrepresented in dyslexia intervention compared to the group's presence in the population.
- < 1.0 → the group is underrepresented in dyslexia intervention compared to the group's presence in the population.

We calculate a representation gap which is the difference between the Representation Index and proportional representation.

$$\text{Representation Gap} = (\text{Representation Index} - 1) \times 100$$

This statistic provides better visual plotting for intuitive interpretation. For example:

- +30% overrepresented relative to proportional
- -40% underrepresented relative to proportional

We add policy-guided landmarks to our Representation Gap and Allocation Gap visuals to avoid over-interpreting the gaps (Table 1). These are practical landmarks, not statistical significance landmarks.

Table 1. Policy-relevant Landmarks for Interpreting Representation Gap Visuals

Representation Gap	Interpretation
-5% to +5%	Near proportional—May be due to noise/ rounding/ small shifts
±5% to ±15%	Moderate imbalance—Noticeable but not dramatic

Representation Gap	Interpretation
±15% to ±30%	Meaningful imbalance—Clear pattern, systemic behavior
> ±30%	Substantial imbalance—clear pattern, policy-relevant gap

We calculate these statistics from 2016 - 2025. It is important to note that we are interested in patterns for groups over time. Patterns are not an indication of cause, nor are all patterns unexpected. However, patterns do signal how the system is functioning. We ask,

- Are higher-need groups (e.g., FRL, EL, SPED, etc.) more likely to be served or are they underrepresented in the served population?
- Do patterns stay stable over time? Or does composition shift over time?

Regional variability is also addressed in our analysis. We calculate an Allocation Index for each year and region. This is a systems-level allocation question rather than a group question. Again, we don't necessarily expect that all regions will have the same proportion of students receiving dyslexia intervention. Rather we wonder about the proportion in the region receiving services relative to the proportion of the state population that is enrolled in the region.

For each year and region: $Allocation\ Index = \frac{\frac{S_r}{S}}{\frac{N_r}{N}}$

- S_r = number of students receiving dyslexia intervention in region r
- S = total number of students receiving dyslexia intervention statewide
- N_r = total student population in region r
- N = total student population statewide

The Allocation Index can be interpreted as follows.

- = 1.00 → region serves exactly its expected share
- > 1.00 → region serves more than expected given its student population
- < 1.00 → region serves less than expected

We calculate an Allocation Gap for visual representation and interpretation.

$$\text{Allocation Gap} = (\text{Allocation Index} - 1) \times 100$$

- = +20 → region serves 20% more than expected
- = -15 → region serves 15% less than expected

For the Allocation Gap, the question is not whether students within a group are served proportionately. Rather, the question is whether dyslexia intervention for students is concentrated geographically. To aid interpretation, allocation gaps are described using thresholds similar to those applied in representation analyses (Table 2). Differences within ± 10 percentage points are considered near proportional, while larger deviations indicate increasing divergence between a region's share of students served and its share of the statewide student population.

Table 2. Landmarks for Interpreting the Allocation Gap Visual

Allocation Gap	Interpretation
-10 to 10%	Small Deviation—Region serves its expected share of enrolled students

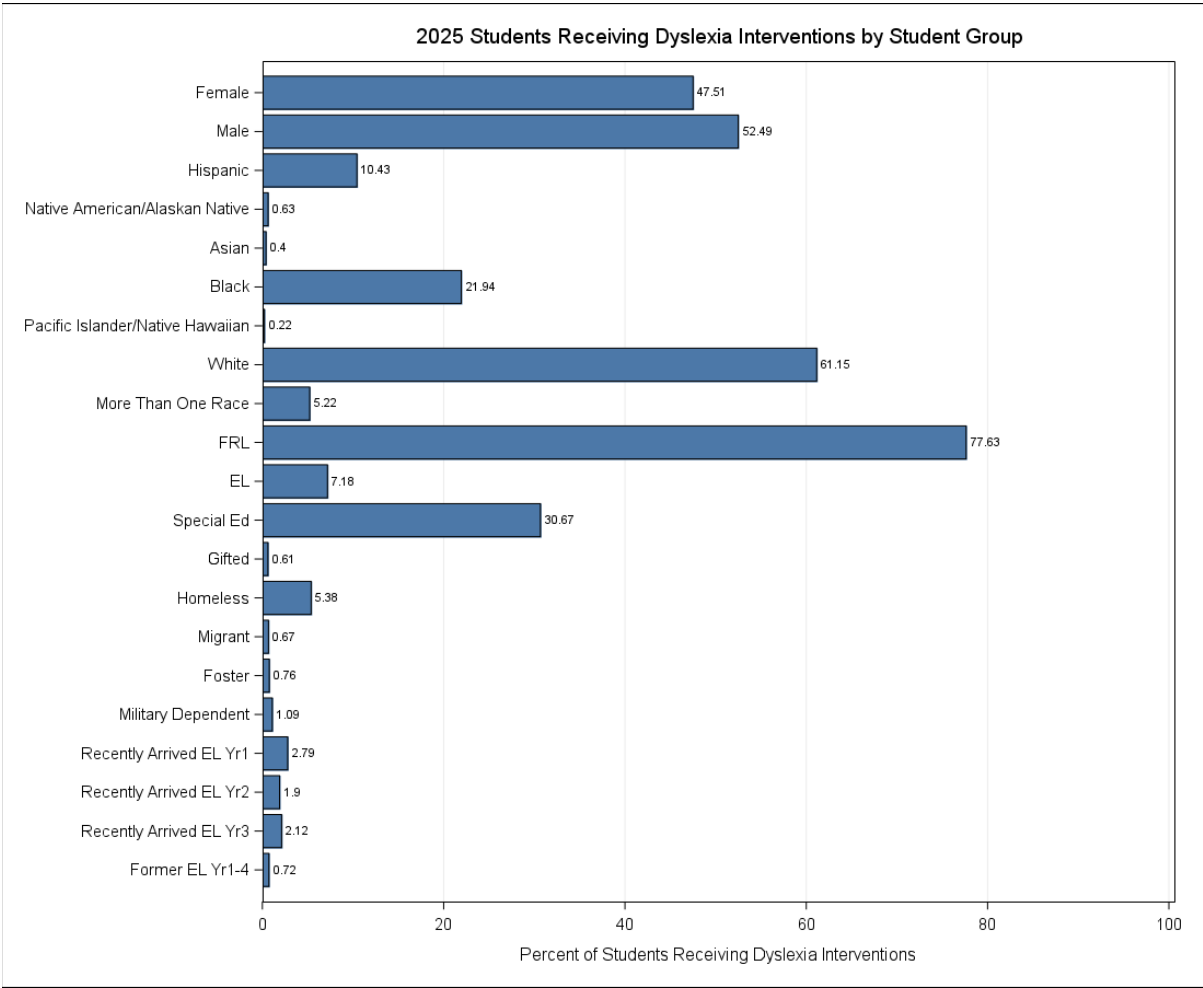
Allocation Gap	Interpretation
± 10 to ± 30	Moderate Deviation—Region serves somewhat more or less enrolled students than expected
± 30 to ± 60	Large Deviation—Region serves substantially more or less enrolled students than expected
$> \pm 60$	Extreme Deviation—Region serves far more/less than expected (likely structural or systemic)

District variations by group are of interest as we follow up on our first report. We calculate the Representation Gap for districts for select groups: economic disadvantage, English Learners, students receiving special services, gifted students, and homeless students. We include districts with at least 10 students in both the focal group and the reference group. We visually represent the variation in district over/ under representation in these groups.

V. Results

We start by describing the demographic characteristics of students indicated as receiving dyslexia intervention in 2025 (Figure 1). Slightly more males receive dyslexia intervention than females. For other demographic groups, students receiving dyslexia interventions are concentrated among a few groups: students who are white, economically disadvantaged (FRL), and students with disabilities. Other groups are represented but not to the extent of these top three.

Figure 1. Demographic characteristics of students receiving dyslexia intervention in 2025.



The high proportion of white students, economically disadvantaged students, and students with disabilities is best interpreted by considering the proportion of students in these groups in the state population.

Representation Gap

To explore whether groups are served proportionate to their occurrence in the population, we calculate a representation index and representation gap.

In Figures 2 - 12 each group is shown over time with the focal group in green and the reference group in blue. Policy landmarks (0%, $\pm 15\%$, $\pm 30\%$) are provided in gray. For gender and groups with multiple values the membership is captured in the legend. We consider the meaning of the results in the Discussion section of this report.

We begin with gender. In our initial percentages males comprised 52.5% of students served compared to 47.5% females. In Figure 2 note that in 2016 males and females demonstrated some over and under representation ($\pm 5\%$), respectively. However, this stabilizes over time becoming and sustaining roughly proportional representation by 2025.

Figure 2. Gender Representation Gap 2016 – 2025.

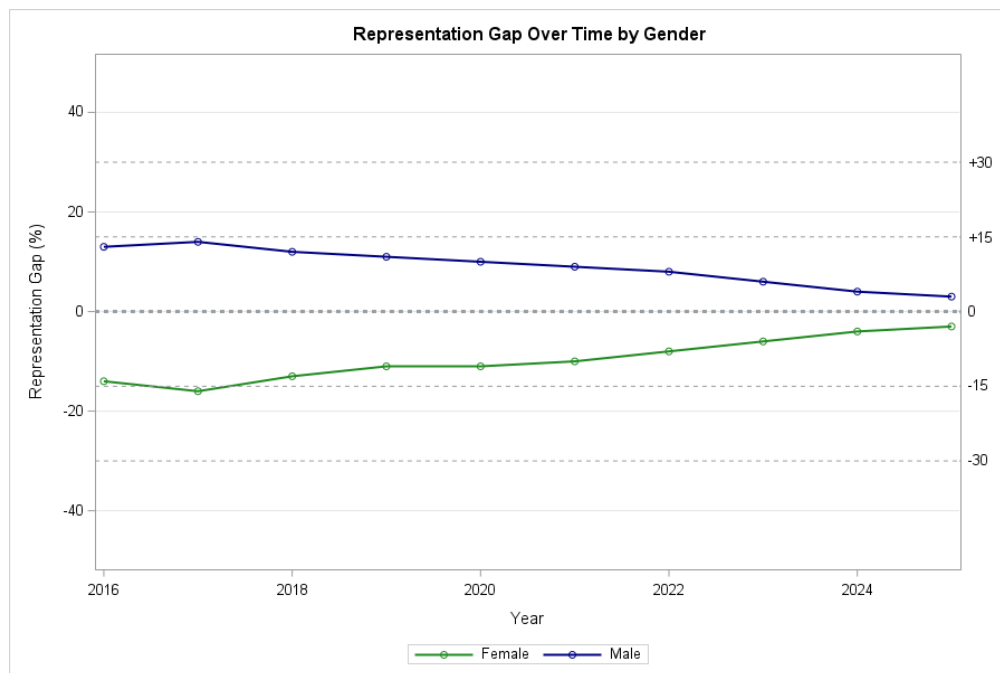
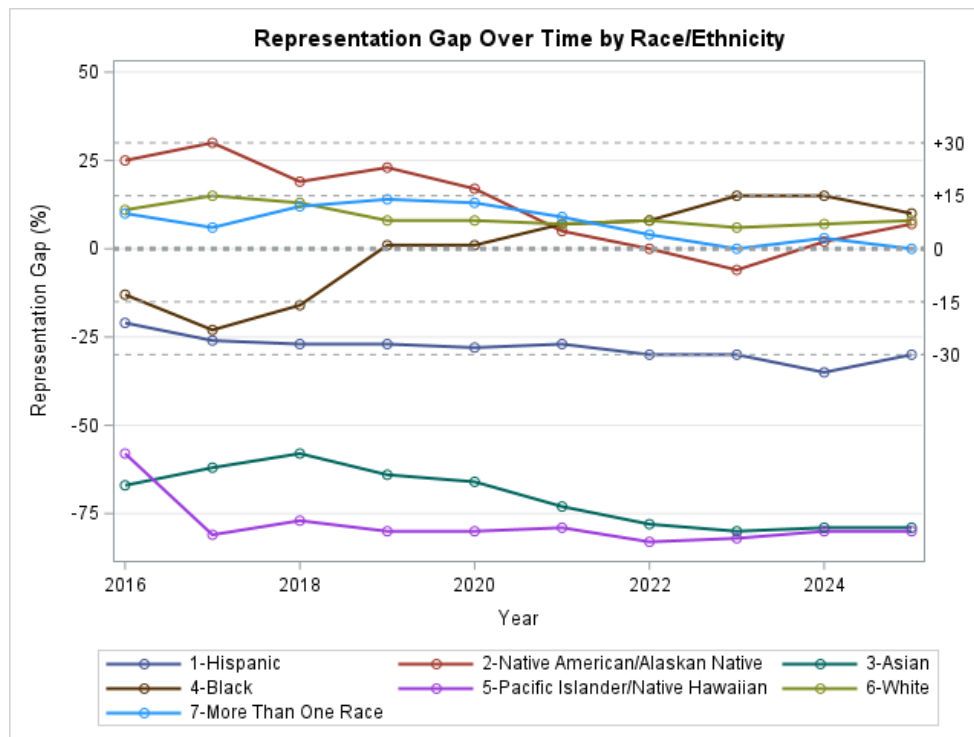


Figure 3 shows White and Native American/ Alaskan Native students are clearly overrepresented in the early years with both approaching lower levels of overrepresentation by 2025. Students identifying as more than one race are roughly proportionate by 2025. In contrast, students identifying as Black/ African American start out in 2016 clearly underrepresented and are

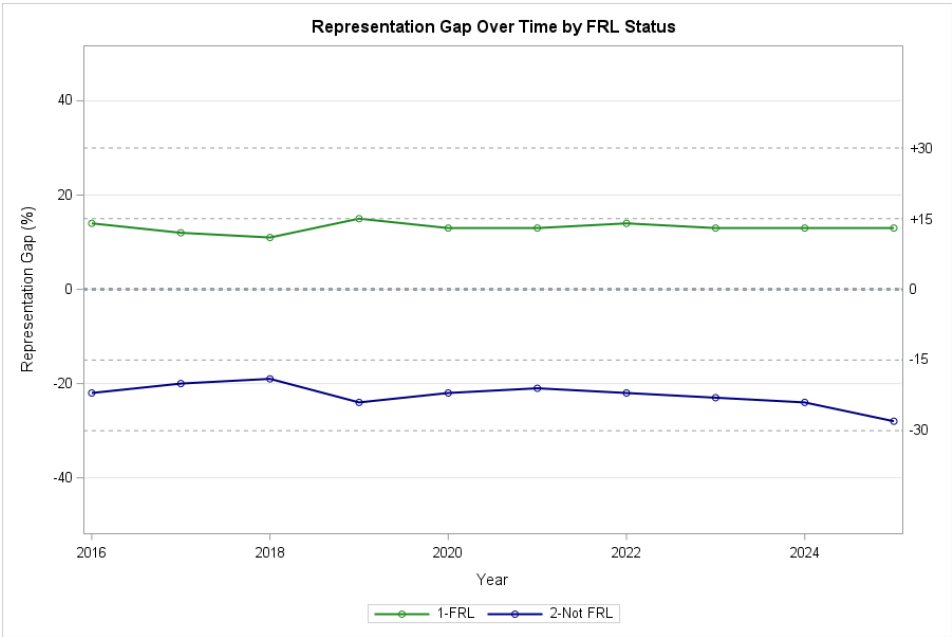
somewhat overrepresented by 2025. Notably, students who are Hispanic, Asian, and Pacific Islander/ Native Hawaiian are substantially underrepresented in dyslexia intervention relative to their presence in the state population.

Figure 3. Race/ Ethnicity Representation Gap 2016 – 2025.



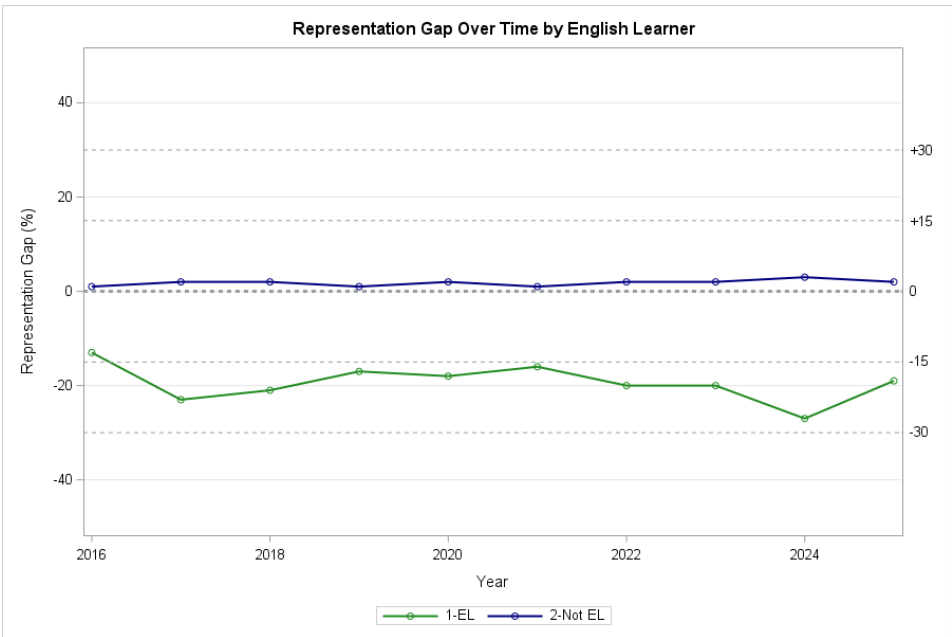
Students with economic disadvantages (receiving free/ reduced lunch) are clearly overrepresented and students who are not are substantially underrepresented (Figure 4).

Figure 4. Economic Disadvantage Representation Gap 2016 – 2025.



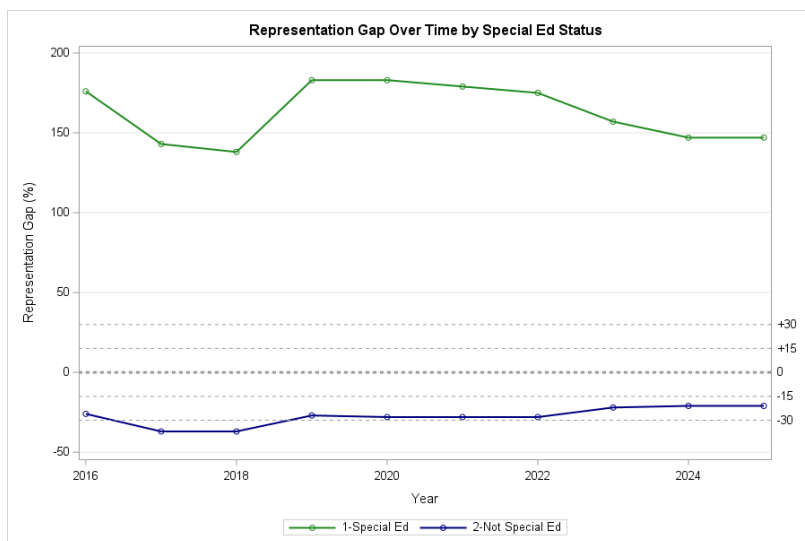
English Learners are clearly underrepresented falling below -15% over most years but not exceeding -30% (Figure 5).

Figure 5. English Learner Representation Gap 2016 – 2025.



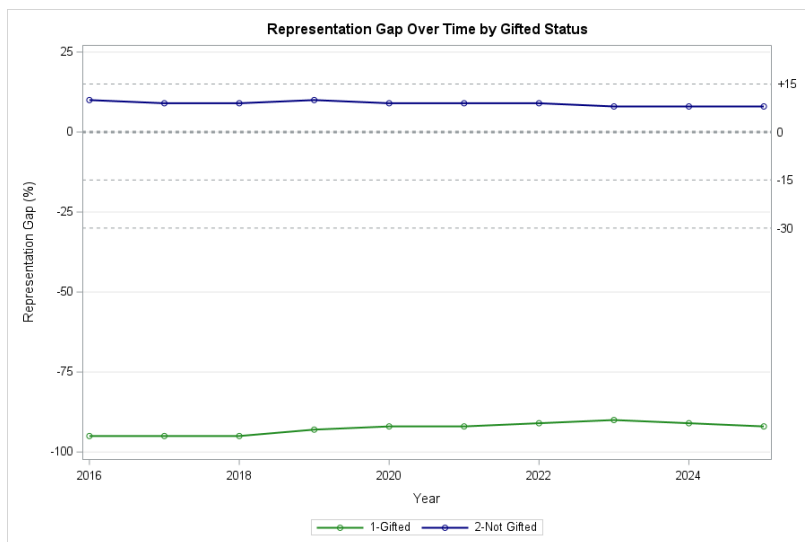
Students receiving special education services are substantially over-represented and students not receiving services started out substantially under-represented and have moderated to the clearly under-represented range (Figure 6).

Figure 6. Special Education Representation Gap 2016 – 2025.



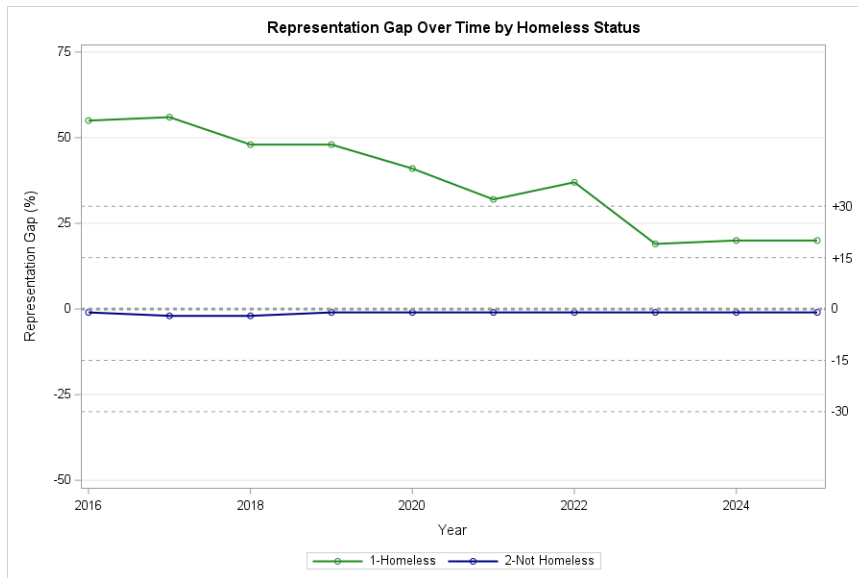
Gifted students are substantially underrepresented and students who are not gifted are somewhat overrepresented. This is a consistent trend over time (Figure 7).

Figure 7. Gifted Representation Gap 2016 – 2025.



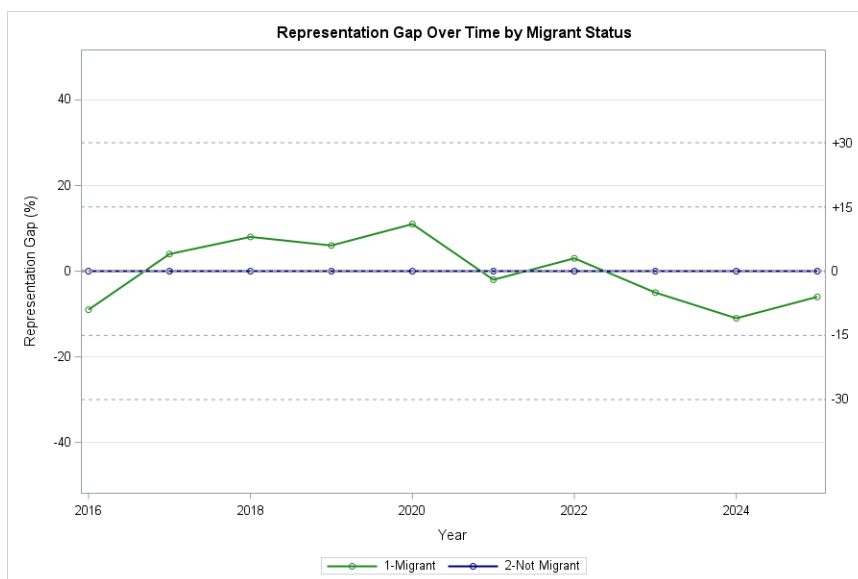
Homeless students are overidentified, substantially, early on and reducing to a clear level of overrepresentation by 2025 (Figure 8).

Figure 8. Homeless Student Representation Gap 2016 – 2025.



Migrant students most closely approximate rough to clear proportionality with variability above and below the proportionality line of zero (Figure 9).

Figure 9. Migrant Representation Gap 2016 – 2025.



Foster children are clearly overrepresented whereas military dependents are clearly underrepresented (Figures 10-11).

Figure 10. Foster Child Representation Gap 2016 – 2025.

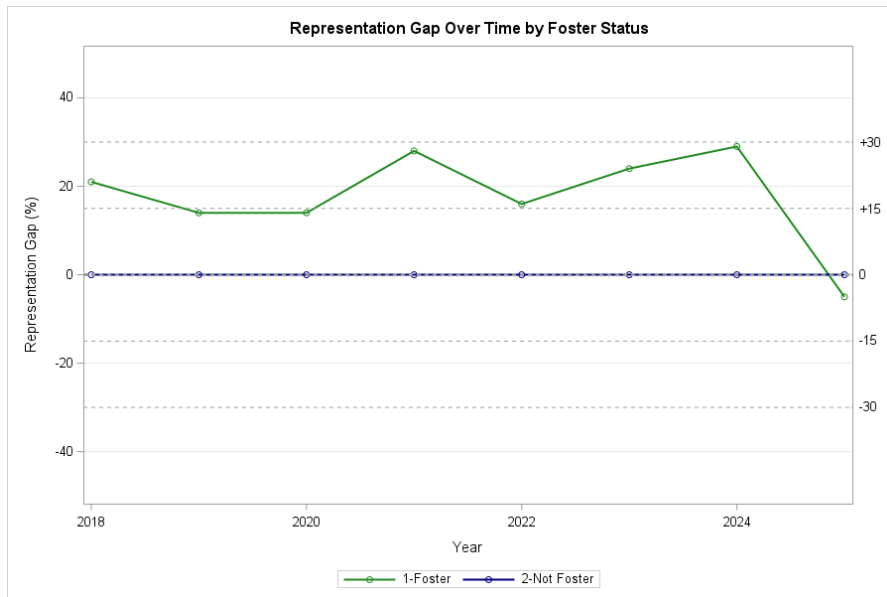
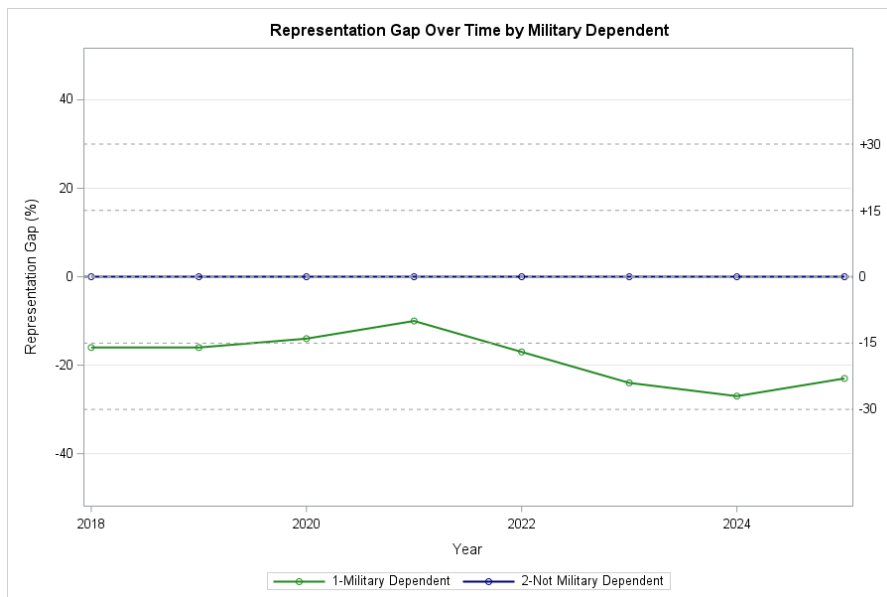


Figure 11. Military Dependent Representation Gap 2016 – 2025.



We calculated the Representation Gap for former English Learners as well as recently arrived English Learners as these are more specific groups of language developers. Former English Learners are considered English proficient and newly arrived English Learners vary in their English proficiency attainment being new to the country.

Former English Learners are substantially underrepresented (Figure 12).

Figure 12. Former English Learner Years 1-4 Representation Gap 2016 – 2025.

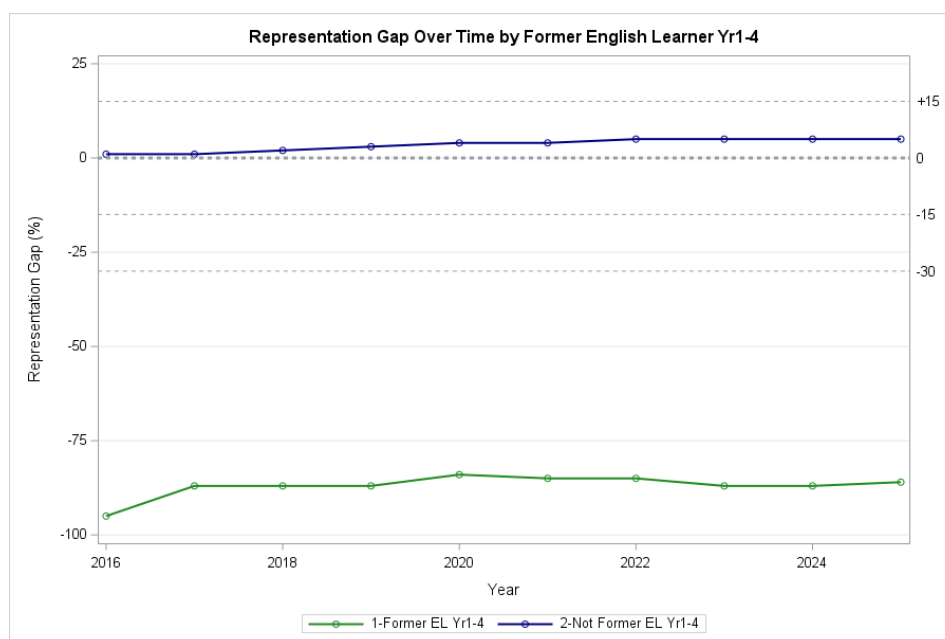
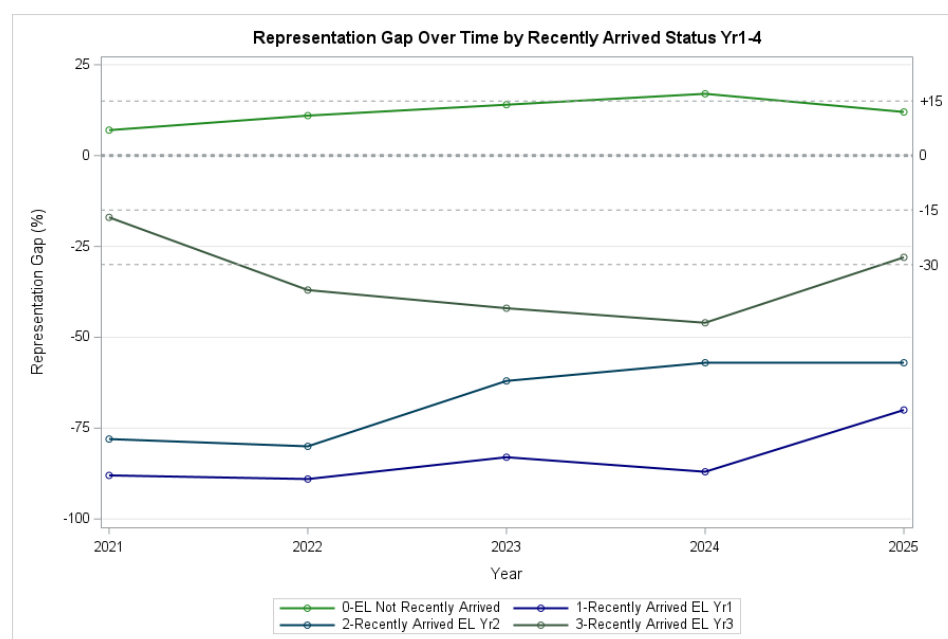


Figure 13 is a little different that all students represented are English Learners. The students who are Els not recently arrived are somewhat overrepresented, whereas students in Year 1 are the most underrepresented, Year 2 follows, and Year 3, while clearly to substantially underrepresented, is the least underrepresented among recently arrived English Learners.

Figure 13. Recently Arrived English Learners Years 1-3 Representation Gap 2016 – 2025.

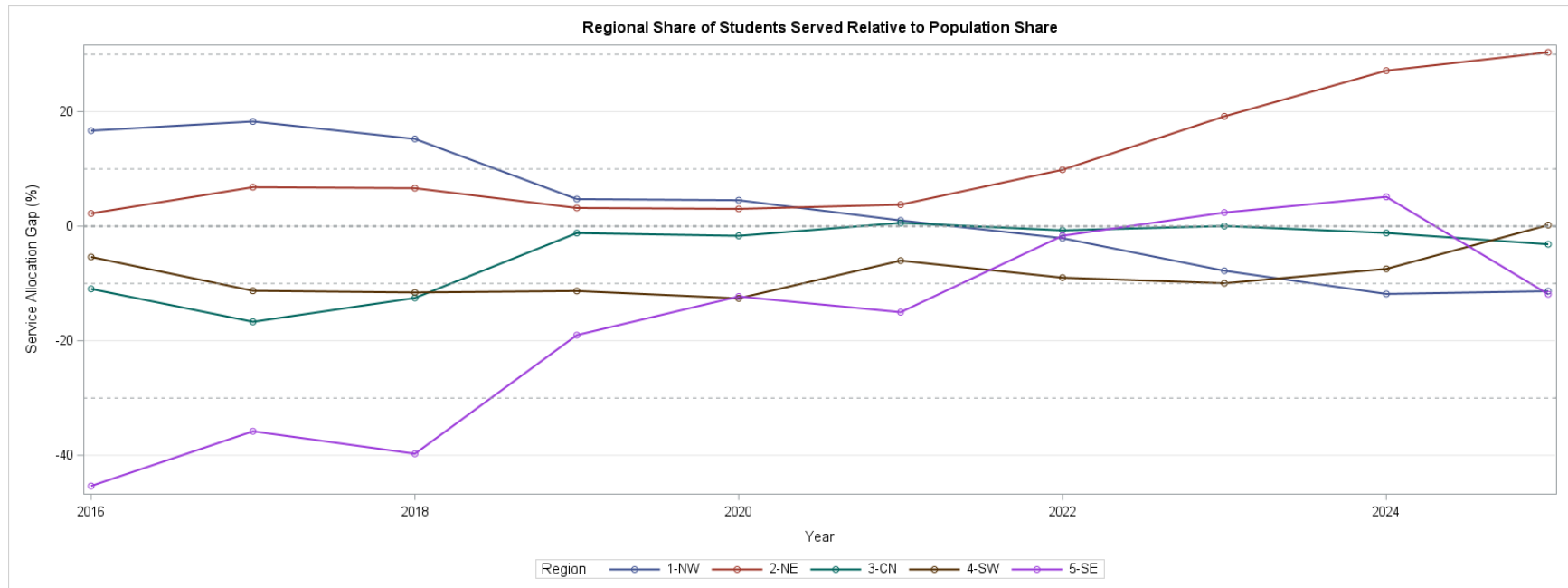


Allocation Gap

The results of the Allocation Index and Allocation Gap are presented in Figure 14. This figure illustrates how students receiving dyslexia services are allocated geographically. We think about the allocation landmarks and interpretation different from the Representation Gap. The Allocation Gap indicates the extent to which the percentage of students receiving dyslexia intervention deviates from what would be expected in the geographic region based on region enrollment. In 2016 regions demonstrated a lot of variability in allocation. Over time these regions converge toward a smaller Allocation Gap except for the Northeast region. The Southwest region demonstrated a large deviation in 2016 but was down to a moderate deviation by 2025. The Northwest started out with moderate positive deviation and by 2019 converged toward expectation 2019-2022 and then diverged moderately negatively from expected from 2023-2025. The Central region starts out moderately deviated as under expected and converged to roughly expected by 2019 and maintained that through 2025. The Southwest region was

moderately deviated in earlier years and has ended in expected range in 2022-2025. The Northeast region is different in that allocation was within expectations until 2022 -2025 when it began to increase in moderate positive deviation, meaning this region is identifying increasingly more students for serves than would be expected if it were proportional to enrollment.

Figure 14. Regional Allocation Gap from 2016-2025.



Figures A1 – A13 showing regional Representation Gaps are provided in the Appendix. These figures illustrate regional variations in over and under representation of groups over time and across regions. Groups were included if the number of students in the focal group and the reference group had 20 or more students each.

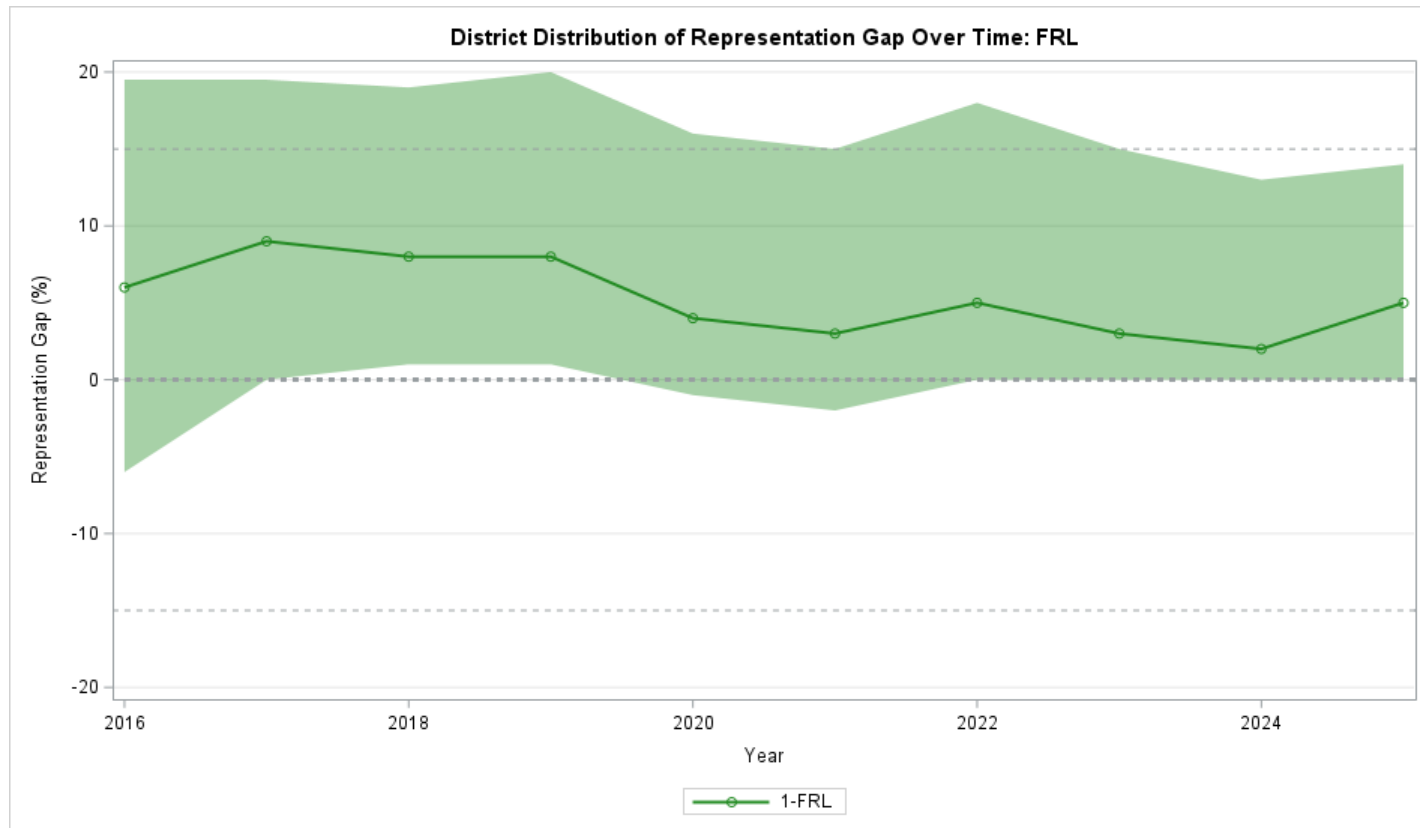
District Representation Gap

Given the large variation in the percentage of students receiving dyslexia services by district, we computed the Representation Index and Representation Gap for districts for select subgroups. The results are presented in Figures 15 - 19. Districts were included in the

distribution if the group had 10 or more students. The green line represents the median district Representation Gap for the focal group. The green band in the figures represents the interquartile range, or middle 50% of districts' Representation Gaps. The top quartile and bottom quartile are excluded to illustrate the variability without making the figures overly busy. The vertical axis represents the Representation Gap. It can be interpreted similarly to the state-level Representation Gaps with 0 to $\pm 5\%$ indicating proportional representation, negative values indicating underrepresentation, and positive values indicating overrepresentation. The horizontal axis is the year.

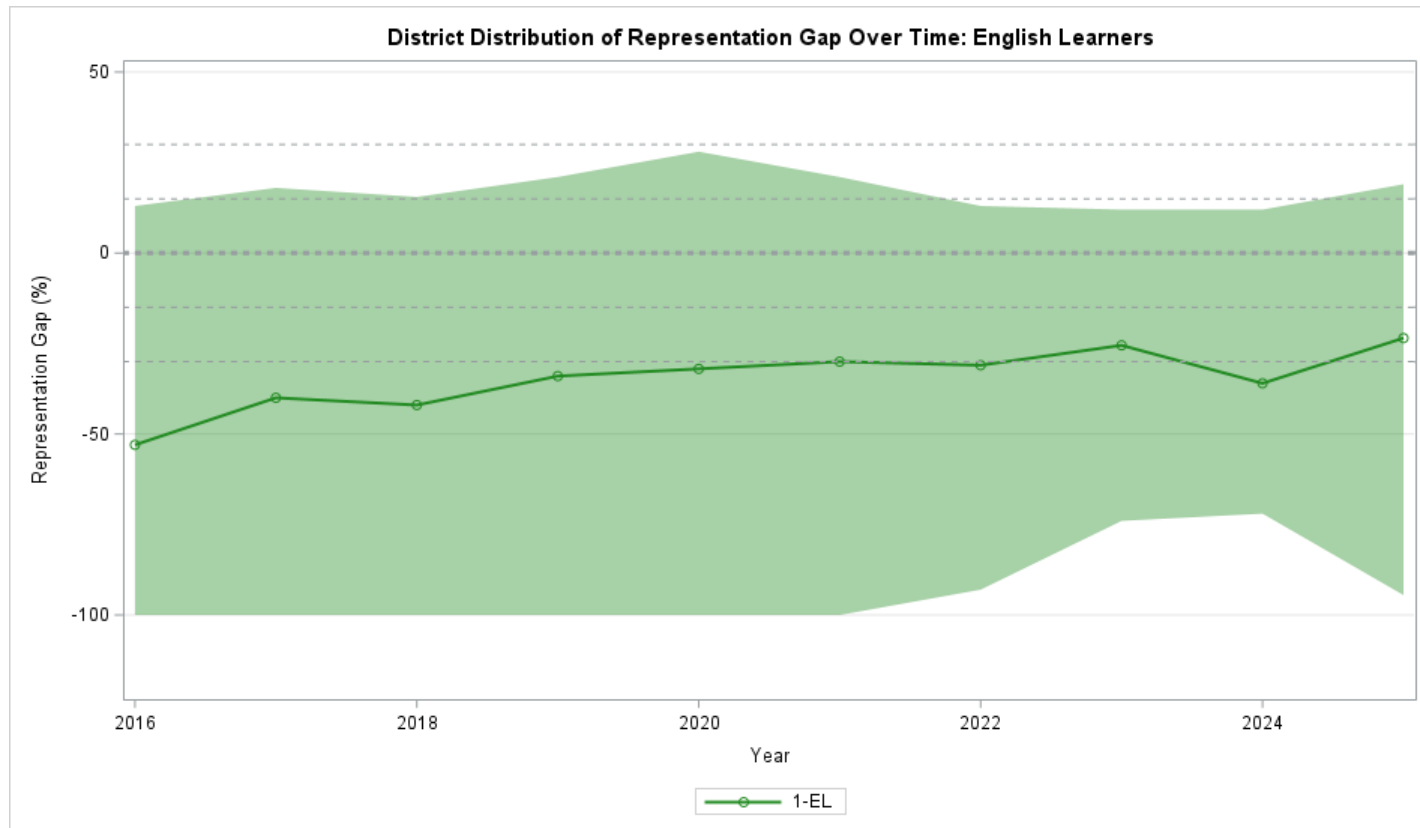
Generally, students experiencing economic disadvantages are overrepresented in districts' dyslexia interventions and the variability is quite high even among the middle 50% of districts. The trend over time indicates some compression of the variability indicating decreasing variability yet an interquartile range of up to 25% in 2025.

Figure 15. District distribution of Representation Gap over time for economically disadvantaged students.



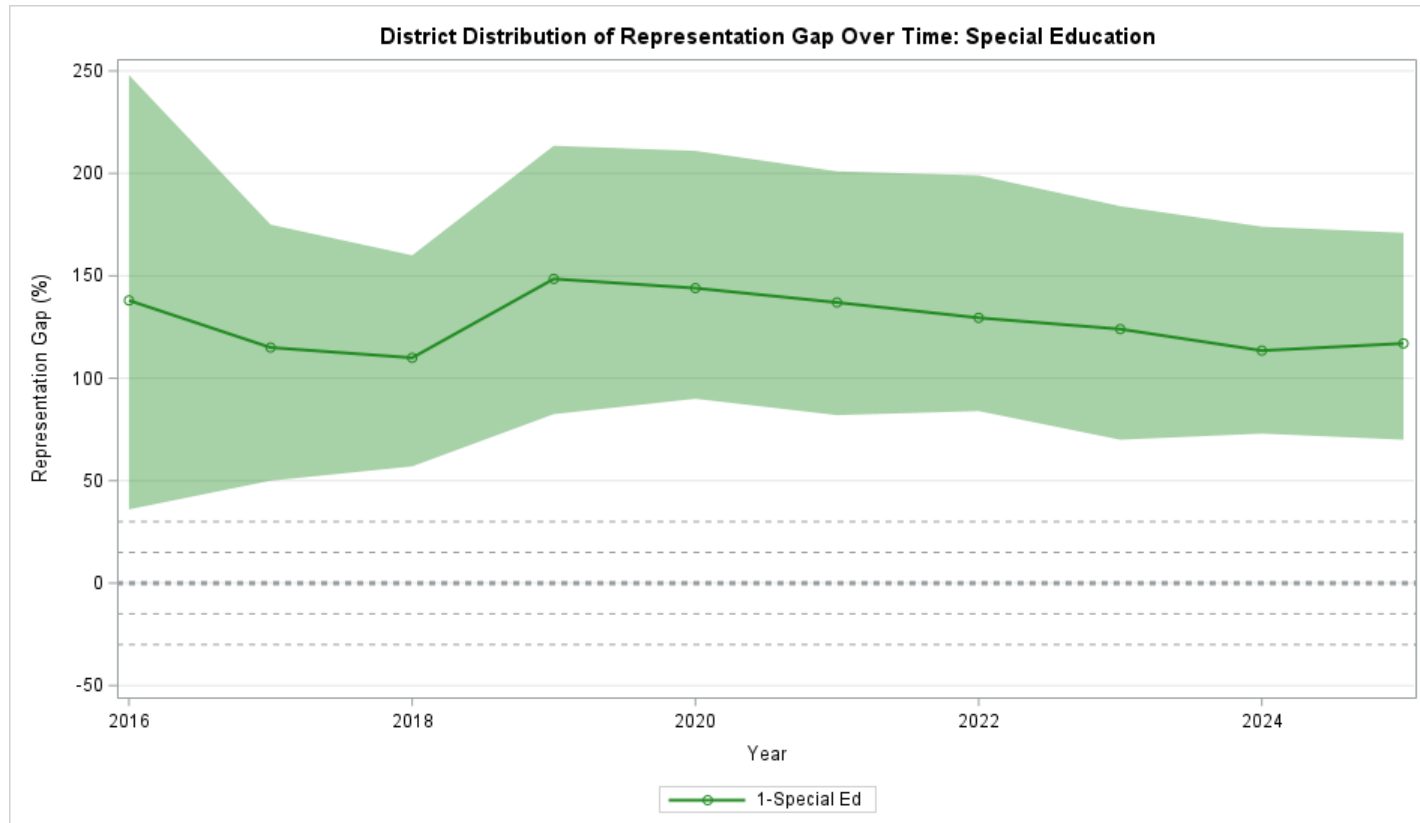
English Learners are underrepresented across most districts with some district gaps exceeding 100%. For some districts, English Learners are overrepresented but not to the same extreme of underrepresentation. The interquartile range narrows somewhat but variability across districts is still quite high, which may indicate systemic inconsistency among districts.

Figure 16. District distribution of Representation Gap over time for English Learners.



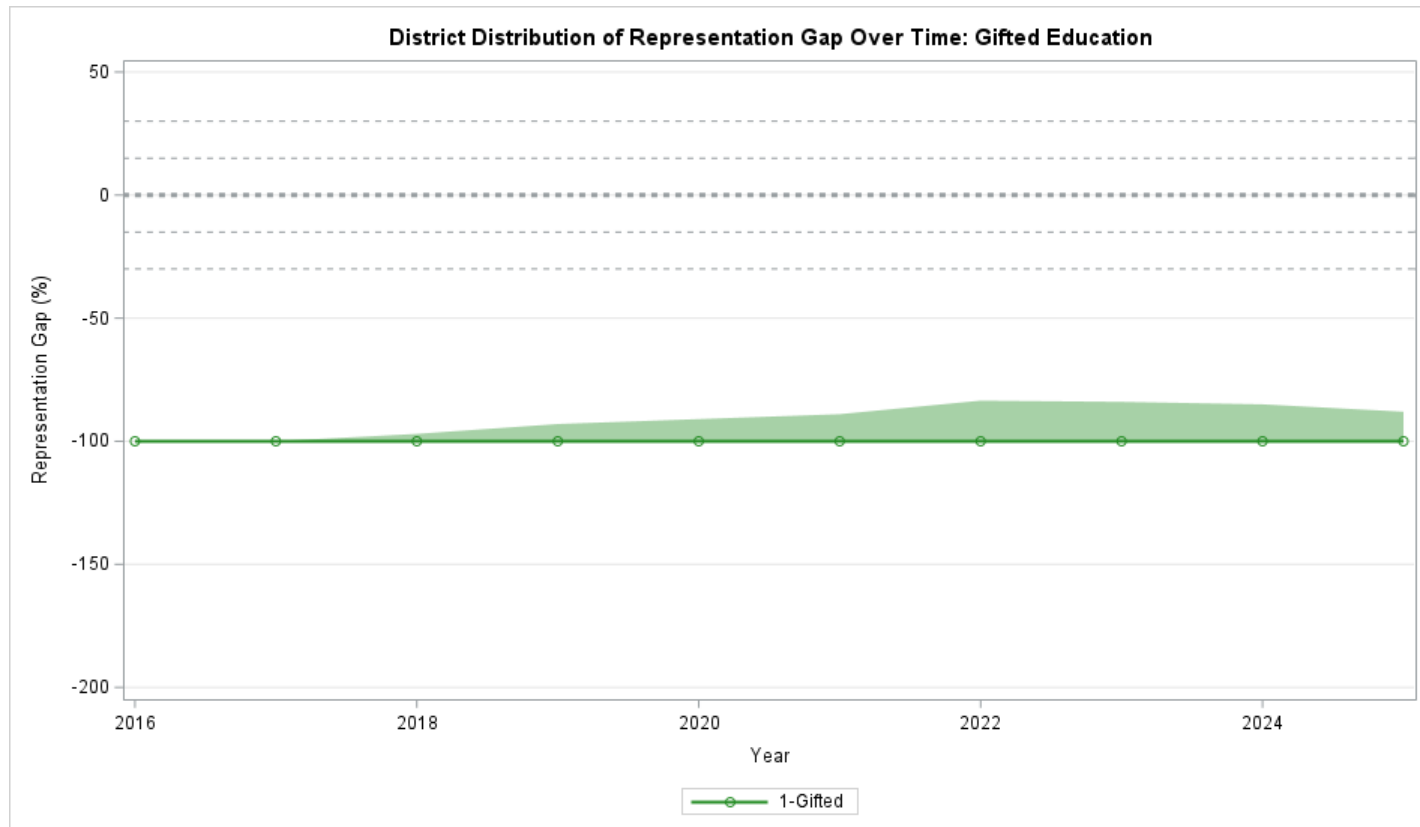
Students with disabilities are extremely overrepresented over time and across districts with almost 200 percentage point differences among the districts in the interquartile range. The range narrows over time and remains in the substantial overrepresentation region.

Figure 17. District distribution of Representation Gap over time for students receiving special education services.



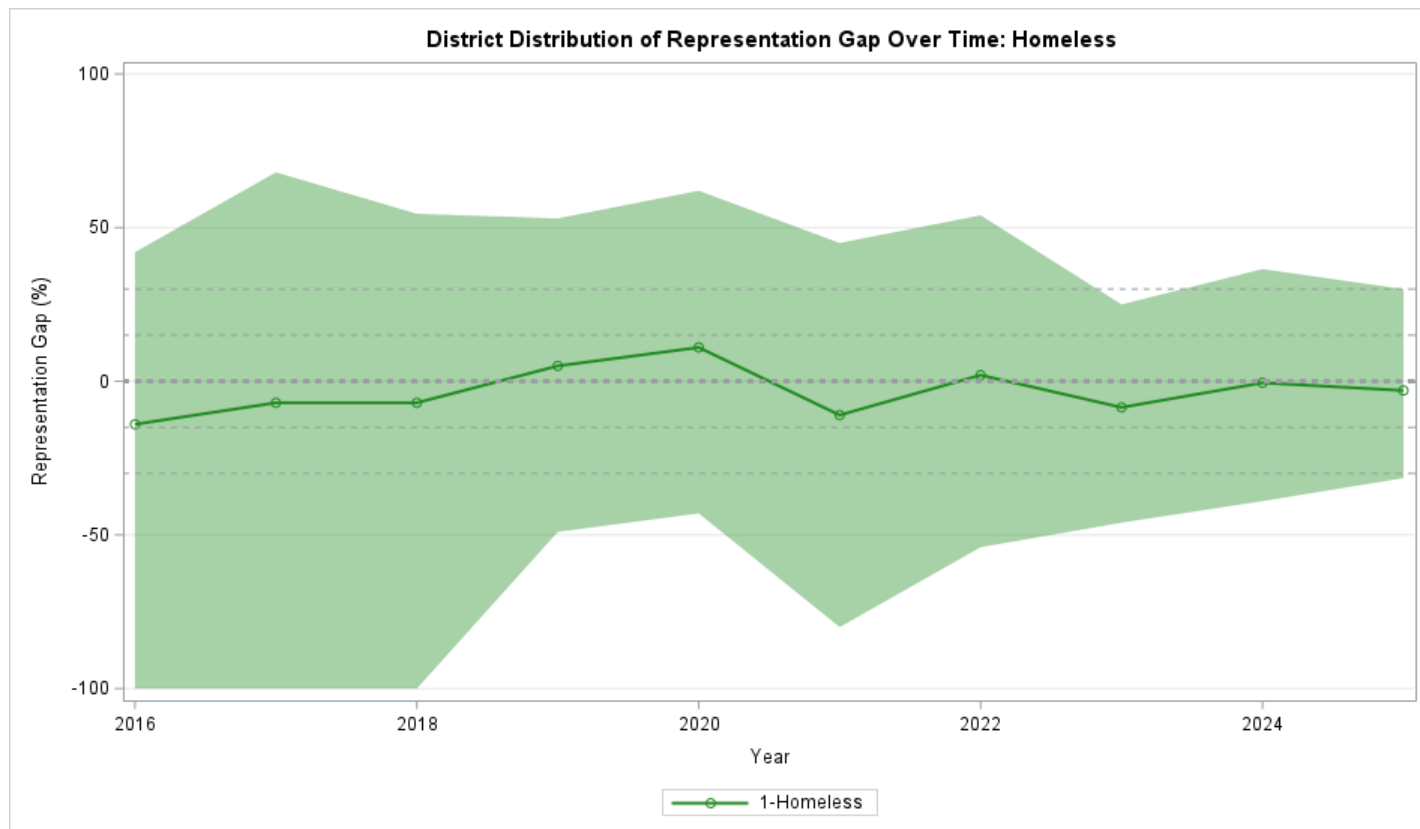
Districts were the most consistent in underrepresenting gifted students among those served with dyslexia interventions. This has the narrowest district distribution and an opposite pattern of expanding over time.

Figure 18. District distribution of Representation Gap over time for gifted students.



Finally, Homeless students are over and underrepresented across districts with the trends toward proportional representation over time.

Figure 19. District distribution of Representation Gap over time for homeless students.



VI. Discussion

The patterns observed in these analyses point to **systematic differences in who is served by dyslexia intervention across Arkansas**. While these analyses are descriptive and do not establish causal relationships, the persistence and consistency of these patterns over time suggest that they are unlikely to be driven solely by random variation.

One plausible explanation is that **identification and referral processes vary across student groups and contexts**. The law requires districts follow the Dyslexia Resource guide. However, dyslexia intervention in Arkansas is initiated through screening and local decision-making processes, which may be influenced by differences in student characteristics, educator perceptions, access to resources, and competing instructional priorities. These factors may contribute to both overrepresentation and underrepresentation across groups.

At the same time, some patterns may reflect **expected differences in underlying risk or need**. For example, overrepresentation of economically disadvantaged students and students receiving special education services is consistent with broader research indicating that reading difficulties are associated with cumulative risk factors. However, this does not fully explain the magnitude or consistency of some observed gaps, particularly where groups are substantially underrepresented.

The **underrepresentation of English Learners and recently arrived students** is especially notable. These students may present with reading challenges that are difficult to disentangle from language acquisition, potentially complicating identification decisions. This raises the possibility that dyslexia-related needs among English Learners may be **under-identified or addressed through alternative supports rather than dyslexia intervention**.

The **geographic and district-level variation** further suggests that implementation is not uniform. While regional allocation patterns have become more aligned with expectations over time, district-level representation gaps remain large for several groups. This indicates that **local context and decision-making play a substantial role in determining access to intervention**.

Taken together, these findings suggest that the dyslexia intervention system is **functioning differently across student groups and locations**, even as overall participation has expanded over time. The central question is not whether differences exist—they clearly do—but **whether those differences reflect intended, need-based targeting or unintended inconsistencies in implementation**.

Limitations

This analysis is subject to several important limitations.

First, **the data capture students reported as receiving dyslexia intervention, not students formally identified with dyslexia**. Arkansas does not report dyslexia as a distinct classification within statewide administrative data, and identification may occur under multiple pathways, including Specific Learning Disability or Section 504. As a result, these analyses reflect **service participation rather than diagnostic prevalence**.

Second, **the data do not capture key aspects of intervention**, including intensity, duration, fidelity of implementation, or specific instructional approaches. Two students reported as receiving intervention may experience substantially different supports.

Third, **we cannot distinguish between differences in need and differences in identification or access**. Representation gaps may reflect true variation in underlying reading difficulties, but they may also reflect differences in screening, referral, or service delivery practices.

Fourth, **district-level variation should be interpreted cautiously**, particularly for smaller subgroups. While minimum thresholds were applied, some observed variability may still be influenced by small numbers.

Finally, this analysis is **descriptive and not causal**. While patterns are aligned in time with policy changes and system evolution, we cannot attribute observed differences to specific policies, practices, or interventions.

Next Steps

These findings point to several important next steps for both research and system improvement.

Improve measurement and data alignment by developing mechanisms to **separately capture dyslexia identification and intervention participation**. Align reporting across screening, identification for interventions, service delivery and formal identification for dyslexia. It may be helpful to incorporate **intervention intensity and duration** into state data systems reporting.

Examine identification processes more directly by studying screening outcomes versus entry into intervention. Analyze **referral and decision rules across districts** and investigate how districts differentiate between language acquisition and reading struggles.

Link intervention to outcomes (upcoming Dyslexia Report 3) by examining growth and reading outcomes using available longitudinal student data. It may be helpful to evaluate timing and persistence of intervention.

These data underscore the need to **investigate district-level variation** perhaps by identifying high and low identification districts and conducting qualitative reviews to understand local practices. Explore whether variation reflects **resource constraints, training differences, or policy interpretation**.

Policy Considerations

These findings suggest several considerations for policymakers and education leaders.

First and foremost, it is imperative to clarify policy intent to ensure guidance clearly distinguishes between screening, intervention, and identification and requirements support the policy intent. Updated definitions of dyslexia offered by the International Dyslexia Association and reframing of dyslexia to include its complexity should be considered in clarifying the policy intent (International Dyslexia Association [IDA], 2025; Odegard, Geirka, Ormandy, 2025).

Increase consistency across districts by expanding training and guidance on dyslexia screening and intervention decision-making and support districts in implementing consistent, evidence-informed practices.

While we don't assume uniformity in the distribution of students with characteristics of dyslexia, we need to support access by monitoring groups that are consistently underrepresented and ensuring that our systems account for linguistic differences in identifying students for dyslexia interventions (Popoola, McClain, Farris, and Odegard, 2024).

Encourage districts to use representation and allocation metrics for continuous improvement and to reflect on local practices.

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VIII. Appendix

Data tables for state and regional Representation Index and Representation Gap are available upon request.

Regional variation in group representation among students receiving dyslexia interventions are presented in this appendix.

Figure A1. Gender Representation Gap by region and year.

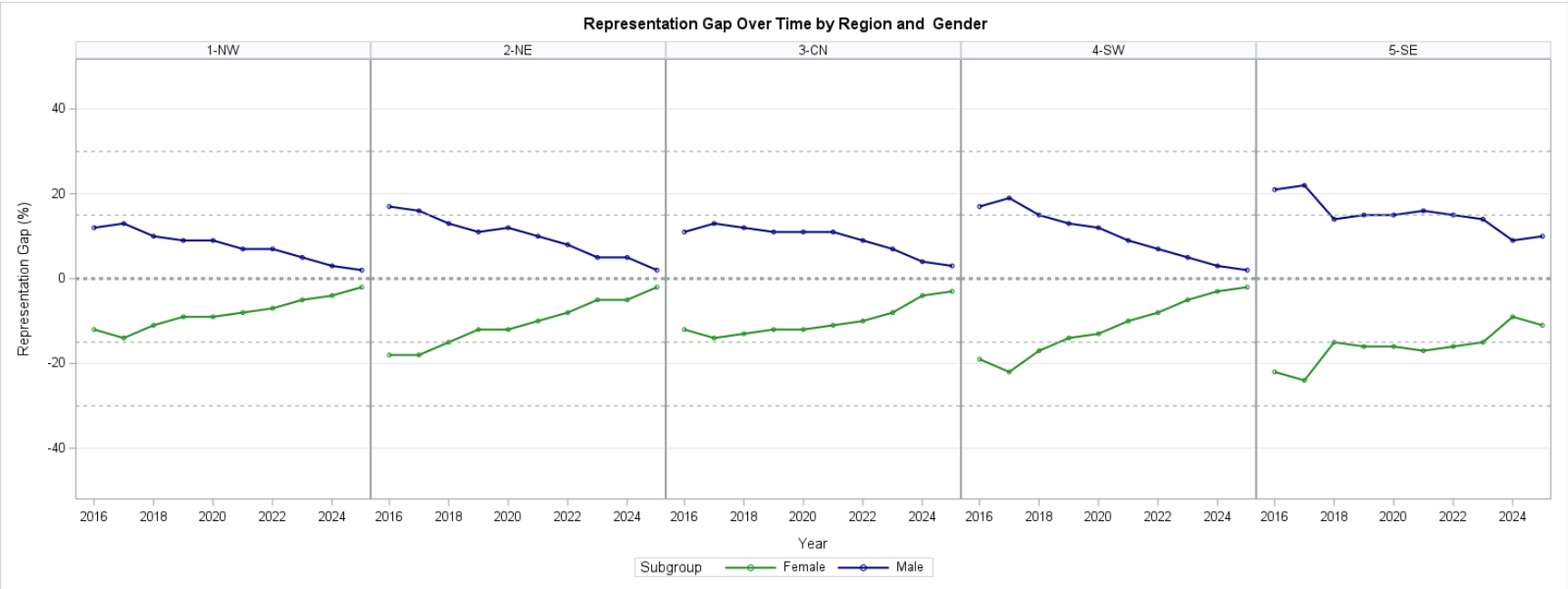


Figure A2. Race/ Ethnicity Representation Gap by region and year (part 1).

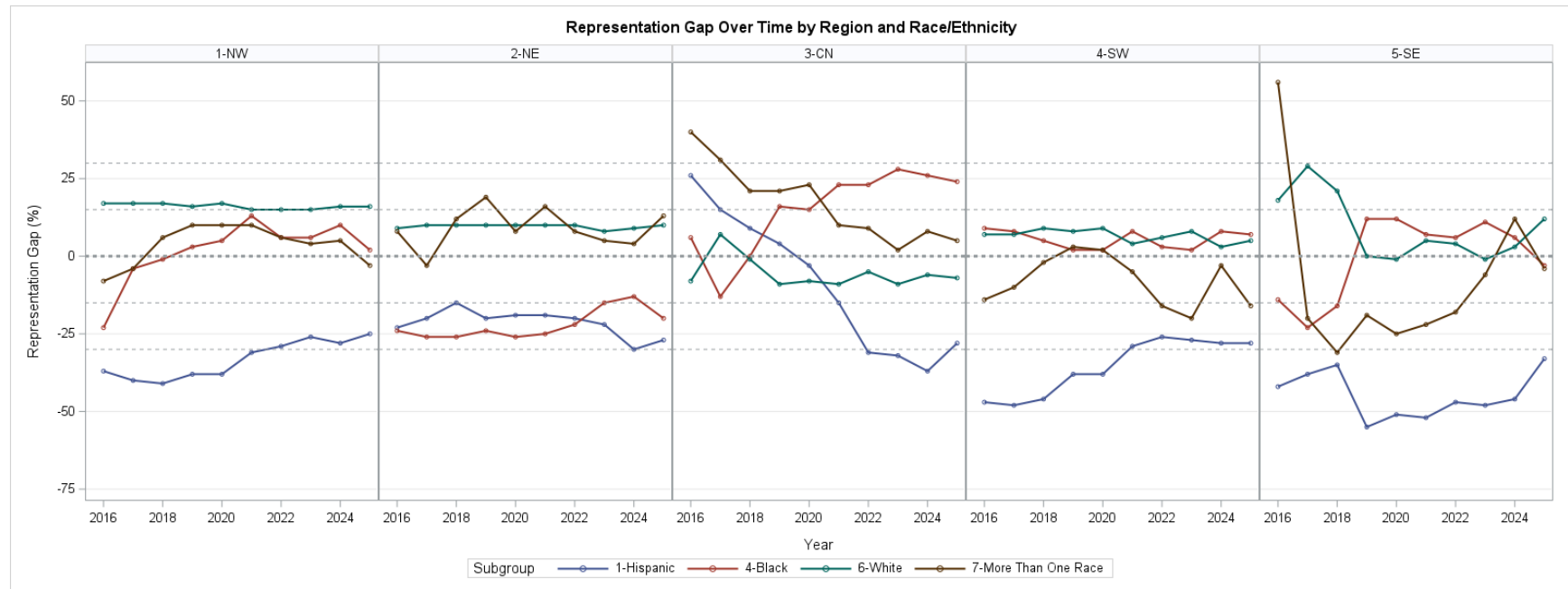


Figure A3. Race/ Ethnicity Representation Gap by region and year (part 2).

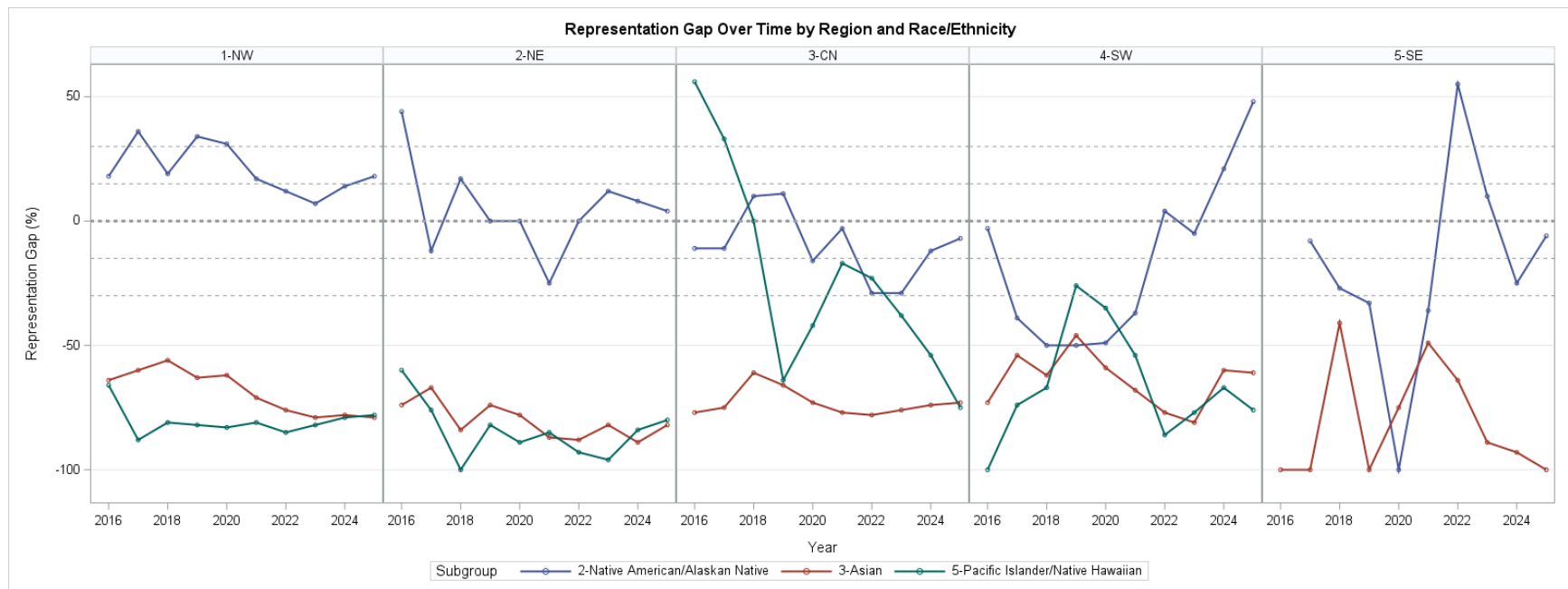


Figure A4. Economic Disadvantage Representation Gap by region and year.

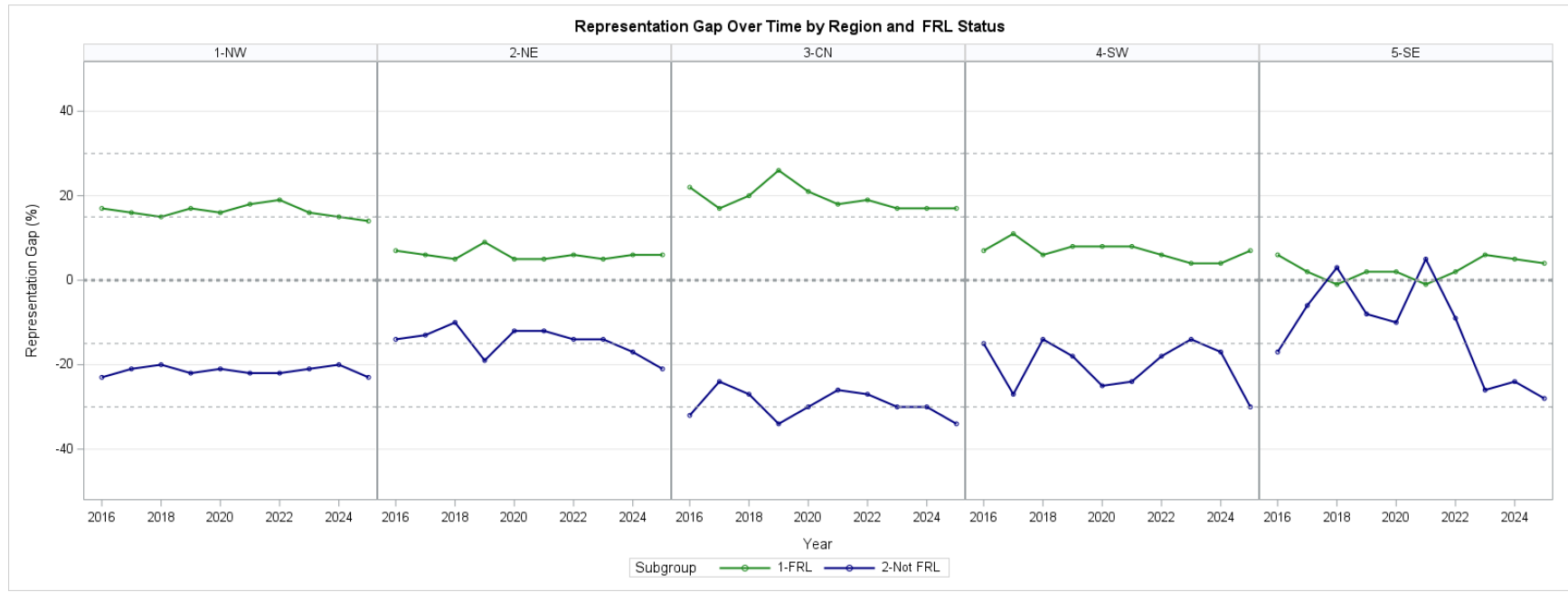


Figure A5. English Learner Representation Gap by region and year.

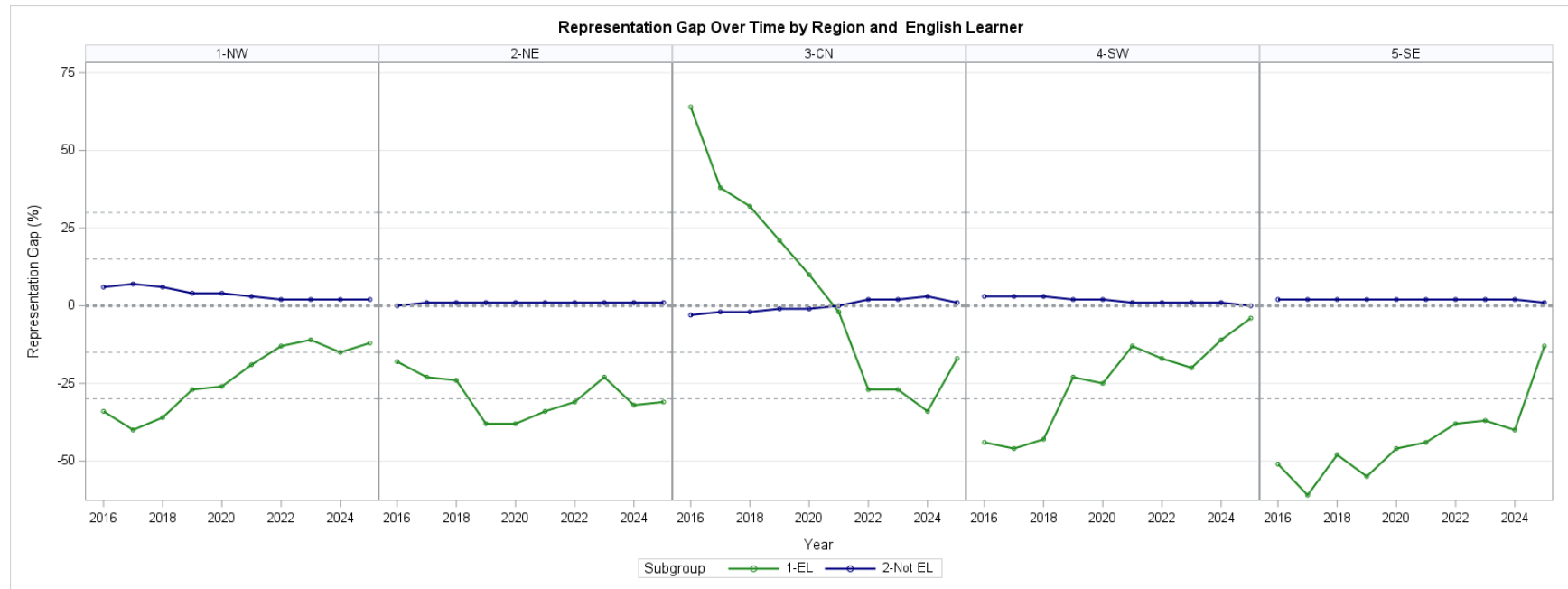


Figure A6. Special Education Representation Gap by region and year.

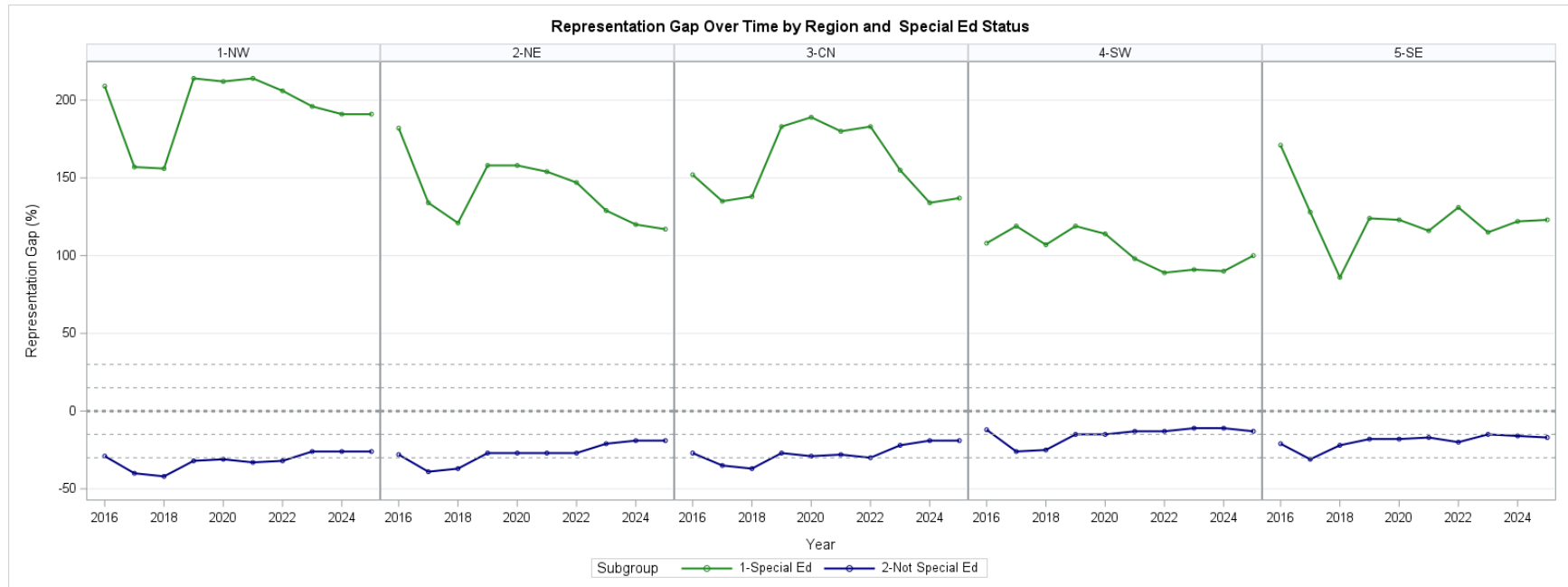


Figure A7. Gifted Representation Gap by region and year.

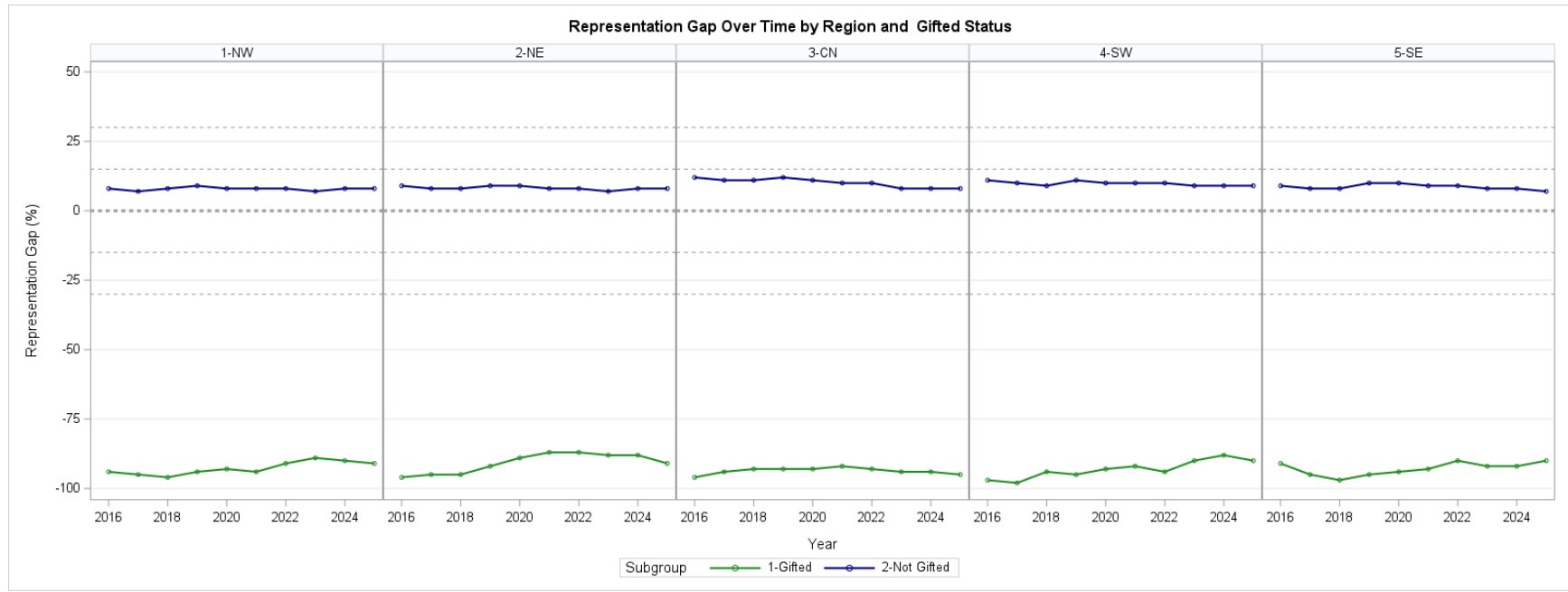


Figure A8. Homeless Representation Gap by region and year.

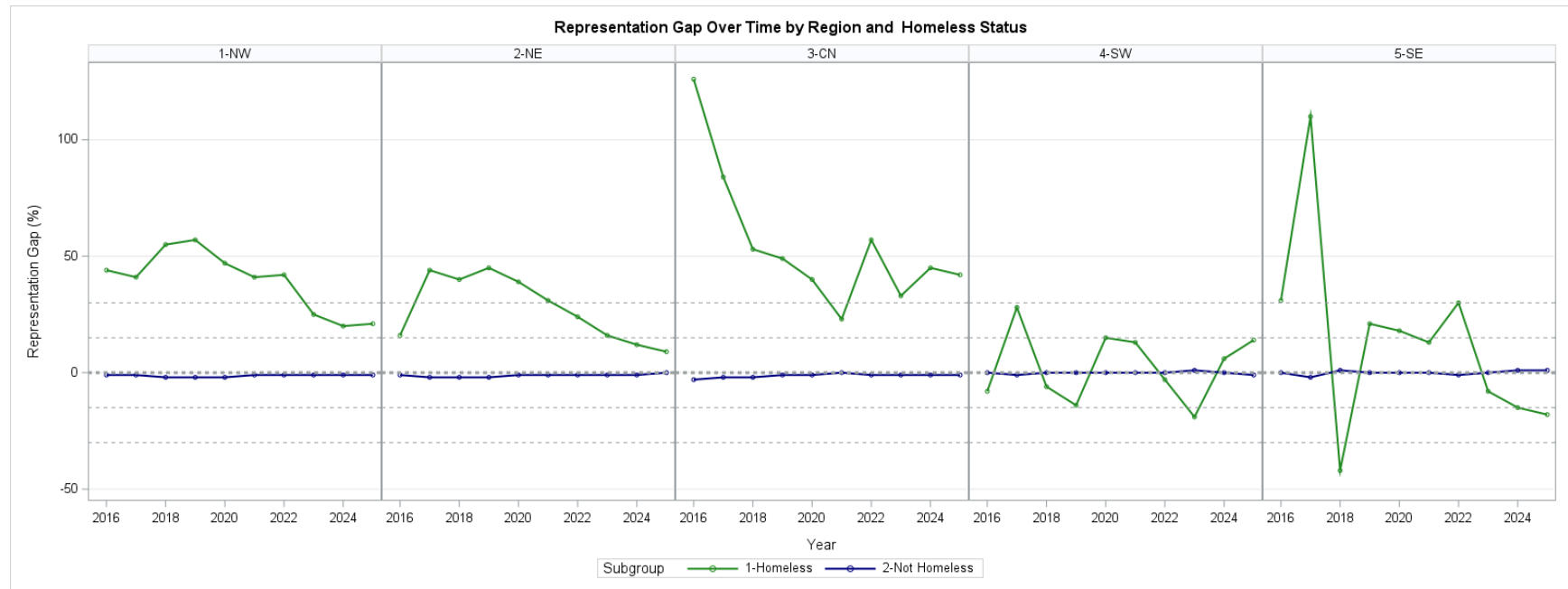


Figure A9. Foster Child Representation Gap by region and year.

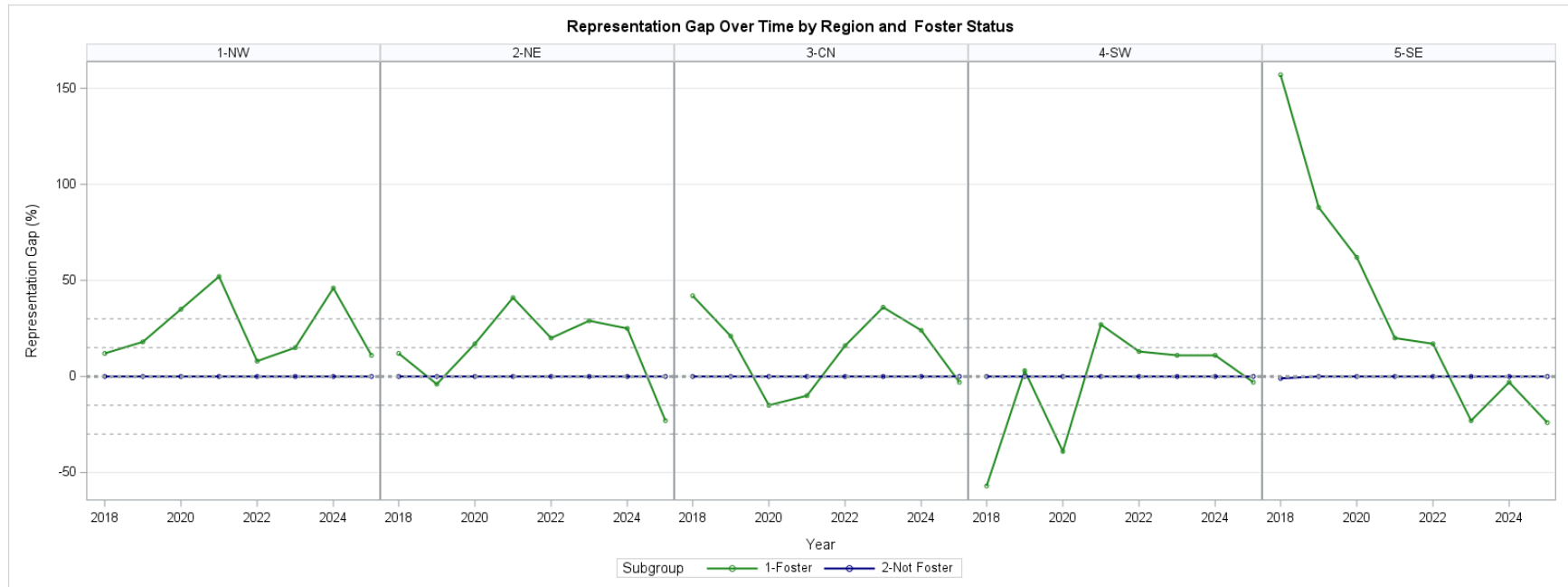


Figure A10. Migrant Representation Gap by region and year.

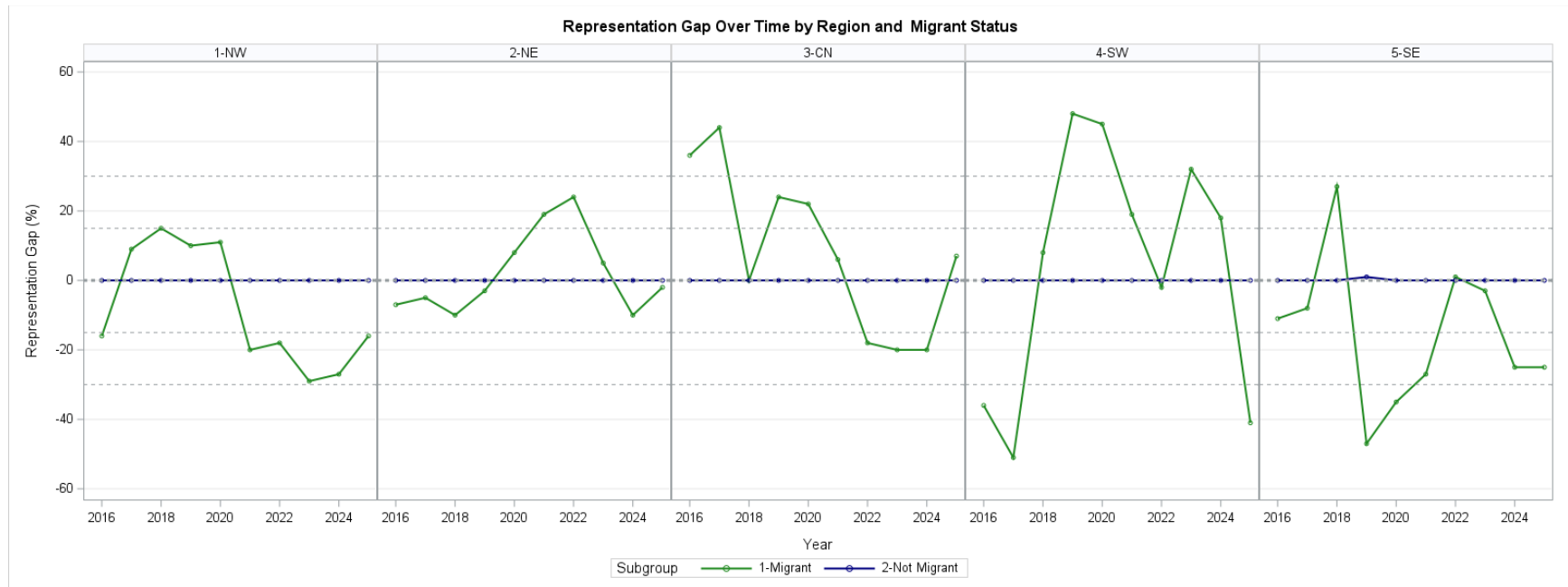


Figure A11. Military Dependent Representation Gap by region and year.

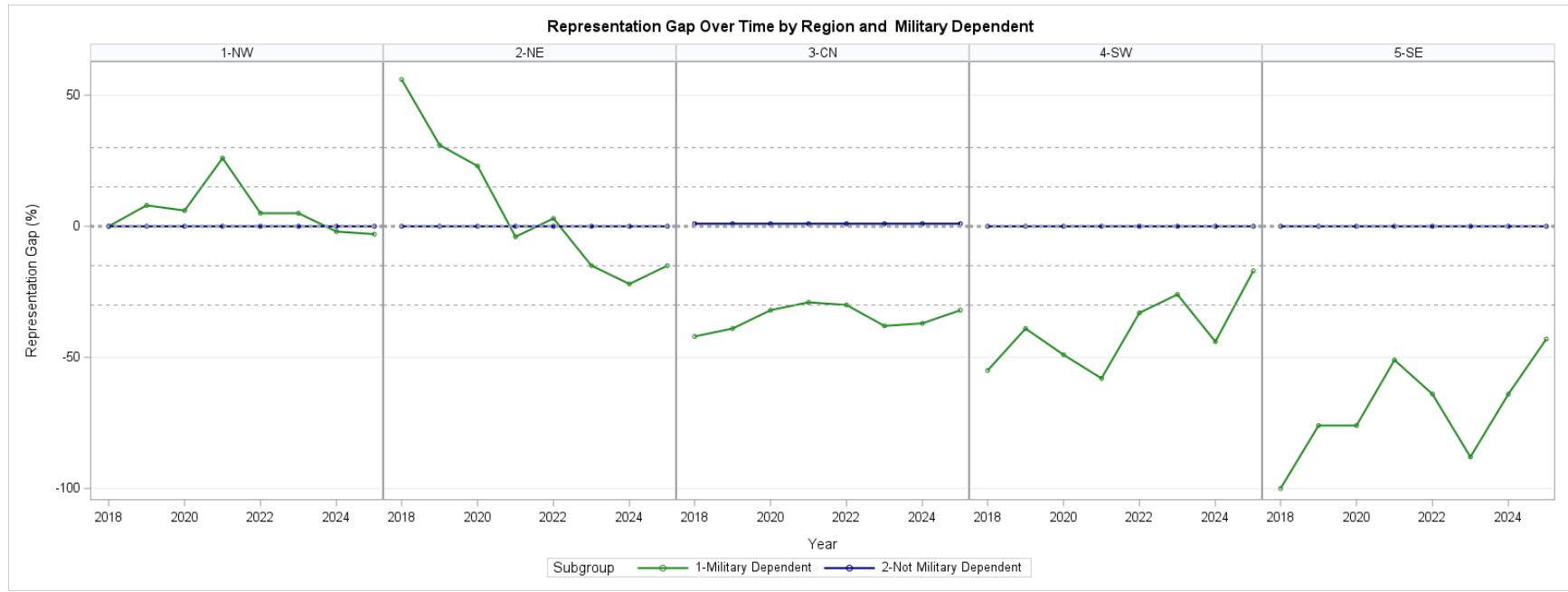


Figure A12. Former English Learners Years 1-4 Representation Gap by region and year.

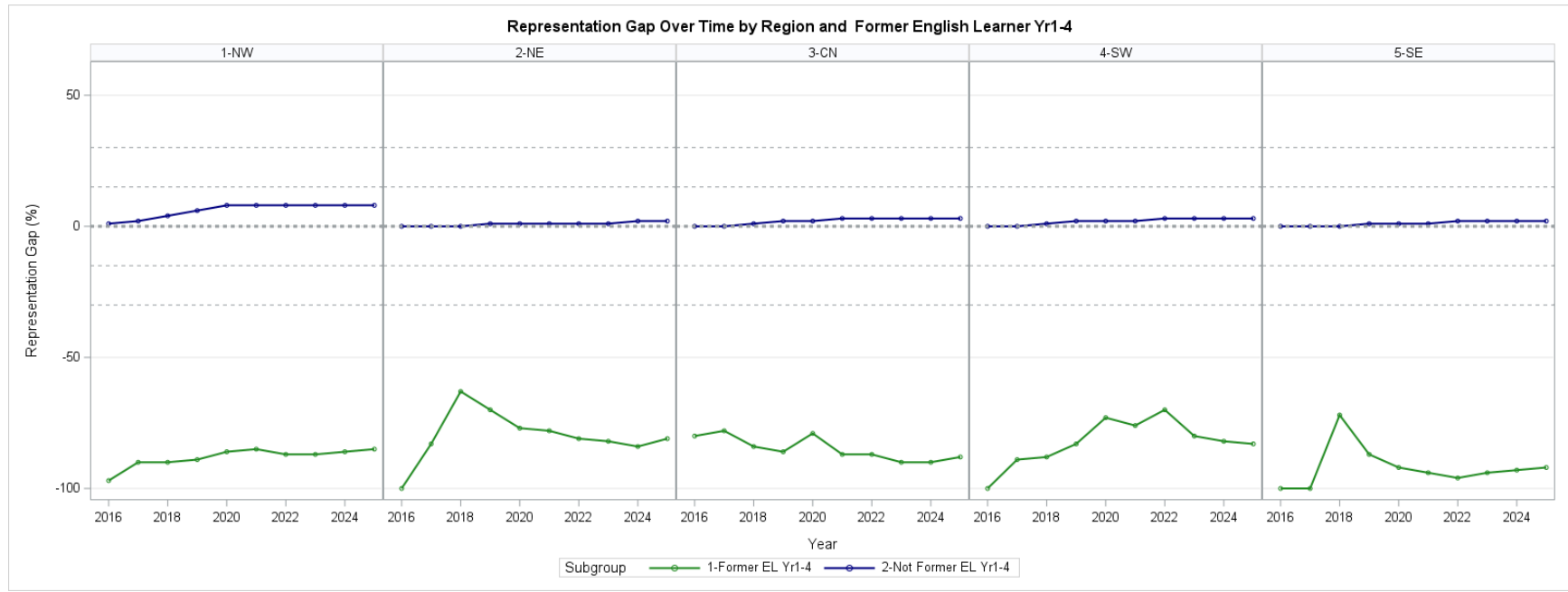


Figure A13. Recently Arrived English Learners Years 1-3 Representation Gap by region and year.

