



Sample Representativeness Analysis: Aesop Clients vs. National Norms

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To determine the degree to which the Aesop client sample was representative of school districts nationally, the Center for Research and Reform in Education (CRRE) at Johns Hopkins University analyzed and compared district demographics using 2013-14 U.S. population data from the National Center for Educational Statistics (NCES). The population consisted of 13,085 school districts with public school students and the Aesop sample of 4,390 districts, almost exactly one-third (33.5%) of the former. Comparisons were made on four major variables¹ considered most descriptive of district profiles and associated approaches to teacher professional absences for professional development (PD) and other activities:

- Percentages of students served in 12 different types of school districts (e.g., large city, mid-sized city, large suburban, remote rural, etc.)
- Percentages of districts falling into district-type categories
- Percentages of student ethnicities in the districts
- Percentages of low-income (free or reduced-price meals or FRM) in the districts

As additional comparison data, we present parallel results for the non-Aesop client sample. Because these two samples comprise the population when combined, differences between them are naturally larger than differences between either (Aesop and non-Aesop) and the population. For this report, we have reduced the summary of findings to the six most frequently represented district types, as shown in the tables below.

Results

Percentages of Students Served by District Type

This analysis showed generally high conformity between the Aesop subsample, the overall population and the non-Aesop subsample. Table 1 compares percentages for the six most frequent district types in the population, which accounts for close to 80% of all districts.

¹ Comparisons were based on data for district public schools rather than all district schools (UG, PK-12).

Table 1

Percentages of public school students served by district types

District Type	Aesop %	Non-Aesop %	Population %
Large City	11.4	21.1	16.3
Mid-size City	7.2	7.1	7.1
Small City	9.6	5.0	7.3
Large Suburb	43.5	31.7	37.5
Fringe Rural	6.8	7.2	7.0
Distant Rural	3.4	7.5	5.4

The results show that Aesop was slightly under-represented in large cities and over-represented in large suburbs with regard to the percentages of students served. Overall, these differences are modest ($\leq 6\%$), while those for the remaining four categories are noticeably smaller.

Percentages of Districts Served by District Type

This analysis showed generally high conformity between the Aesop subsample, the overall population, and the non-Aesop subsample. As shown in Table 2, the percentage of Aesop districts was over-represented in large suburbs (33.8% vs. 18.8%) and under-represented (13.0% vs. 23.2%) in distant rural locations as compared with the population. Aesop and the population were very similar in the four other district type categories.

Table 2

Percentages of districts served by district types

District Type	Aesop %	Non-Aesop %	Population %
Large City	1.8	1.6	1.7
Mid-size City	2.0	1.0	1.3
Small City	5.7	1.6	3.0
Large Suburb	33.8	11.3	18.8
Fringe Rural	12.1	11.5	11.7
Distant Rural	13.0	28.3	23.2

Percentages of Ethnic Groups Represented by District Type

This analysis examined the percentages of black, Hispanic, Asian, and White students by district type for the Aesop subsample versus the population. Overall, there was high similarity between them. For illustrative purposes, the percentages for Hispanic and White students are shown for the five most frequent district types in Tables 3 and 4, respectively. As shown, across

all districts the percentages of Hispanic students for Aesop differed by only 1.1 points from the population, and of White students by only 2.4 points. District-type comparisons also show relatively small differences.

Table 3

Percentages of Hispanic students by district type

District Type	Aesop %	Non-Aesop %	Population %
Large City	39.1	45.2	43.1
Mid-size City	28.8	33.6	31.2
Small City	22.9	26.0	24.0
Large Suburb	23.1	26.3	24.5
Fringe Rural	15.7	11.5	13.5
Distant Rural	8.4	6.8	7.8
All Districts	23.8	26.0	24.9

Table 4

Percentages of White students by district type

District Type	Aesop %	Non-Aesop %	Population %
Large City	22.3	21.2	21.6
Mid-size City	38.7	30.8	34.8
Small City	50.8	46.8	49.4
Large Suburb	53.5	45.9	50.3
Fringe Rural	70.7	73.0	71.9
Distant Rural	79.0	79.6	79.4
All Districts	53.0	48.4	50.6

Percentages of Low-Income (FRM) Represented by District Type

This analysis examined the percentages of public school FRM students by district type for the Aesop subsample versus the population. Comparability appears extremely high with a total average (across district types) of 47.7% FRM for Aesop and 51.0% FRM for the population (see Table 5). The various district-type differences are similarly small, with the highest being only 4.8 points for Mid-size Cities.

Table 5

Percentages of public school FRM students by district type

District Type	Aesop %	Non-Aesop %	Population %
Large City	68.7	67.7	68.1
Mid-size City	54.0	63.5	58.8
Small City	53.0	52.7	52.9
Large Suburb	39.8	45.7	42.3
Fringe Rural	43.9	50.2	47.2
Distant Rural	49.1	50.9	50.3
All Districts	47.7	54.3	51.0

Conclusions

Given that Aesop school district clients are self-selected rather than randomly sampled, it would be highly unusual and unexpected for them to duplicate population characteristics. However, the present statistical comparison between Aesop school districts and U.S. school district norms (as reported by the National Center for Educational Statistics) shows a high degree of comparability on four key variables examined: (a) percentages of students enrolled in different types of districts based on size and geographic location, (b) percentages of the district types represented, (c) the percentages of students of different ethnicities by district type and total, and (d) the percentages of low-income students by district types. Where differences were detected between Aesop and the population, they were small to modest in magnitude, with the most noticeable showing Aesop to be over-represented in large suburbs and under-represented in distant rural districts. Overall, these analyses suggest that, with these minor caveats, Aesop findings can be generalized with reasonable confidence to the population.