YWCA Lewiston Pool Programs 2025
Enrollment, Engagement, and Equity Snapshot

Executive Summary

Why this matters. The YWCA Lewiston pool serves as a year-round anchor for families. This brief summarizes who we reach, who returns, and who accesses structured lessons, so we can target resources, strengthen equity, and support grants.

What we see at a glance (2025):

- **Scale of use:** 917 registrations from about 320 unique people ($\sim$2.9 registrations/person).
- **Who we reach:** 63% youth; racially diverse (49% White, 38% Black; others small but present).
- **Affordability profile:** 44% of people report household income under $40k.
- **Engagement:** 21% return 4+ times; 34% take at least one lesson.

Equity takeaways:

- **Lessons are income-graded:** 26% (under $40k) vs. 49% ($80k+).
- **By race:** White (39%) and Asian (38%) have higher lesson participation than Black (24%).
- **Deep engagement (4+ visits)** is comparable for Black and White participants.

Suggested near-term actions:

- **Scholarship focus:** reserve lesson spots and fee aid for under-$40k households; pilot a "first-lesson voucher" at Family Swim.
- **Conversion nudge:** at check-in, collect lesson interest (card/QR); text 2 concrete class options afterward.
- **Small-N outreach:** partner with community orgs serving Hispanic/Latino and Asian families to preserve and grow gains.
- **Track weekly:** one-page dashboard with lesson conversion, scholarships used, and repeat engagement (4+ visits).

Contents

1 Project Overview

YWCA shared a de-identified CSV of 2025 pool registrations. We built a fully scripted pipeline that cleans the data, creates person-level estimates, and outputs charts and numeric tables for grant and program use. Because everything is in code, staff can regenerate results as new years arrive.

2 Dataset Snapshot and Participation Profile

2025 headline counts

- **917 enrollments** processed
- About **320 unique individuals**
- Average **2.87 registrations/person**

Age profile

- Youth (0–17): **62.5%**
- Adults: **37.5%**

Race composition (RaceModel)

- White: **49.1%**   Black: **38.1%**
- Other / Small N (multiracial + MENA): **7.8%**
- Asian: **2.5%**   Hispanic or Latino: **2.5%**

Income composition

- Under $40,000: **43.8%**
- $40,000–79,999: **28.4%**
- $80,000+: **27.8%**

Engagement and lessons

- **21.2%** have 4+ visits (high engagement)
- **34.1%** took at least one structured lesson

3 Who Uses the Pool? Enrollment and Participant Profile

3.1 Figure 01: Program mix (enrollment-level)

Family Swim (Drop-In) accounts for **84.4%** of registrations; lesson programs comprise **15.6%**.

What Brings Families to the Pool?
Program Mix by Category
YWCA Lewiston Pool Programs, 2025 — Enrollment-Level

Source: YWCA Lewiston pool programs (2025).
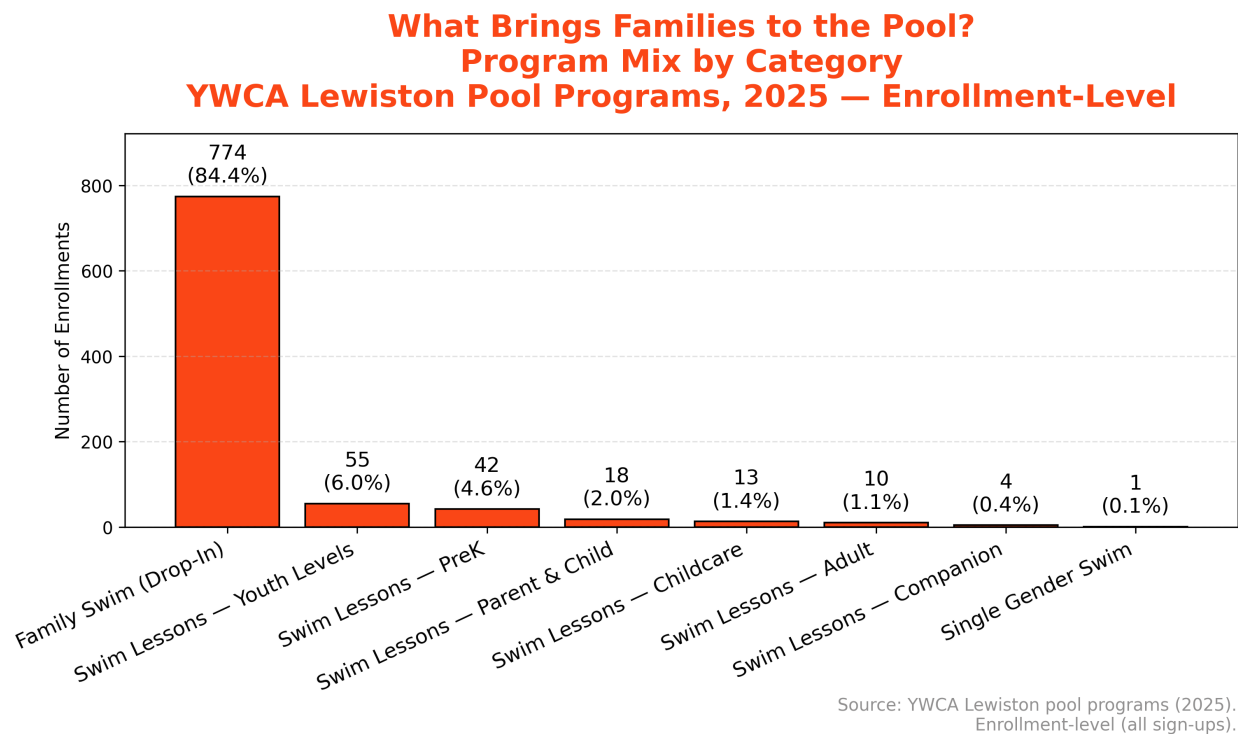Enrollment-level (all sign-ups).

Figure 1: Program mix by category (enrollment level).

3.2 Figure 02: Age distribution (person-level)

Youth dominate participation, particularly ages 0–9.

Who Reaches the Pool?
Participant Age Profile
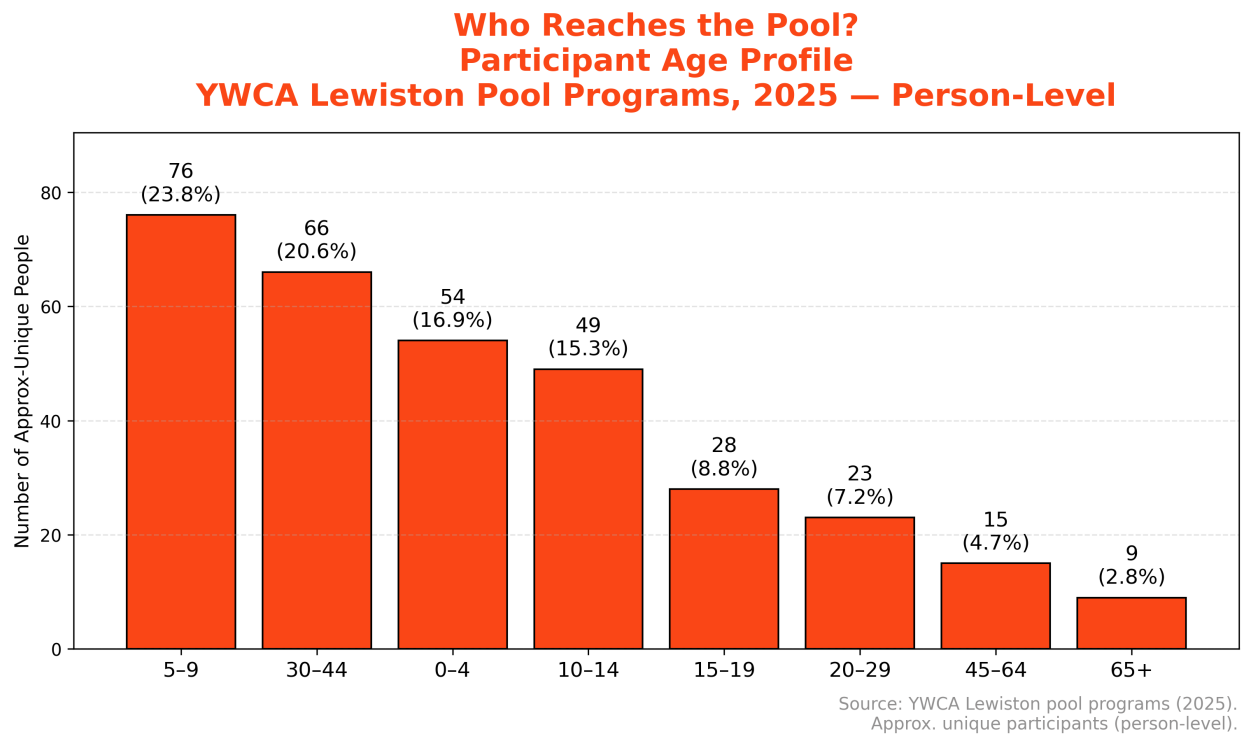**YWCA Lewiston Pool Programs, 2025 — Person-Level**

Figure 2: Age distribution of approximate unique people.

3.3 Figure 03: Income distribution

The pool serves many low-income families while also attracting middle- and higher-income households.

Who Can Afford to Swim?
Household Income Distribution of Participants
YWCA Lewiston Pool Programs, 2025 — Person-Level

Number of Approx-Unique People

- Under $40,000: 140 (43.8%)
- $40,000–79,999: 91 (28.4%)
- $80,000+: 89 (27.8%)

Source: YWCA Lewiston pool programs (2025).
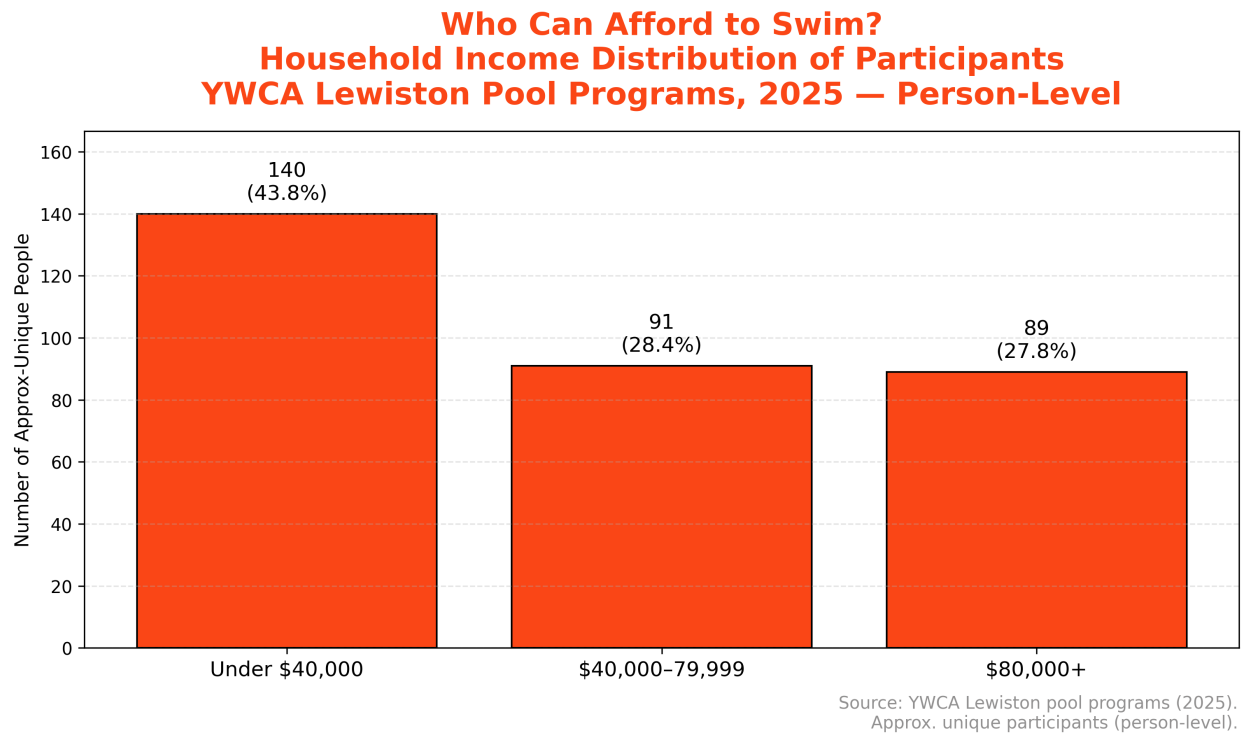Approx. unique participants (person-level).

Figure 3: Household income distribution.

3.4 Figure 04: Race composition

Half the participants are White, 38% Black; remaining groups are smaller but important.

Are We Serving a Racially Diverse Community?
Participant Racial Composition (Collapsed Categories)
YWCA Lewiston Pool Programs, 2025 — Person-Level

Number of Approx-Unique People

Category	Value
White	157 (49.1%)
Black	122 (38.1%)
Other / Small N	25 (7.8%)
Asian	8 (2.5%)
Hispanic or Latino	8 (2.5%)

Source: YWCA Lewiston pool programs (2025).
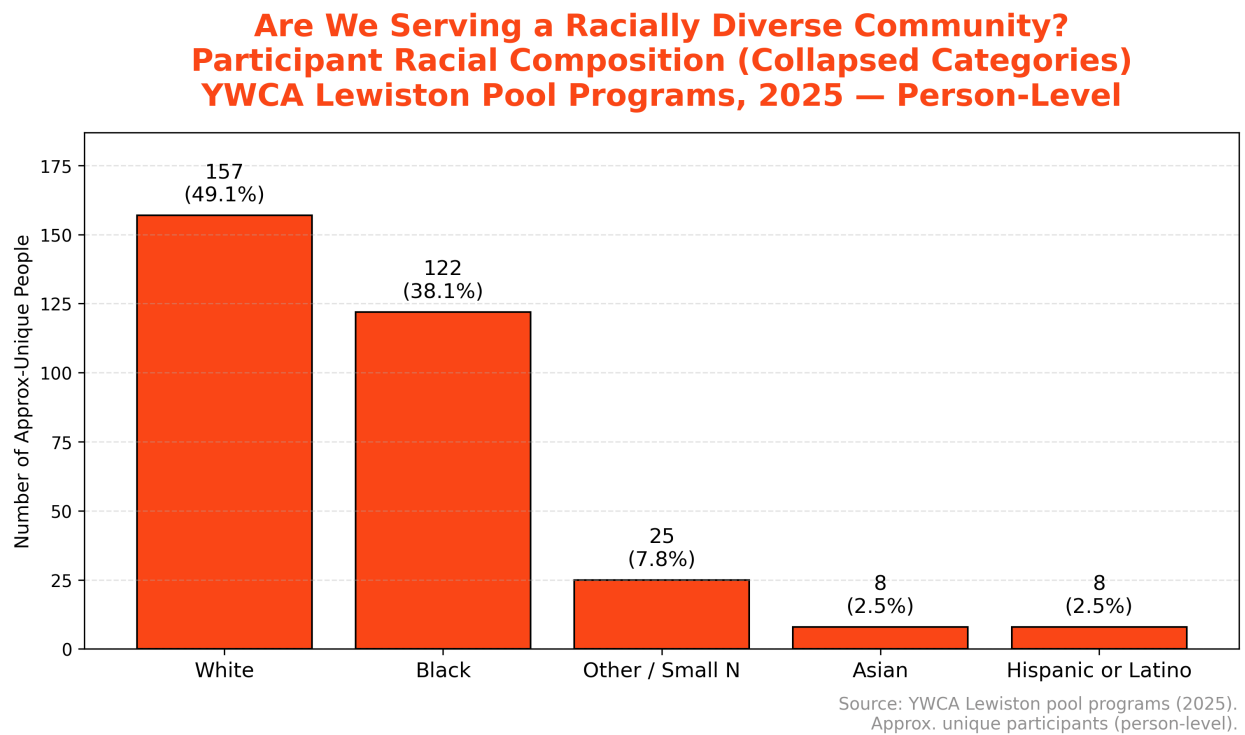Approx. unique participants (person-level).

Figure 4: Racial composition using RaceModel categories.

4 How Often Do Families Return?

4.1 Figure 05: Engagement frequency

About 47% are one-time visitors, while 21% engage deeply (4+ visits).

How Often Do Families Return?
Distribution of Repeat Engagement
YWCA Lewiston Pool Programs, 2025 — Person-Level

Source: YWCA Lewiston pool programs (2025).
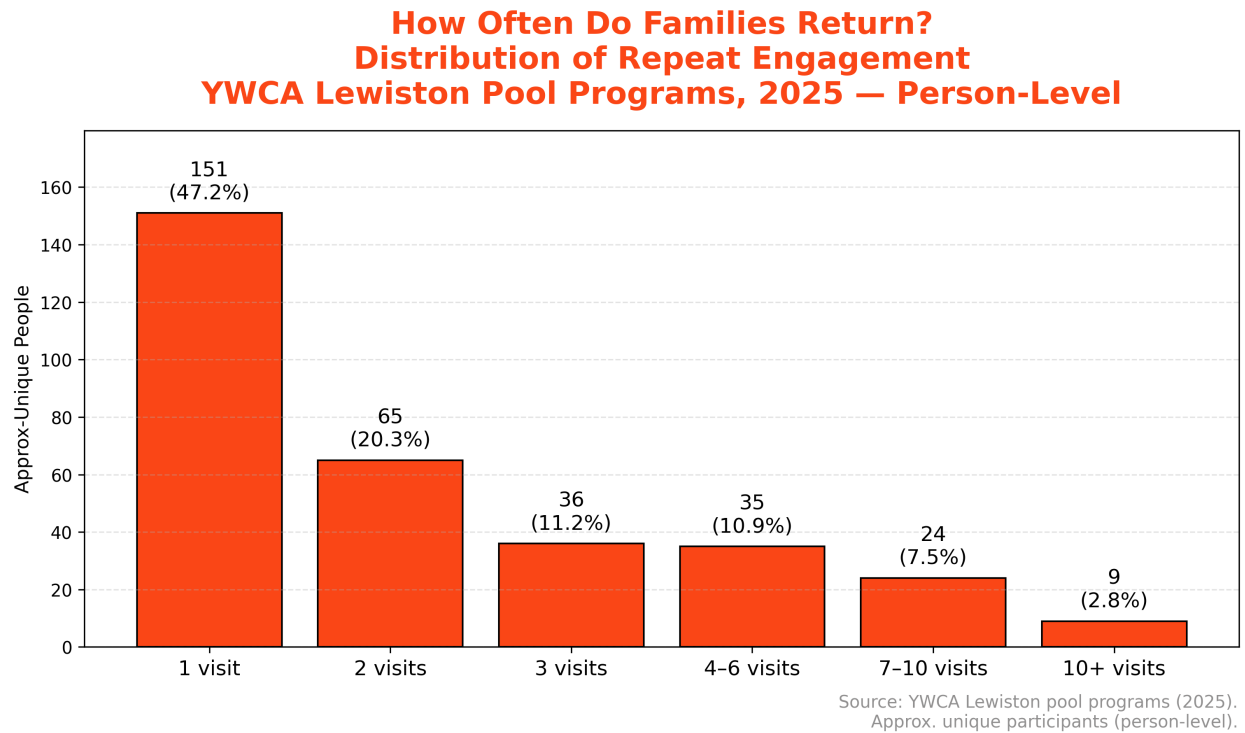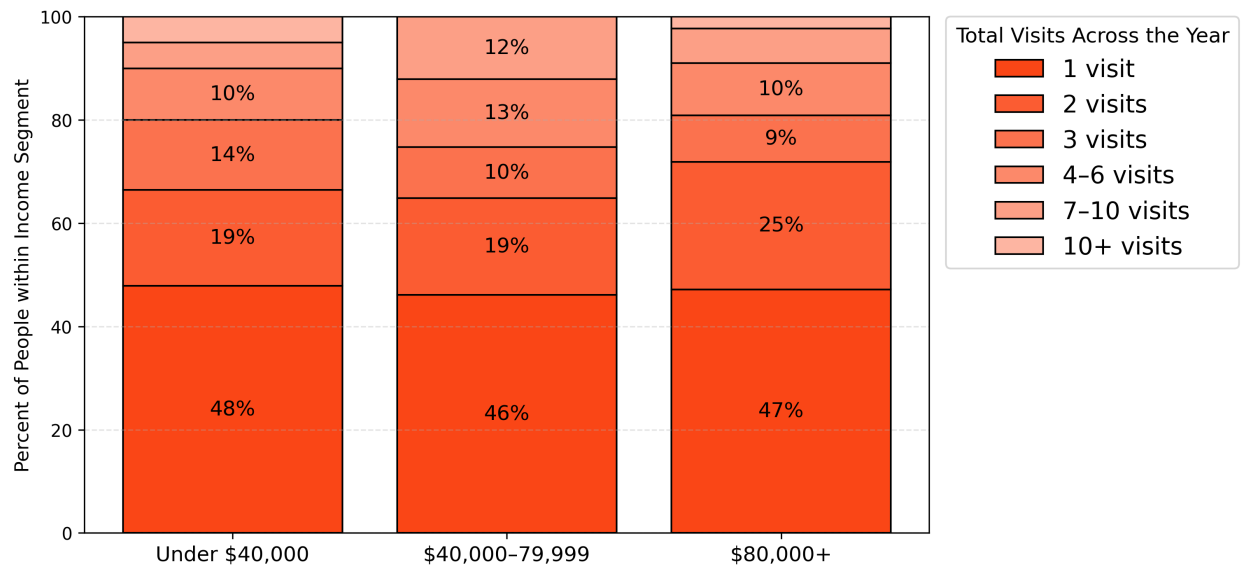Approx. unique participants (person-level).

Figure 5: Engagement frequency among approximate unique people.

4.2 Figure 06: Repeat engagement by income

Retention patterns are fairly similar across income groups.

Do Higher-Income Families Engage More Often?
Repeat Engagement Distribution by Household Income
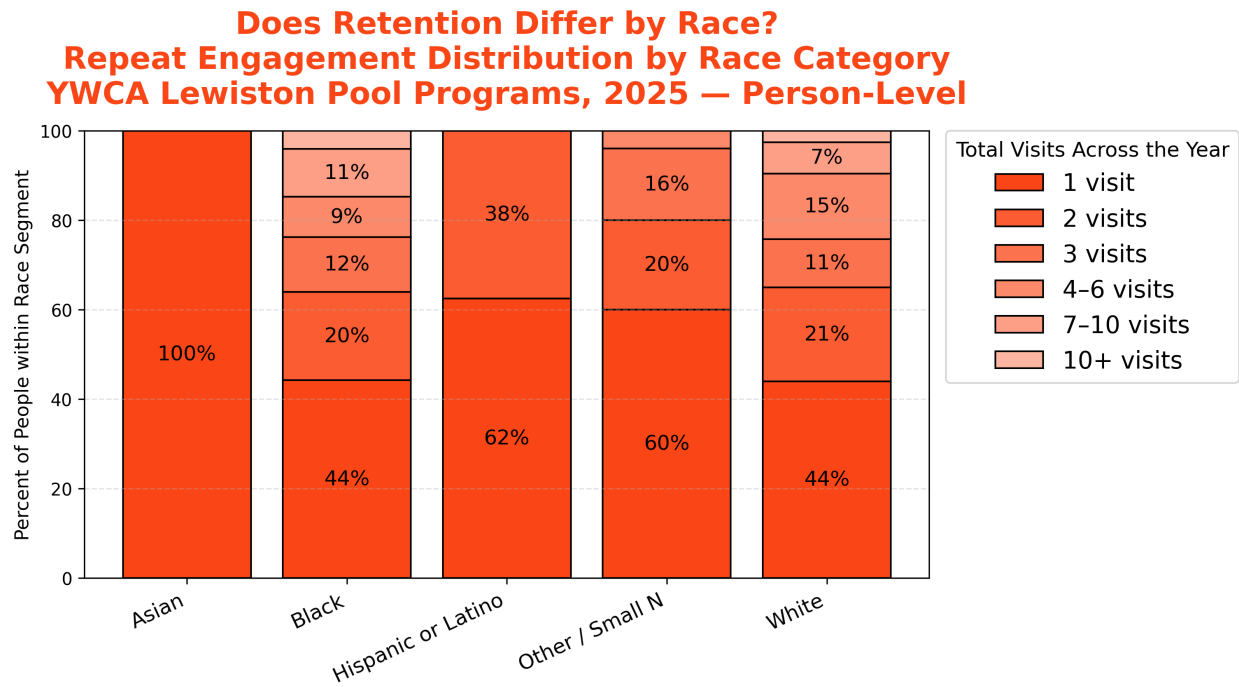**YWCA Lewiston Pool Programs, 2025 — Person-Level**

Figure 6: Repeat engagement among income buckets.

4.3 Figure 07: Repeat engagement by race

Deep engagement (4+ visits) is similar for Black (24%) and White (24%) participants; other small groups vary with small N.

Does Retention Differ by Race?
Repeat Engagement Distribution by Race Category
YWCA Lewiston Pool Programs, 2025 — Person-Level

Figure 7: Repeat engagement by race category.

5 Who Reaches Lessons?

5.1 Figure 08: Entry pathways

About two-thirds remain drop-in only; one-third participate in lessons.

**How Do Families Move Through the Pool System?
Entry & Pathways Between Drop-In and Lessons
YWCA Lewiston Pool Programs, 2025 — Person-Level**

Figure 8: Entry and pathway mix across the year.

5.2   Figure 09: Lesson participation by race

White (38.9%) and Asian (37.5%) have higher lesson participation than Black (23.8%).

Do All Racial Groups Access Lessons Equally?
Lesson Access by Race Category
YWCA Lewiston Pool Programs, 2025 — Person-Level

Source: YWCA Lewiston pool programs (2025).
Enrollment-level (all sign-ups).
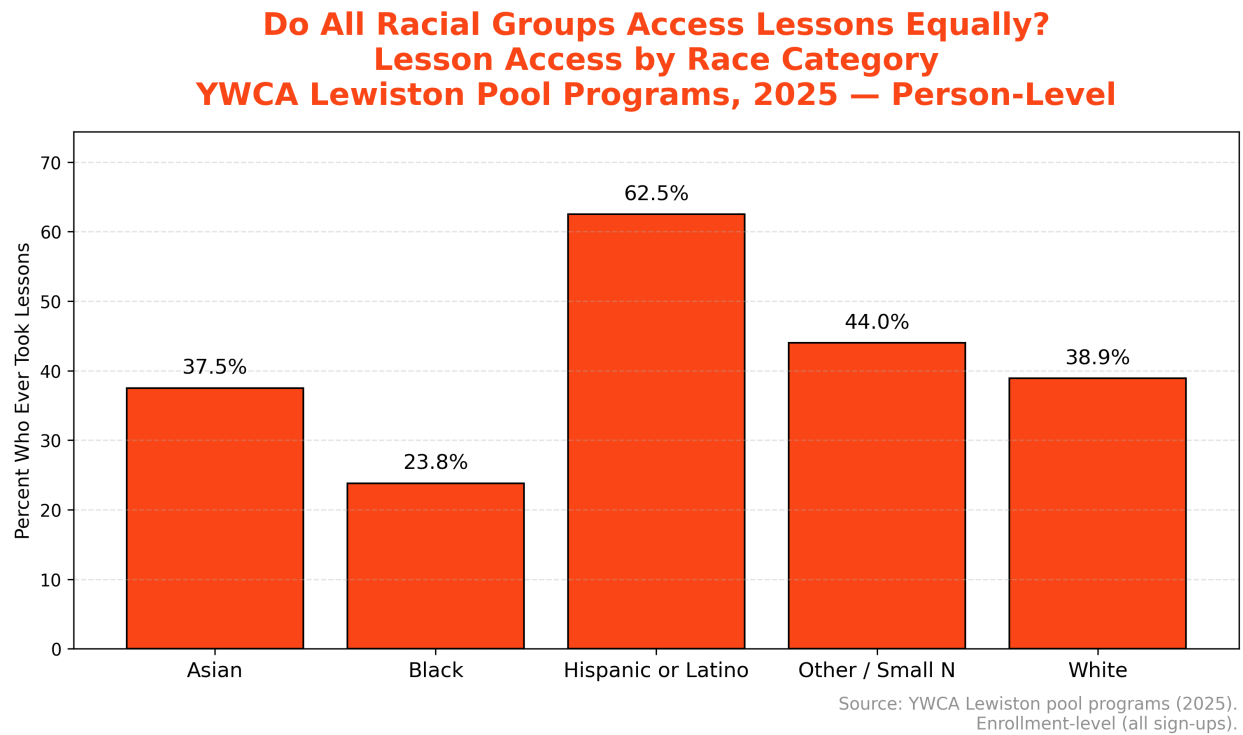
Figure 9: Lesson participation by race.

5.3 Figure 10: Lesson participation by income

Lesson access is income-graded: Under $40k (25.7%), $40k–79k (31.9%), $80k+ (49.4%).
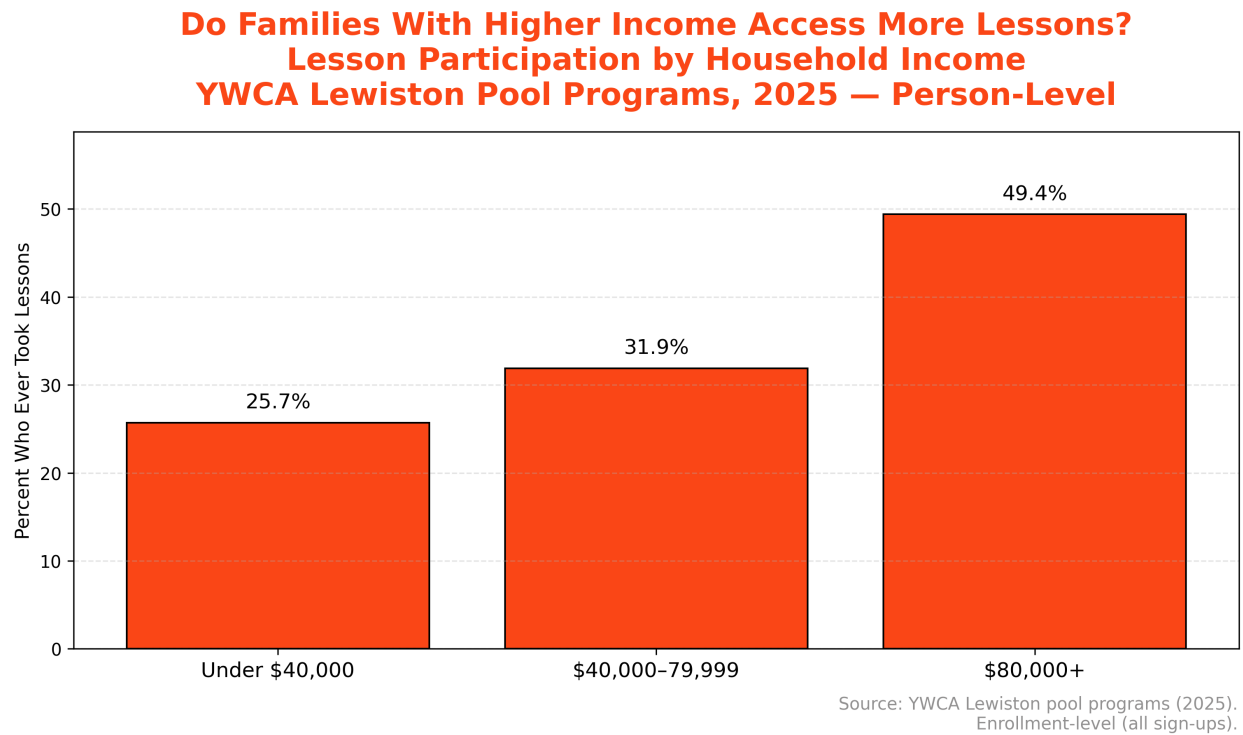
Do Families With Higher Income Access More Lessons?
Lesson Participation by Household Income
YWCA Lewiston Pool Programs, 2025 — Person-Level

Figure 10: Lesson participation by household income.

6 How to Re-Run and Tweak Charts (Beginner Guide)

Re-run everything

1. Place the 2025 CSV at `data/raw/PoolDemographics_2025.csv`.
2. Run: `python src/run_analysis.py`
3. New figures appear under `outputs/pdf`, `outputs/slides`, and `outputs/web`.

Plotting functions (all parameters listed)

`make_bar_chart(...)` — **single-series bars**

- `series` (*required*): categories (if computing counts) or a `Series`/dict with pre-computed values.
- `fname_base` (*required*): `next_fig_name("file name in quotes here (no extension)")`
  e.g., `next_fig_name("program_mix"`
- `line1`, `line2`, `level_label` (*required*): title lines and small context tag (e.g., "Enrollment-Level").
- `use_value_counts` (default `True`): if `True`, compute counts from raw categories; if `False`, treat values as provided.
- `value_is_percent` (default `False`): when `use_value_counts=False`, set `True` if values are percents (labels will use %).
- `style` (default `PlotStyle()`): global visual style (fonts, colors). See *PlotStyle fields* below.
- `layout` (default `Layout()`): geometry/spacing (size, footer, legend, axes). See *Layout fields* below.
- `ylabel` (default "Number of People"): y-axis label text.
- `show_percent` (default `True`): with counts, also show % under each bar's value.
- `show_values` (default `True`): draw value labels on bars.
- `annot_offset` (default `6.0`): pixels to nudge labels above bar tops.
- `label_map` (default `None`): optional dict to rename/shorten x labels (applied before wrap/truncate).

`make_stacked_percent_chart(...)` — **100% stacked bars**

- `table` (*required*): row-normalized (% by row) `DataFrame` (e.g., `pd.crosstab(..., normalize="index")*100`
- `fname_base`, `line1`, `line2`, `level_label` (*required*): same purpose as above.
- `style` (default `PlotStyle()`): fonts/colors for bars, text, legend.
- `layout` (default `Layout()`): size, footer reservation, legend placement, x-tick handling, etc.
- `ylabel` (default "Percent of People within Group"): y-axis label text (0–100).
- `legend_title` (default empty): legend title (e.g., "Total Visits Across the Year").

PlotStyle fields (visual style)

```
PlotStyle( bar_color, edge_color, grid_alpha, title_color,
        font_title, font_axis, font_tick, font_annot,
        legend_font, legend_title_font, footer_font, footer_color)
```

- **Colors:** `bar_color`, `edge_color`, `title_color`, `footer_color`; grid transparency via `grid_alpha`.
- **Fonts (pt):** `font_title`, `font_axis`, `font_tick`, `font_annot`, `legend_font`, `legend_title_font`, `footer_font`.

Layout fields (geometry, spacing, legends)

```
Layout( figsize, fig_scale, dpi, title_pad,
      show_footer, footer_x, footer_y, footer_reserved, use_footer_slot,
      rotate_x, wrap_width, truncate_after, tick_align_right_when_rotated,
      ylim, ylim_pad,
      legend_outside, legend_loc, legend_bbox_to_anchor,
      use_constrained_layout, suppress_tight_warnings, bbox_tight,
      margin_left, margin_right, margin_bottom, margin_top)
```

- **Figure size & DPI:** `figsize=(W,H)`, `fig_scale`, `dpi`.
- **Titles:** `title_pad` controls gap above plot.
- **Footer:** `show_footer` (on/off), `footer_x`/`footer_y` (position), `footer_reserved` (vertical space held), `use_footer_slot` (reserve a grid row so footers never collide).
- **X labels:** `rotate_x` (degrees), `wrap_width` (characters per line; `None`=no wrap), `truncate_after` (max characters; adds ellipsis), `tick_align_right_when_rotated` (anchor right when rotated).
- **Y axis:** `ylim=(ymin,ymax)` (manual), `ylim_pad` (headroom multiplier when auto).
- **Legend (stacked):** `legend_outside` (True puts legend outside), `legend_loc`, `legend_bbox_to_anchor`.
- **Engines:** `use_constrained_layout` (recommended), `suppress_tight_warnings`, `bbox_tight` (tight bounding box when saving).
- **Manual margins:** `margin_left/right/bottom/top` only used when `use_constrained_layout=False`.

Global vs per-figure tweaks

Global (affects all figures). In `src/run_analysis.py`, set:

```
BASE_STYLE = PlotStyle(font_title=18, font_axis=10, font_tick=8, footer_font=8, ...)
BASE_LAYOUT = Layout(figsize=(10,6), footer_reserved=0.09, rotate_x=0, ylim_pad=1.15, ...)
```

All plots that pass `style=BASE_STYLE` and `layout=BASE_LAYOUT` will inherit these.

Per-figure (override just one). Use `dataclasses.replace`:

```
make_bar_chart(
  ...,
  style=replace(BASE_STYLE, font_title=16, footer_font=9),
  layout=replace(BASE_LAYOUT, rotate_x=25, ylim_pad=1.30, footer_reserved=0.11)
)
```

Common tweaks you may want

- **Labels overlap?** Increase `rotate_x` (e.g., 15 or 25) or pass a `label_map` to shorten names; consider `wrap_width`.
- **Value labels clip at the top?** Raise `ylim_pad` (e.g., $1.25 \rightarrow 1.35$) or set `ylim=(0, 1100)` manually.
- **More space for footers?** Increase `footer_reserved` (e.g., $0.09 \rightarrow 0.12$) or lower `footer_y`.
- **Fonts too big/small?** Tweak `font_title`, `font_axis`, `font_tick`, `footer_font` in `PlotStyle`.
- **Legend crowding stacked bars?** Keep `legend_outside=True` and adjust `legend_bbox_to_anchor`.
- **Truncate long labels?** Set `truncate_after` in Layout (e.g., 18) and/or `wrap_width` (e.g., 12).

7   Summary and Next Steps

Four themes stand out:

- The pool reaches economically and racially diverse households.
- Lower-income and Black families are less likely to reach structured lessons.
- Children benefit most from lessons; adults primarily use drop-in swim.
- Repeat engagement is stable across demographics and strong for older youth.

Because the analysis is scripted, the same report can be regenerated for future years—enabling tracking and evaluation over time.

Appendix A: Numeric Tables by Figure

A.1 Figure 01 – Program mix by category (enrollment-level)

Program category	Count	Percent
Family Swim (Drop-In)	774	84.4%
Swim Lessons — Youth Levels	55	6.0%
Swim Lessons — PreK	42	4.6%
Swim Lessons — Parent & Child	18	2.0%
Swim Lessons — Childcare	13	1.4%
Swim Lessons — Adult	10	1.1%
Swim Lessons — Companion	4	0.4%
Single Gender Swim	1	0.1%

A.2 Figure 02 – Age distribution (person-level)

Age band	Count	Percent
0–4	54	16.9%
5–9	76	23.8%
10–14	49	15.3%
15–19	28	8.8%
20–29	23	7.2%
30–44	66	20.6%
45–64	15	4.7%
65+	9	2.8%

A.3 Figure 03 – Household income buckets (person-level)

Income bucket	Count	Percent
Under $40,000	140	43.8%
$40,000–79,999	91	28.4%
$80,000+	89	27.8%

A.4 Figure 04 – Racial composition (RaceModel, person-level)

RaceModel category	Count	Percent
White	157	49.1%
Black	122	38.1%
Other / Small N	25	7.8%
Asian	8	2.5%
Hispanic or Latino	8	2.5%

A.5 Figure 05 – Engagement frequency (person-level)

Engagement bin	Count	Percent
1 visit	151	47.2%
2 visits	65	20.3%
3 visits	36	11.2%
4–6 visits	35	10.9%
7–10 visits	24	7.5%
10+ visits	9	2.8%

A.6 Figure 06 – Repeat engagement by income (percent within income group)

Income bucket	1 visit	2 visits	3 visits	4–6 visits	7–10 visits	10+ visits
Under $40,000	47.9%	18.6%	13.6%	10.0%	5.0%	5.0%
$40,000–79,999	46.2%	18.7%	9.9%	13.2%	12.1%	0.0%
$80,000+	47.2%	24.7%	9.0%	10.1%	6.7%	2.2%

A.7 Figure 07 – Repeat engagement by race (percent within race group)

RaceModel	1 visit	2 visits	3 visits	4–6 visits	7–10 visits	10+ visits
Asian	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Black	44.3%	19.7%	12.3%	9.0%	10.7%	4.1%
Hispanic or Latino	62.5%	37.5%	0.0%	0.0%	0.0%	0.0%
Other / Small N	60.0%	20.0%	16.0%	4.0%	0.0%	0.0%
White	43.9%	21.0%	10.8%	14.6%	7.0%	2.5%

A.8 Figure 08 – Entry & pathway categories (person-level)

Pathway type	Count	Percent
Stayed Family Swim Only	211	65.9%
Entered via Lessons	109	34.1%

A.9 Figure 09 – Lesson participation by race (percent with ≥ 1 lesson)

RaceModel	Percent with ≥ 1 lesson
Asian	37.5%
Black	23.8%
Hispanic or Latino	62.5%
Other / Small N	44.0%
White	38.9%

A.10 Figure 10 – Lesson participation by income (percent with ≥ 1 lesson)

Income bucket	Percent with ≥ 1 lesson
Under $40,000	25.7%
$40,000–79,999	31.9%
$80,000+	49.4%