

Stakeholder Report: What's the Impact of the Training Program?

1. Summary of Findings:

We estimate that the advanced sales training program increased second-year sales by approximately **+19.2 units** for employees near the eligibility threshold. This effect is large relative to baseline, precise, and statistically significant.

2. Describe the modeling approach and critical assumptions for causality:

Regression Discontinuity Design:

We used a regression discontinuity (RD) approach. Employees who had at least **40 sales** in year 1 were invited to the training program. This threshold created a sharp rule for assignment that we can use like a natural experiment. By comparing employees just above and just below this cutoff, we estimate the **local treatment effect** for those near the threshold.

Assumption: Local Randomness Around the Cutoff:

We believe employees just above and just below the 40-sale threshold are statistically similar in skill and other characteristics — the main difference is whether they received training. This lets us treat the threshold as “**as-if random**” for employees near the cutoff.

3. Robustness Checks to Support the Causal Claim:

Bandwidth Sensitivity:

We tested our results using two different bandwidths (± 10 and ± 5 sales around the threshold) and got nearly identical effect estimates (19.18 vs 19.26), showing that the result is not sensitive to the choice of window size.

Covariate Balance:

We looked at other observed employee characteristics, such as whether they worked part-time. In the full sample, there were differences between trained and untrained groups. But within the ± 10 window around the 40-sale threshold, the **share of part-time workers was identical** across groups, supporting the local randomness assumption.

Placebo Test:

To rule out the possibility that we were just picking up noise or pre-existing differences, we ran a placebo test using a fake cutoff at 30 (only among employees who did *not* get training). This placebo RD returned a **near-zero, non-significant effect**, which supports the validity of our main result.

4. What This Means for the Business:

The training program has a meaningful and measurable impact on employee performance for those around the 40-sale mark. While the RD design only gives us a local effect near the cutoff, this is a strong signal that the program is working—and may be worth expanding or targeting even more strategically.