

Percentage Point Change and Percent Change

If you have ABCDE outcome statements that use the Option 2 type of degree statement (percent change for the group) or Option 3 (individual-level change), you will need to calculate change—usually from pre-program to post-program. This requires a few more analysis steps than the Option 1 type of degree statement, which simply looks at whether or not a post-program target was reached (e.g., “at least 80% of students”).

1. How to calculate percentage-point change for pre/post-test results

$\text{Post-Test Percent} - \text{Pre-Test Percent} = \text{Percentage-Point Change}$

Example (group percentage-point change): “By the end of the program, there will be an *increase of at least 30 percentage points* in the proportion of MOST Club participants who report they are “somewhat” or “very” confident in their ability to confront a friend who is saying harmful things about women and girls, as measured by the MOST pre/post-test survey.”

Percent who are “somewhat” or “very” confident		Percentage-Point Change
Pre-Test	Post-Test	
55%	85%	30%

$85\% - 55\% = 30 \text{ percentage-point increase}$

2. How to calculate percent change (“change rate”) for pre/post-test results

<p>Change Rate Formula:</p> $\frac{\text{New Value} - \text{Old Value}}{\text{Old Value}} \times 100\%$	<p>Applied to Pre/Post-Test Results:</p> $\frac{\text{Post-Test Percent} - \text{Pre-Test Percent}}{\text{Pre-Test Percent}} \times 100\%$
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Example (group change rate): “By the end of the program, there will be *at least a 20% increase* in the proportion of MOST Club participants who report they are “somewhat” or “very” confident in their ability to confront a friend who is saying harmful things about women and girls, as measured by the MOST pre/post-test survey.”

$$\frac{85\% - 55\%}{55\%} \times 100\% = 55\% \text{ increase}$$

3. How to calculate individual-level change

Example (individual-linked change): “At least 85% of Incredible Years Dinosaur School participants will demonstrate an improvement of 5 or more points in their Self-Control Score at the post-program assessment compared to the baseline, as measured by the Devereaux Early Childhood Assessment (DECA).”

- Step 1: Administer the DECA at baseline and post-program, record item scores linked by individual child, and calculate the Self-Control Score for each child at each point in time.
- Step 2: Count the total number of children with two completed Self-Control assessments; this is your denominator.
- Step 3: Count the total number of children whose post-program Self-Control Score was 5 or more points higher than their baseline Self-Control Score; this is your numerator.
- Step 4: Calculate the percent of children who achieved the increase of 5 or more points.

$\frac{\text{Number of children with post-program Self Control Score 5 or more points higher than baseline score}}{\text{Total number of children with two completed Self-Control Assessments}} \times 100\%$

36 children with ≥ 5 -point increase
 ----- X 100% = 90% of children demonstrated an improvement of ≥ 5 points
 40 children completed both assessments

Example (retrospective pre-then-post-test item): “By the end of the program, at least 60% of “Flirting or Hurting?” participants will report *increased awareness that* sexual harassment can be harmful (any improvement from “before” to “after”), as measured by the Post-Test Survey (retrospective format).”

Before this program...	Definitely Yes	Probably Yes	Probably Not	Definitely Not
I understood that sexual harassment could be very harmful.	1	2	3	4

Now, as a result of this program...	Definitely Yes	Probably Yes	Probably Not	Definitely Not
I understand that sexual harassment can be very harmful.	1	2	3	4

- Step 1: Count the total number of students who filled out both of these questions; this is your denominator.
- Step 2: Count the total number of students who made any improvement from “before” to “after;” this is your numerator. For example, students who went from “probably not” to “definitely yes,” or from “definitely not” to “probably yes.” You can manually identify the students who made any improvement (“eyeball analysis”), or if you have the capability you can enter the results into Excel or SPSS and compute changes.
- Step 3: Calculate the percent of students who made any improvement

$\frac{\text{Number of students who made any improvement from “before” to “after”}}{\text{Number of students who filled out both “before” and “after” questions}} \times 100\%$

60 made improvement
 ----- X 100% = 60% of students reported increased awareness
 100 answered both questions