Program Evaluation Essentials
Evaluation Support 2.0

Session 3

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Rochester, New York

Evaluation Support 2.0

Sponsored by the *Bruner Foundation www.evaluativethinking.org and Evaluation Services www.evaluationservices.co*

Free evaluation training and technical assistance focused on development of evaluative capacity including data analysis and reporting.

➢ Four (4), on-site, hands-on training sessions.

➢ Introduction to and use of free/low-cost tools to facilitate data entry, management and analysis.

➢ Guided evaluation project required.

➢ Virtual conference with funder, other organization participants.

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What do you need to do to conduct Evaluation?

▶ Specify key evaluation questions

   ▶ Specify an approach (evaluation design)

      ▶ Apply evaluation logic

         ▶ Collect and analyze data

            ▶ Summarize and share findings

What happens after data are collected?

1. Data are entered, managed and analyzed according to plans. Results/findings are summarized.

2. Findings must be converted into a format that can be shared with others.

3. Action steps should be developed from findings.

"Now that we know _____ we will _____."

Plan your Analysis in Advance!

- What procedures will be conducted with each set of data and who will do them?
- How will data be coded and recoded?
- How will data be disaggregated (i.e. "broken out for example by participant characteristics, or time).
- How will missing data be handled.
- What analytical strategies or calculations will be performed (e.g., frequencies, cross-tabs).
- How comparisons will be made.
- Whether/which statistical testing is needed.

Analyzing Quantitative Data

Important Things to Look at or Summarize

What to Do	What That Means	Example Questions You Could Answer
Calculate Frequencies	*Count how many there are of something.* *Count how often something (e.g., a response) occurs.*	How many participants were in each group? What were the demographics of participants? How many answered "Yes" to Question 2?
Calculate Total and/or Valid Percentages	*Frequency/total *100*	What proportion of participants met intensity targets? What proportion of all those who answered question 2, said "Yes."

Analyzing Quantitative Data

Important Things to Look at or Summarize

What to Do	What That Means	Example Questions You Could Answer
Determine Central Tendencies	*Calculate the **average (mean)**, or identify the __median__ (middle) or __mode__ (most common value).* *Avg. =* *__Sum of Values__* *Total Number of Values* *__Total # of hours__* *Total # of people with hours*	What is the average number of hours participants attend? What is the most common numbers of days attended in a week? (mode)

Analyzing Quantitative Data

Important Things to Look at or Summarize

What to do	What That Means	Example Questions You Could Answer
Determine Distributions	*Determine the minimum value, the maximum, and/or how the data are grouped* *(e.g, high, medium, or low values, quartiles, percentiles, etc.).*	What was the least amount of attendance for the group? What was the most? How many participants fall into low, medium, and high intensity groups?
Cross-Tabulations (pivot tables are crosstabs)	*__Relationship between 2 or more variables__ (also called contingency analyses, can include significance tests such as chi-square analyses)*	Are there relationships between participant characteristics and outcome changes?

Measuring Change or Difference

Sometimes analysis focuses on change between two
(or more) points in time and/or on differences between results.

What to Do	What That Means	Example Questions You Could Answer
Calculate percentage change or percentage difference	*Difference between two NUMBERS*	How much did the program grow in terms of participants or dollars used or hours spent in year 2 vs. year 1? How different was site 1 from site 2 in terms of program hours?
Calculate percentage point change	*Difference between two PERCENTAGES*	Which site had proportionally more students who achieved outcomes? Did the proportion of students getting the correct answer change over time?
Conduct means testing or chi square analyses	*Use tests to determine if results are statistically different (means tests such as t tests or ANOVA for numbers, chi square commonly for percentages)*	What is the probability that observed differences are due strictly to chance? 7

Analysis Plan Specifics,
You Must Decide . . .

What procedures will be conducted with each set of data and who will do them?

- How will data be partitioned?

- What types of codes will be applied to the data?

- How will comparisons be made?
  - Data to other project data (within group)
  - Data to expectations
  - Data to data from other sources (across groups)

There is no single process!

Steps to Take When Analyzing Qualitative Data

1. Segment or partition data (i.e., divide it into meaningful analytical units)

2. Reduce data
   - ✓ Code data
   - ✓ Compare data

   Process is Iterative

3. Organize, summarize and display data

4. Draw conclusions, verify/validate results

5. Revise summaries and displays accordingly
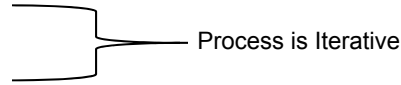
Coding Qualitative Data

1. A priori or deductive codes: predetermined categories based on accepted theory or program knowledge

2. Inductive: based on raw data (not predetermined)

3. Hierarchical: larger categories with subcategories in each

You can combine inductive and deductive within a hierarchical coding scheme

Enumeration

A strategy for organizing, summarizing, and displaying qualitative data

✓ Quantify frequency of codes,* or types
✓ Use counts to define results (e.g., *most responses were positive*; *all responses fell into 4 categories – the category most exemplified was _____*).

* e.g., none, some, a lot, as a percentage

Coding Strategies and Reminders

1. Keep a master list of codes
   ✓ Distinguish a priori and inductive codes
   ✓ Re-apply codes to all segments

2. Use multiple codes, but keep coding schemes as simple as possible

3. Test out sample entries to identify potential problems before finalizing code selections

4. Check for inter/intra coder reliability (consistency)
   ✓ Coding is not exact (expect differences)
   ✓ Co-occurring codes (more than one applies)
   ✓ Face-sheet codes (descriptors)

General Characteristics of Effective Tables and Graphs

- The table or graph should present **meaningful** data.

- The data should be **unambiguous**.

- The table or graph should convey ideas about data **efficiently**.

Thinking About Tables and Figures

Tables are organized as a series
of rows➜ and columns ⬇.

✓ The first step to constructing a table is to determine how many rows and columns you need.

The **individual boxes or "cells" of the table contain the information you wish to display.**

Thinking About Tables and Figures

- Tables must have a table number and title (be consistent). Where possible, use the title to describe what is really in the table.

  - ✓ *Table 1: Percent of Respondents Agreeing with Each Item in the Customer Satisfaction Scale.*

- All rows and columns must have headings.

- It should be clear what data are displayed (n's, %s)

- You don't have to show everything, but a reader should be able to independently calculate what you are displaying. Clarify with footnotes if needed.

- Use lines and shading to further emphasize data.

Thinking About Tables and Figures

- Figures, which include graphs/charts and pictures or any other visual display also must have a figure number and title (be consistent). Like tables, use the title to describe what is really in the figure.

  - ✓ *Figure 1.3 Exit Status of 2006 Domestic Violence Program Participants.*

- For bar and line graphs, both the X ➜ and Y ⬆ axes must be clearly labeled.

- The legend, clarifies what is shown on the graph. You can also add individual data labels if needed.

- For any bar or line graph with multiple data groups, be sure to use contrasting colors – that are printable in black and white.

Rules for Pie Charts

- Avoid using pie charts

- Use pie charts only for data that add up to some meaningful total

- Never use three-dimensional pie charts

- Avoid forcing comparisons across more than one pie chart.

Pie Charts Show Composition
of a Whole Group

Figure 1:
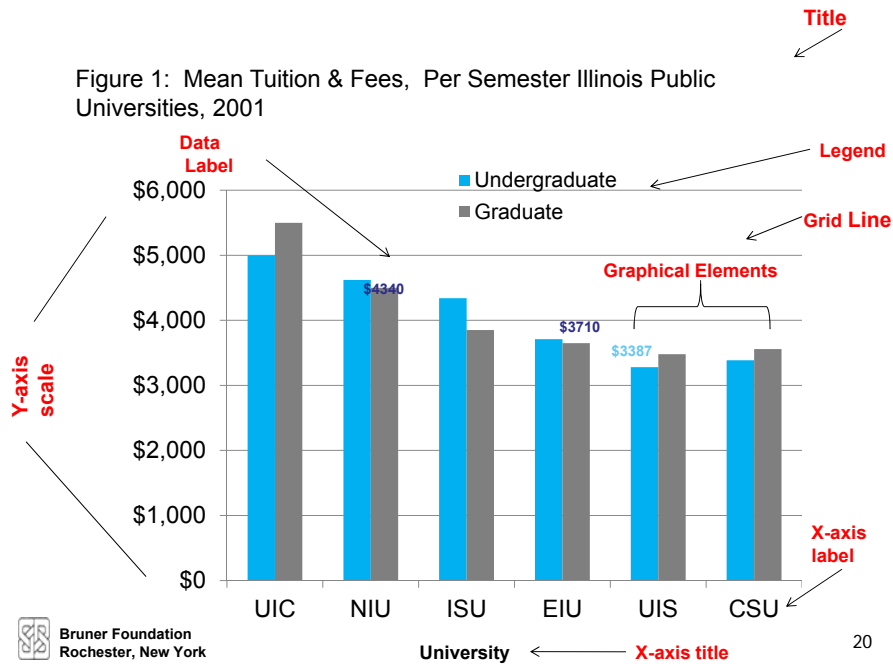**College Enrollment Among HS Graduates**
from Graduating Classes 2003-2009

12%

51%

37%

Ever
Enrolled

- Never Enrolled
- Immediately Enrolled
- Delayed Enrollment
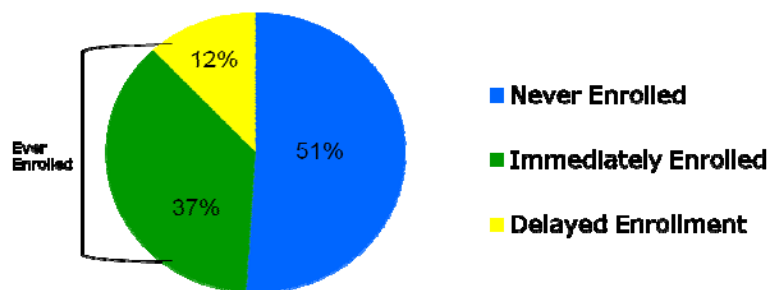
Rules for Bar Graphs

- Minimize the ink. Do not use 3-D effects.

- Sort the data on the most significant variable.

- Use rotated bar charts (i.e., horizontal) if there are more than 8 – 10 categories

- Place legends inside or below the plot area

- Keep the gridlines faint.

- With more than one data series beware of scaling distortions.
  - Bar charts often contain little data, a lot of ink and rarely reveal ideas that cannot be presented more simply in a table.

Title

Figure 1: Mean Tuition & Fees, Per Semester Illinois Public Universities, 2001

Data Label

Legend

Grid Line

Graphical Elements

- Undergraduate
- Graduate

$6,000
$5,000
$4,000
$3,000
$2,000
$1,000
$0

$4340
$3710
$3387

Y-axis scale

UIC   NIU   ISU   EIU   UIS   CSU

X-axis label

University   **X-axis title**

Bar Graphs Show Frequencies
Vertical or Horizontal

Percent of CSI Participants with High Attendance
(100 or more hours), by Year
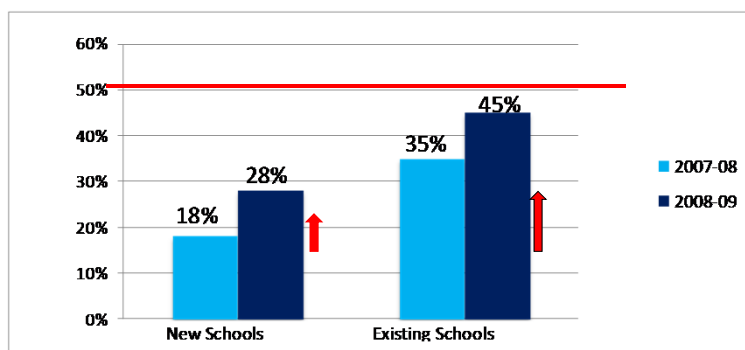
# Bar Graphs Show Frequencies
Horizontal or Vertical
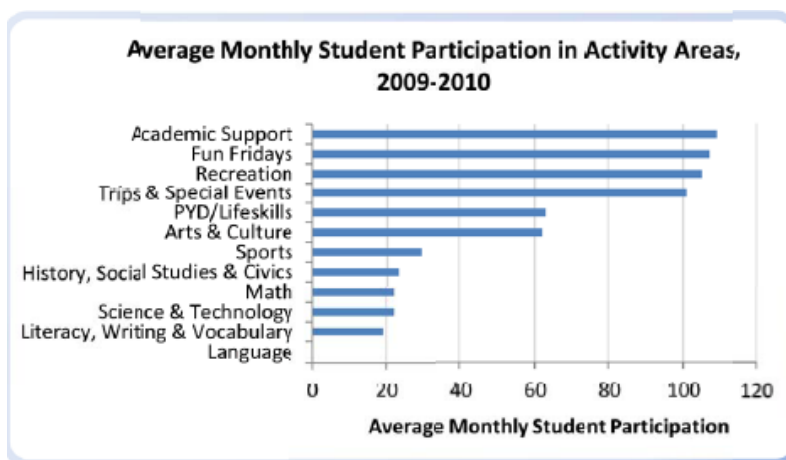
# Bars Can Be "Stacked"
to Show Distribution

- Use with caution especially when there is no implicit order to the categories.

- Stacked bar charts work best when the primary comparisons are to be made across the data series represented at the bottom of the bar.

Figure 3: Survey Results:
Percent of Principals Who are Satisfied with 6th Grade Literacy
Achievement at Community Schools and Comparison Schools
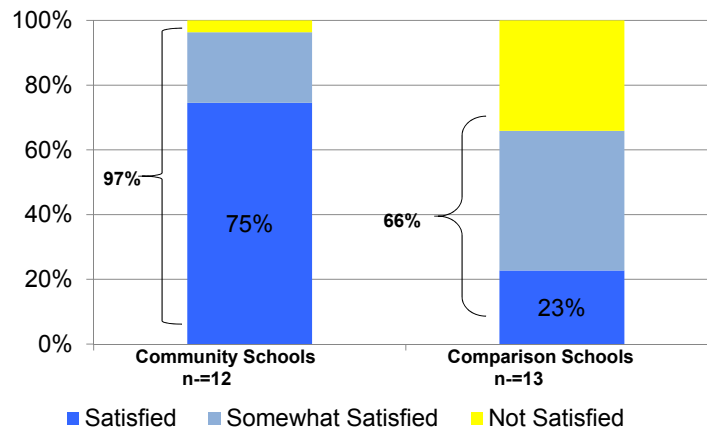
Line Graphs Show Change Over Time

Figure 6.7 Proportion of Students Passing Proficiency Test
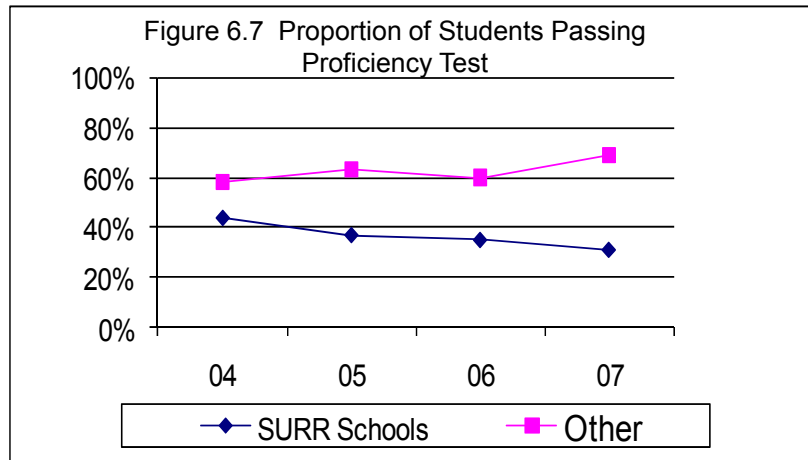
E-Surveys – Key Decisions

➤ Why use an e-survey rather than a hard-copy survey/ intercept survey/ alternative survey or other data collection strategy?

➤ What question types do you need?
  - How will they be displayed?
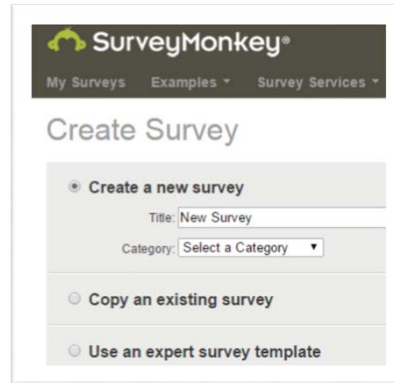 - Do you need an "other" field?
  - Should they be "required?"

Before You Create an E-survey

Strong items

Administration plan

Analysis plan

Respondent experience

Multiple Choice (only 1 answer)
Forced Choice Item (MO)

Do you like ice cream?

◯ Yes

◯ No

◯ I'm not sure

Directions read: Mark One – unless it is so obvious that is the expectation.

Multiple Choice (multiple answers)
Multiple Response Item (MATA)

What flavors of ice cream do you like? Please choose all that apply.

- ☐ Vanilla
- ☐ Chocolate
- ☐ Strawberry
- ☐ Raspberry
- ☐ Lemon
- ☐ Mango
- ☐ Pistachio
- ☐ Almond
- ☐ Hazelnut
- ☐ Other (please specify)

[   ]

Multiple response items often create analysis challenges. Use sparingly.

Comment/Essay Box/Open-ended

Please describe your first experience with ice cream.

[   ]

Matrix of Choices
(1 answer/row vs. multi answers/row)

How often do you eat the following types of ice cream?

	Daily	Weekly	Monthly	Yearly	Never (N/A)
Traditional ice cream	○	○	○	○	○
Gelato	○	○	○	○	○
Sorbet	○	○	○	○	○

My family likes the following flavors of ice cream:

	Vanilla	Chocolate	Fruit or berry flavors	Nut flavors
Me	☐	☐	☐	☐
My Spouse	☐	☐	☐	☐
My Children	☐	☐	☐	☐

Likert/Rating Scale

	Not at all important	Slightly important	Somewhat important	Moderately important	Extremely important
Quality of ingredients	○	○	○	○	○
Flavor	○	○	○	○	○
Texture	○	○	○	○	○
Brand	○	○	○	○	○

A true Likert scale has 5 answer choices, and by the way it is pronounced Lick -ert not Like -ert. (The strategy was named for Rensis Likert who invented or popularized them.)

Single Vs. Multiple Textboxes

What is the first word that comes to mind when you think about ice cream?

Please list your top three favorite brands of ice cream.

One

Two

Three

You must have an analysis plan for using these data.

Numerical Textboxes

How many times per year do you buy the following flavors of ice cream?

Vanilla

Chocolate

Strawberry

Pistachio

You must have an analysis plan for using these data. Consider hard codes (e.g., 1/month, at least 6 times per year, etc.) – and using single text boxes; or true numbers when they exist which can then be used in other calculations like averages.

Printing a Survey

From the design survey menu select Print Survey

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10a

Printing Surveys

This will generate a Survey in PDF format.

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10b

Survey Response Collector Types

Types of collectors: Weblink; Email Tracker; Facebook/Website Post; Manual Data Entry*

Send It Fast and Easy	Track Your Survey Respondents	Buy Survey Responses	Enter Survey Responses Manually

Web Link Collector
Share a web link via your email, post to social media or on your web site. This option is most anonymous.

Facebook Collector
Post a link to your survey in Facebook newsfeed.

Website Collector
Embed your survey on your website or a link to your survey in a popup window.

Weblink Collector

Write your own cover email

Dear Colleague,

Recently you attended an *Allied Against Violence* training session provided by the Center for Anti-Violence Education and agreed to provide some follow-up feedback regarding your use of the materials and strategies. Please click on the following link to start the very brief follow-up survey. It should only take you a few minutes to respond and your answers will be kept confidential. All responses will be combined and summarized to inform CAE's continued work in this field.

► Thank you in advance for your assistance
                    CLICK HERE https://www.surveymonkey.com/s.aspx

Thank you pages (default or custom)

Follow-Up and Track Responses

Send It
Fast and Easy

Track Your
Survey Respondents

Buy
Survey Responses

✉ **Email Collector**
Create custom email invitations and track who responds in your list.

✔ Create custom messages for multiple groups of respondents
✔ Know which respondents took your survey and which did not
✔ Follow up easily with just the respondents you need to reach
✔ Maintain anonymity of your respondents (optional)

Manual Data Entry: Two Strategies

Data entry/use as a database

Weblink Collector: (Fast/Easy)
Advanced Settings:
Allow more than 1 respondent per computer

Survey End Page: Loop to start

Analyzing Data Using Survey Monkey
Key Skills
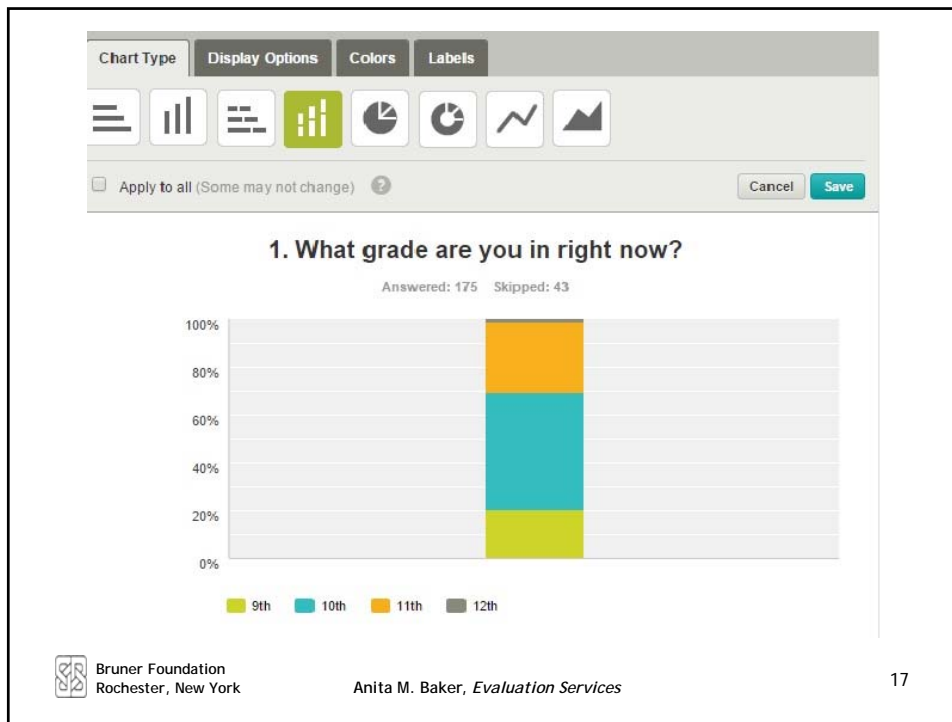
Generating and using frequencies

Analyzing Data Using Survey Monkey
Key Skills

Generating and customizing graphics

Exporting graphs and tables
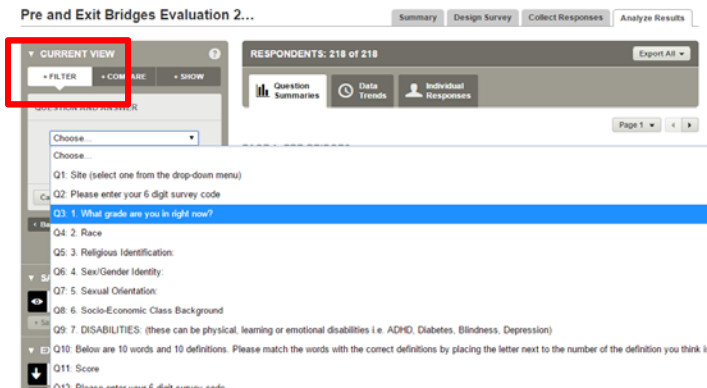
Analyzing Data Using Survey Monkey Key Skills

Using Filters – allows you to select data, remove "missing data" and use numerical analysis functions.
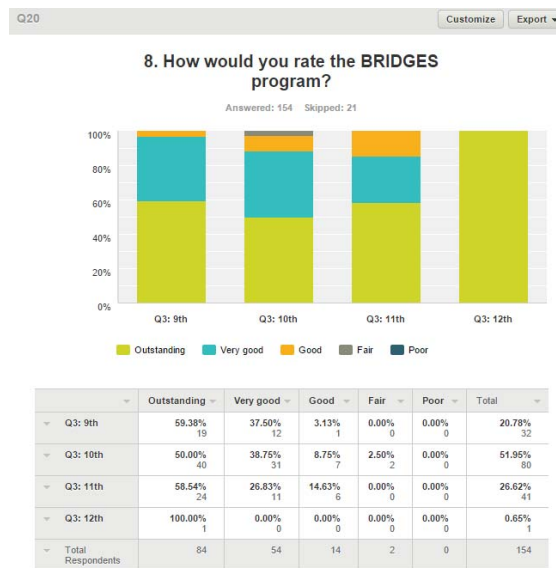
Comparing data – calculates cross-tabs

Analyzing Data Using Survey Monkey
Key Skills

Using Filters: Filter by Q&A

Using Compare

Compare/Cross-tab Considerations

▶ Decide whether to use row or column percents to present your data. The calculations answer different questions.

- Do you want to know for each grade group how many rated the program positively (i.e., outstanding or very good)?

  OR

- Do you want to know what grade the positive respondents were in?

TIP: Pick a strategy and use it consistently.

Analyzing Data Using SM
Exporting and Merging Data

Export All - All Summary Data
   (PDF – which can be customized)

Export All - All Response Data

   (Excel or SPSS, Zipped File - sheet 1 has data)

Merging Data – connecting data from a survey monkey file with other data using a common key
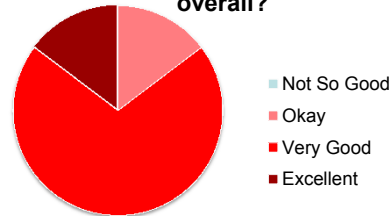
Survey Result Example: Excel Summary

BEC Session 2 - January 2012

How would you rate Session 2 overall?

Answer Options	Response Percent	Response Count
Not So Good	0	0
Okay	15%	5
Very Good	71%	24
Excellent	15%	5
	answered question	34
	skipped question	1

How would you rate Session 2 overall?

- Not So Good
- Okay
- Very Good
- Excellent

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SURVEY RESULT EXAMPLE

How would you rate Session 2 overall?

Answered: 26   Skipped: 1

- Okay
- Very Good
- Excellent
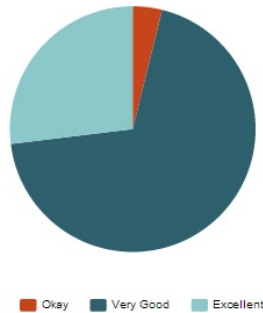
Answer Choices	Responses	
Not So Good	0%	0
Okay	3.85%	1
Very Good	69.23%	18
Excellent	26.92%	7
Total		26

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Survey Result: Crosstab Example

Disaggregated Data

% of 2011-12 Freshman who . . .	Peer Study Group		Total
	Yes n=232	No n=247	N=479
Reported struggling to maintain grades	36%	58%	47%
Are planning to enroll for the sophomore year at this school	89%	72%	80%

Note: A total of 1000 Freshmen were enrolled 2011-12; 502 were in Peer Study Groups, 498 were not. About half of the students who were in study groups and half who were not responded to the survey.

Definitive Statements

Percent of Training Participants (N=93) who Think AAV Helped or Will Help Them:⬇ **Target = 50% or more say "a lot" to each**	Some	A Lot	TOTAL
Discuss issues of violence with clients	45%	55%	**100%**
Access additional strategies for self-care/stress reduction	47%	51%	**98%**
Provide positive interventions for clients	32%	65%	**97%**
Understand the importance of self-care/stress reduction	38%	58%	**96%**
Offer clients new ways to:			
De-escalate Situations	31%	67%	**98%**
Manage Anger	54%	43%	**97%**
Do safety planning	45%	52%	**97%**
Conduct Bystander Interventions	39%	58%	**97%**

AAV met its targets for all areas of interest except Management of Anger

More than 95% of participants thought AAV helped or will help them with each of the focus areas of the training.

Definitive Statements

% of 2005-06 Freshman who . . .	Peer Study Group		Total
	Yes n=212	No n=257	N=479
Reported struggling to maintain grades	36%	58%	47%
Are planning to enroll for the sophomore year at this school	89%	73%	80%

- Only about 1/3 of freshman in peer study groups reported struggling to maintain their grades compared to ½ of those not in study groups.

- Proportionately more study group participants are planning to enroll for sophomore year.

Survey Monkey Questions?

http://help.surveymonkey.com/