



Obesity-Related Policy Evaluation Webinar Series

Session 4

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Session 1: Basics of Design to Evaluate Policy Interventions (February 27, 1–2pm Eastern)

Session 2: Addressing Pitfalls to Research in Real World Settings (April 3, 1–2pm Eastern)

Session 3: Enhancing the Usefulness of Evidence to Inform Practice (May 1, 1–2pm Eastern)

Session 4: Communicating Results Effectively (June 12, 1–2pm Eastern)

Communicating Results Effectively

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June 12, 2009

Instructional Objectives

- Provide guidance for evaluators of obesity-related policies to help them think strategically about what and how to report for different audiences
- Identify ways to convey the strength of the evaluation process and the evidence transparently and clearly
- Offer tips on presenting both quantitative and qualitative data clearly
- Provide guidance on crafting executive summaries effectively for different audiences

Issues Addressed in This Session

1. Thinking strategically about reporting
2. Conveying competence of processes and evidence
3. Presenting quantitative data effectively
4. Presenting qualitative data effectively
5. Crafting effective executive summaries

Section 1:

Thinking Strategically About Reporting

Thinking Strategically About Reporting

- *Know your audiences*—their expectations regarding products and specificity—policymaker, academic audience, food service director, media?
- Convey the *methodological integrity* of your work from start to finish
- *Plan ahead* to enhance the usefulness of the evaluation results
- Think through what you want your *key message* to be
- *Provide a map* or description of what reports contain
- *Use graphics effectively* to explain processes as well as findings

Different Audiences and Different Uses

Will evaluation information inform:

- Immediate policy or managerial decision making?
- Policy or program improvement, and/or re-engineering of processes?
- Longer term planning?
- Redirection of funding streams?
- Design of other evaluations?

Different Audiences, Different Information Needs!

- * What will policymakers want to know?
- * What will other academic researchers and evaluators want to know?
- * An executive summary may be the only portion that will be read!

Implications for Lay Audience Info Requirements' Information Needs

Characteristics of Data Needed



Amount and specificity of information you need to convey varies!

Implications for Other Academics' Information Needs?

- The *context* of the policy intervention must be described in enough detail that others may know whether it is feasible to replicate the intervention. Include:
 - Relevant *demographic information* about the participants in the evaluation
 - *Resource requirements* for implementing the intervention
- The manner in which all key components of the intervention were implemented must be described in enough *detail* that others may actually implement it
- NOTE: See Webinar #3 for more!

Match the Evaluation Information to Audience Needs

- Consider how strategic the message needs to be, given the audience needs
- Craft useful and easily understandable information bites appropriate for potential use of the findings

Craft Useful and Easily Understandable Information Bites (For All Audiences)

- Use labeling throughout your report to raise interest
- Remember that some statements or findings may be taken out of your report for press releases or to insert in other media
- Think about framing and phrasing so as not to be taken out of context (“under these circumstances, X causes Y”)
- Decide on 2–3 key messages

Use Labeling of Tables and Figures and Subsections Effectively

- Table and figure titles might be given intriguing and actionable titles:
Virtually All Parents Report That They Want to Volunteer
Girls More Attracted to Science Modules Than the Boys
- Subsections might be given intriguing rather than dull titles:
A Framework for Success
Measuring Achievement of Goals
- Literature reviews or successful practices scans should be given interesting titles, perhaps using questions:
How Does Parental Involvement Improve Student Academic Performance?
What Intangible Benefits Do Volunteers Get From Their Participation?

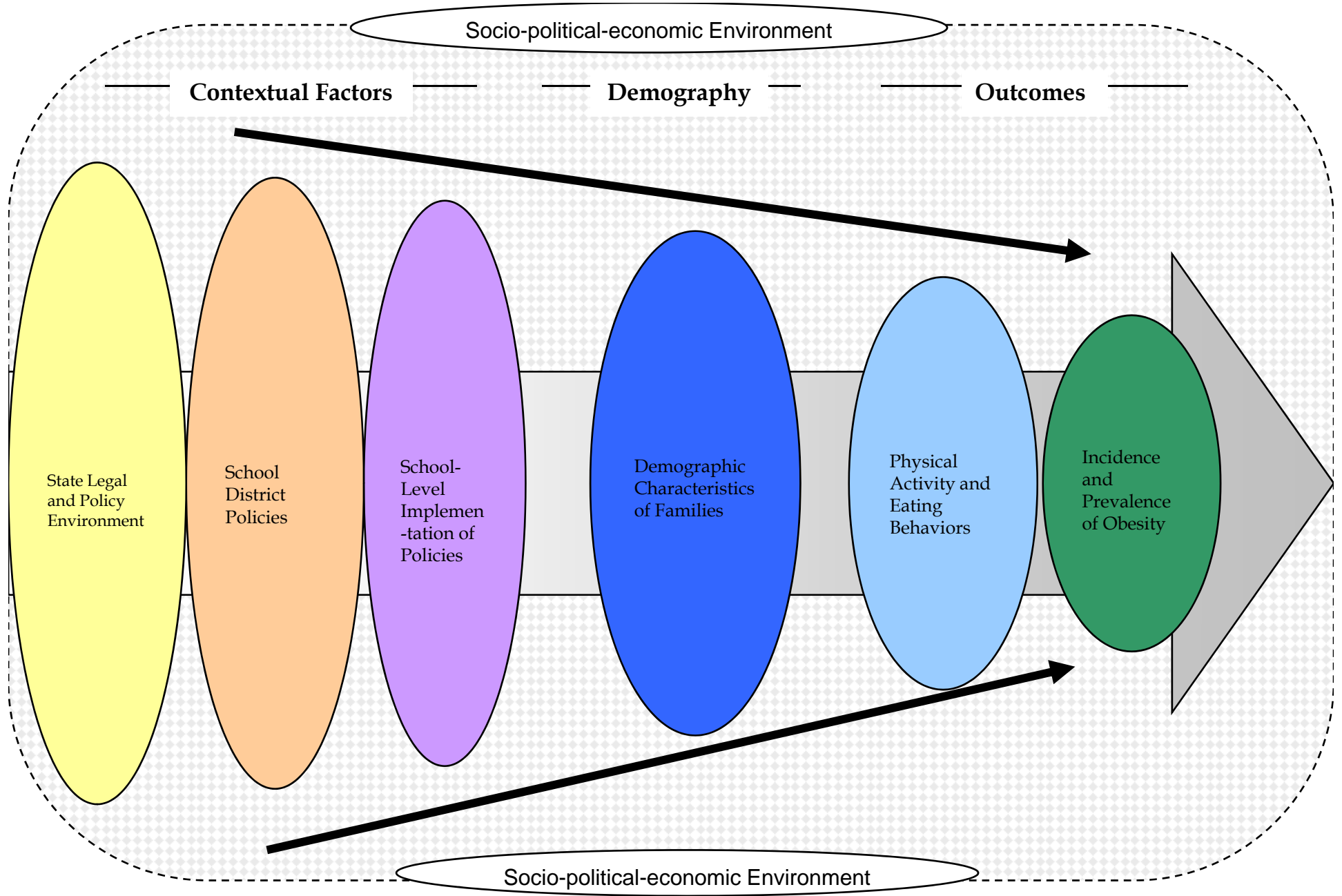
Use Graphics and Pictures to Focus the Audience's Attention!



Use Graphic Models to Tell Your Story

- *Graphic presentations* that include the hypothetical relationships between the program activities or interventions and the intended outcomes are helpful
- *Program logic models* are extremely helpful
- The level of detail given in the model may vary depending upon your audience, for example you might include a separate table with the logic model to give more detail rather than provide a very busy logic model

Figure X: The Environmental Context for Predicting Obesity Intervention Outcomes



Section 2:

Conveying Competence of Processes and Evidence

Conveying Competence

- Communicate clearly and effectively about the choices made and procedures employed during evaluation design, data collection, and analysis.

E.g., “Other school-based studies used this design... such as [identify].”

- You may want to also reference authoritative papers to defend your methodological choices.

Competence will be judged by well-founded and clearly explained decisions about...



Conveying Competence About Data and Findings

- **Transparency** and **open discussion** about methodological decisions and obstacles encountered during data collection is best!
- **Prioritize** the methodological issues or challenges to discuss, but do not neglect to mention potential limitations
- You may want to also include **lessons learned** from conducting the evaluation

As Covered in Webinar 3 – Bolster Confidence in:

- A. Measurement:
Measures and Reliability
- B. Inferences
- C. Numbers

Issues That Bear Careful Reporting to Ensure Correct Interpretation of Findings

- *Causal inferences* (rival explanations and the time dimension)
- *Generalizability* (statistical significance testing and representativeness)
- *Null Results* (versus negative results)
- *Design decisions* that may have increased the likelihood of either False Positive or False Negative results
- *Dearth of comparisons* and the need for more studies and papers to bolster the evidence base

Tailor the Language You Use in Describing Methodology to Your Audience

- Remember to take even greater care to describe issues such as statistical significance—or lack there of—to non-academic audiences
- If possible, have someone who is part of your target audience for the dissemination piece read a draft and be part of the communication plan

Think Carefully About Where to Discuss Issues or Concerns With the Methods Employed

- In the text, footnotes or appendices?
- In a separate section (such as the Scope and Methods section) or right when issues arise in the text?
- In detail or simply put?

What To Include in Your Scope and Methods Section

- Describe *design* and *data collection* with sufficient detail for your audience
- Discuss *response rates* and potential for *non-response bias* and what you did to minimize effects
- Describe *key decisions*, such as criteria for including studies in a meta-analysis, omitting outliers
- Address *limitations* to all four kinds of validity and reliability in user-friendly terms with helpful subsection titles!
- Clarify how to use and interpret the *data* (“Under these circumstances, X appears to be linked to changes in Y...”)

Reporting Limitations

- Write to your audience, i.e., use appropriate terms!
- Divide limitations into threats to:
 - Measurement validity*
 - Reliability*
 - Internal/external validity*
 - Statistical conclusion validity*

Even if you do not use those terms!

- Describe each threat so that a reasonable person can understand your point

Typical Limitations With Measurement Validity

- Self reporting
- Pertinent and appropriate measures
- Adequate time frame for collection
- Appropriate unit of analysis
- Incentives
- Currency
- Issues surrounding source
- Reliable data collection

Typical Limitations With Reliability

- Failure to pretest data collection instruments appropriately
- Inadequately training data collectors
- Failure to identify and adjust for changes in data collection procedures that occur during the measurement period
- Inadequate translation of questions into needed languages

Typical Limitations With Internal and External Validity

- Rival explanations for observed outcomes
- Reactivity: Hawthorne effect, novelty effects, staff effects
- Selection and attrition
- Non-response bias
- Representativeness
- Currency

Typical Limitations With Statistical Conclusion Validity

- Appropriateness of the technique given the data and the underlying dynamics
- Specification effects (including omission of other factors that may affect the outcomes of interest)
- Measurement problems such as inadequate variance or use of proxy variables
- Non-normal distributions of variables
- Influential observations and or outliers
- Sample size
- Sample to variables ratios for entire sample and for key groups

Explain How You Enhanced Reliability in Measurement Procedures

- Explain how you *trained observers and interviewers* so that they consistently applied comparable criteria
- Explain what *quality control procedures* were used to ensure consistent measurement in the field
- Describe any *inter-coder reliability checks* that were undertaken, and provide statistical measures conveying reliability if used, e.g., the most commonly used measure is Cronbach's alpha

Section 3:

Presenting Quantitative Data Effectively

General Tips for Presenting Data Analyses

- **Less is Better!**
- Less sophisticated analyses are typically better (e.g., contingency tables over t tests or regressions)
- Consolidate and provide useful comparisons—for example, show confidence intervals around means to indicate precision of estimates
- Highlight key take-away points—using graphic aids when possible

A Rule of Thumb in Constructing Tables and Figures

Treat each table or figure as if it may be copied and taken out of the context of the fuller report.

It must stand alone without relying on materials in the text!

What Should Always Be Your First Table?

A description of your location/participants!

- If you use surveys, describe your respondents
- Your respondents may be program participants or schools or program sites you surveyed
- If possible, compare any statistics you have on the population from which your respondents (or sites) were drawn to your sample in your table
- Report only percentages in the various categories for nominal or ordinal variables, and the range, mean, median, and interquartile range (or standard deviation, depending on your audiences) for interval variables

An Illustration

A Profile of Our 100 Survey Respondents

Gender: Men Women
 45% 55%

Education Level:

Less Than	High School
High School	or More
80%	20%

Age: Range 18–68 years
 Mean = 55 Median = 42
 Interquartile Range 32–48

Typical Problems in Presenting Tables

- *Too many numbers* presented in tables
- *Too little information* provided about how things were measured
- *Too much emphasis* placed on statistical significance and not enough on the practical significance of the numbers

Both Statistical Significance AND Practical Significance Matter

- Statistical significance is the first bar to clear –not the last.
- Statistical significance is best conveyed by providing the confidence level in the findings, e.g., 95% or 99%, or the probability level of the findings (if the null is true)—so less than .05 or less than .01, rather than giving the value of the chi square or t statistic.
- It is important to remember that statistical significance largely reflect the sample size, so the larger the sample size, the more likely the findings will achieve statistical significance. BUT that does mean they are of practical importance.

Elements Needed to Include in Clear Tables Presenting Quantitative Data

- Descriptive *titles*
- Clear *labels* for all variables and values
- *Sample sizes* for total and any subgroups
- *Percentages* that are calculated correctly given the purpose of the analysis and are rounded to whole numbers
- The *test used for statistical significance*, for example, chi square or t, along with the confidence level in the results

Table — *Weak*

Year?

Ranking?

What does rate mean?

How accurate are estimates?

What is the population (adults, children, both?)

States with the Highest Obesity Rates	
Mississippi	31.7
West Virginia	30.6
Alabama	30.1
Louisiana	29.5
South Carolina	29.2

Bar Chart — *Weak*

Scale/Rate?

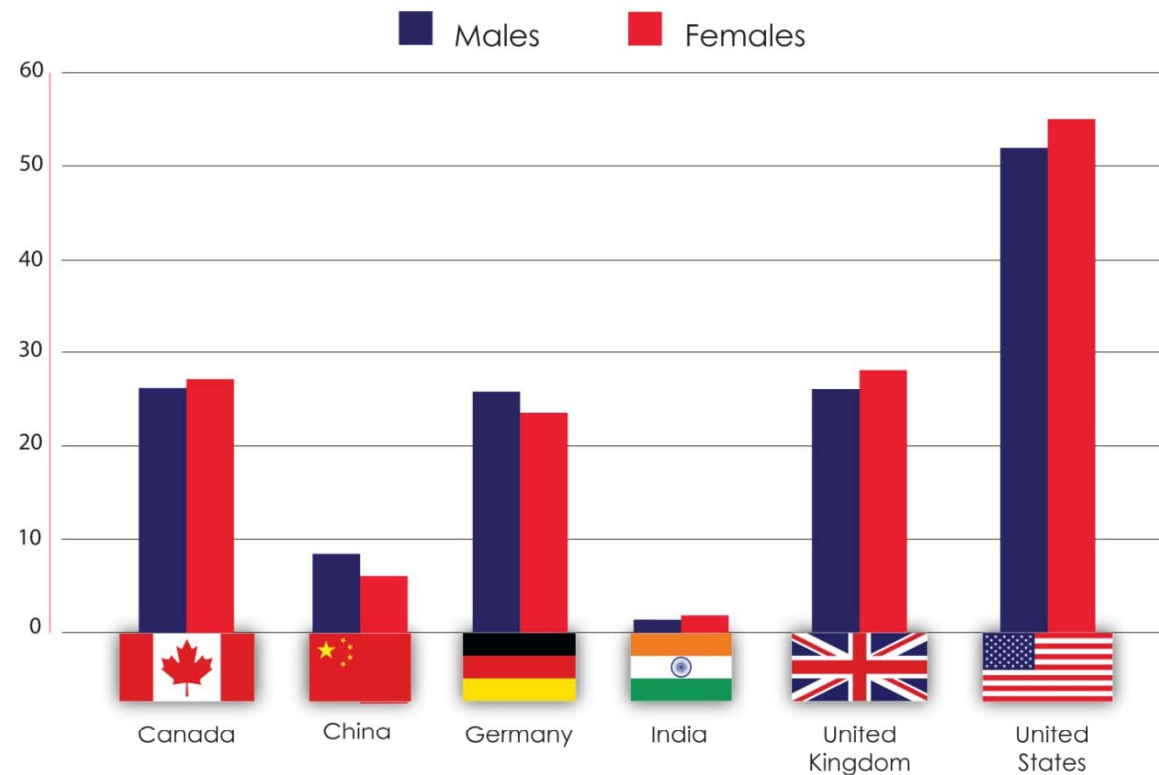
Data Points?

Year?

Clear Graph

Title?

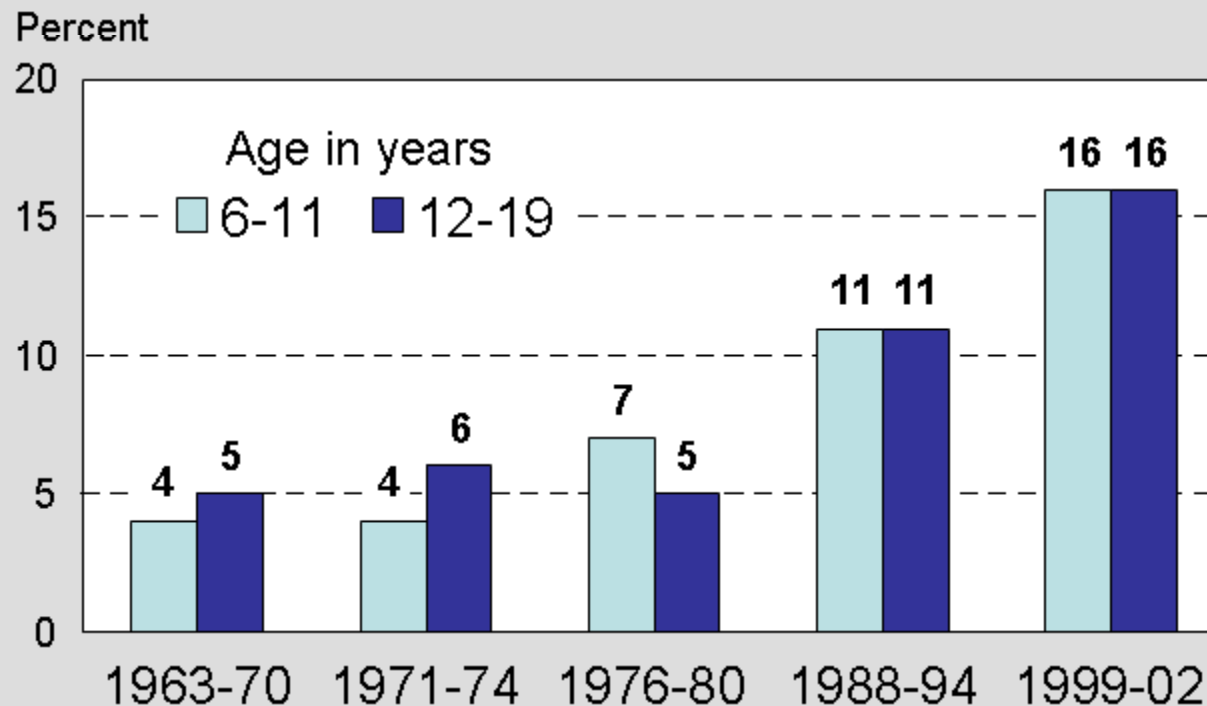
Adult Obesity Rates by Country Estimates for 2015



Source: World Health Organization

Bar Chart — *Strong*

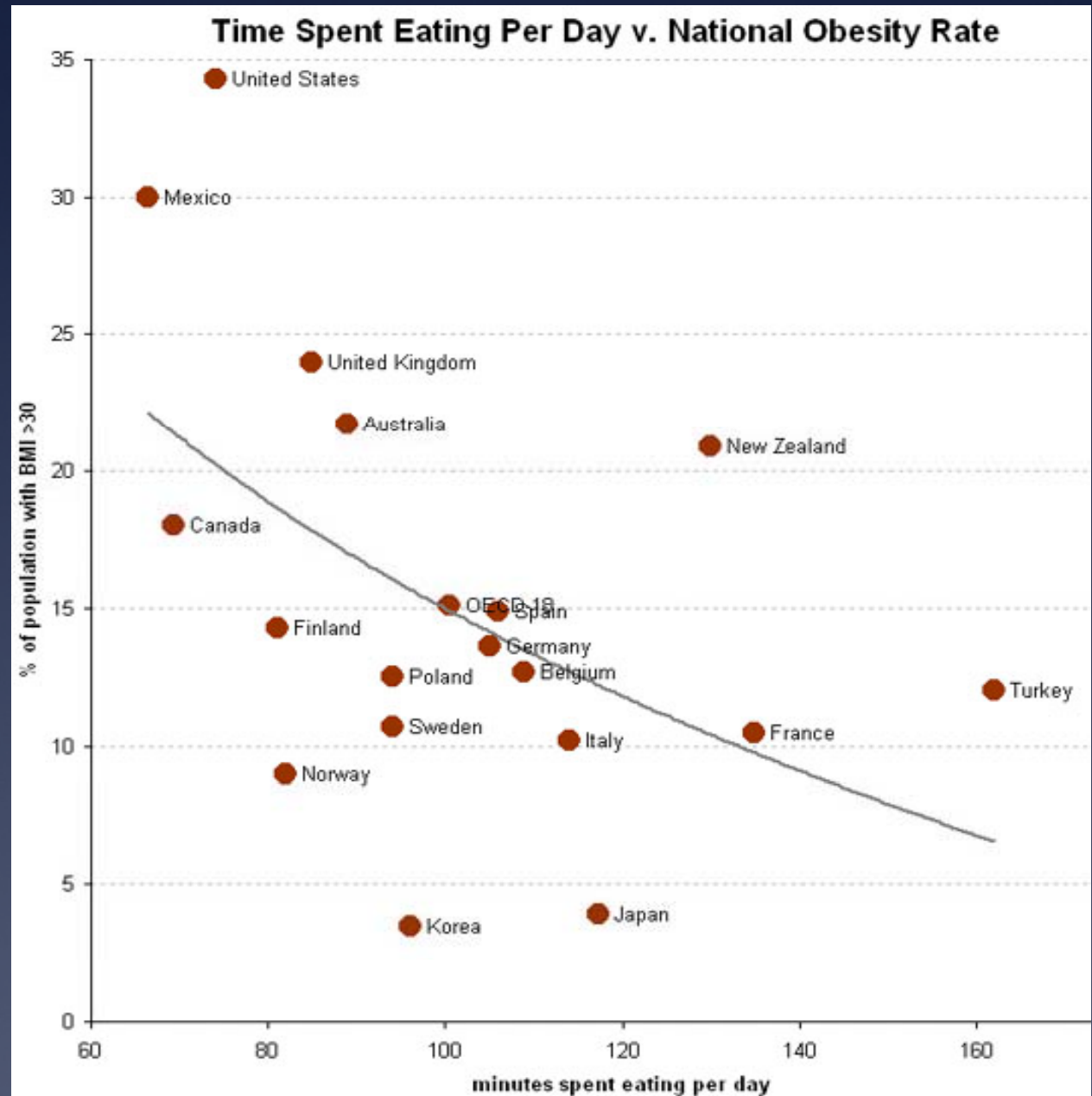
Figure 1. Prevalence of overweight among children and adolescents ages 6-19 years



NOTE: Excludes pregnant women starting with 1971-74. Pregnancy status not available for 1963-65 and 1966-70. Data for 1963-65 are for children 6-11 years of age; data for 1966-70 are for adolescents 12-17 years of age, not 12-19 years.
SOURCE: CDC/NCHS, NHES and NHANES

Graph — Weak

This graph was used by an NYT blog and others to demonstrate the 'clear' correlation between time spent eating and high BMI...but does this graph really indicate any relationship?



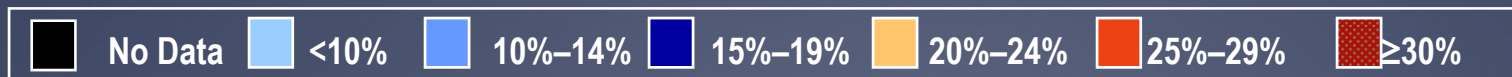
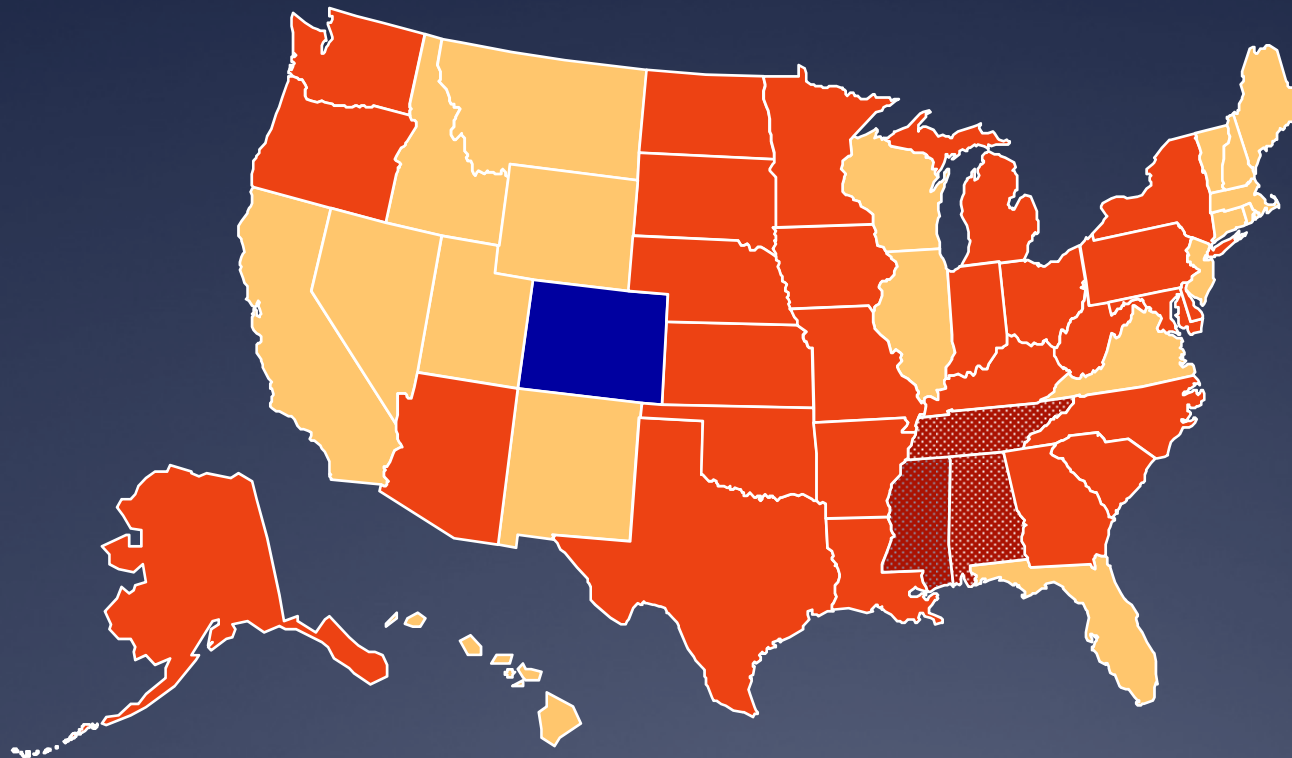
Rankings — *Strong*

States with the Highest Obesity Rates		
Rank	State	Percentage of Adult Obesity (Based on 2005-2007 Combined Data, Including Confidence Intervals)
1	Mississippi	31.7% (+/- 1.0)
2	West Virginia	30.6% (+/- 1.1)
3	Alabama	30.1% (+/- 1.2)
4	Louisiana	29.5% (+/- 1.0)
5	South Carolina	29.2% (+/-0.8)
6	Tennessee	29.0% (+/-1.2)
7	Kentucky	28.4% (+/- 1.0)
8 (tie)	Oklahoma	28.1% (+/- 0.8)
8 (tie)	Arkansas	28.1% (+/- 0.9)
10	Michigan	27.7% (+/- 0.8)

Images — *Strong Only if in Color!*

Obesity Trends* Among U.S. Adults BRFSS, 2007

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Source: BRFSS, CDC. From CDC.gov

T-test – *Strong*

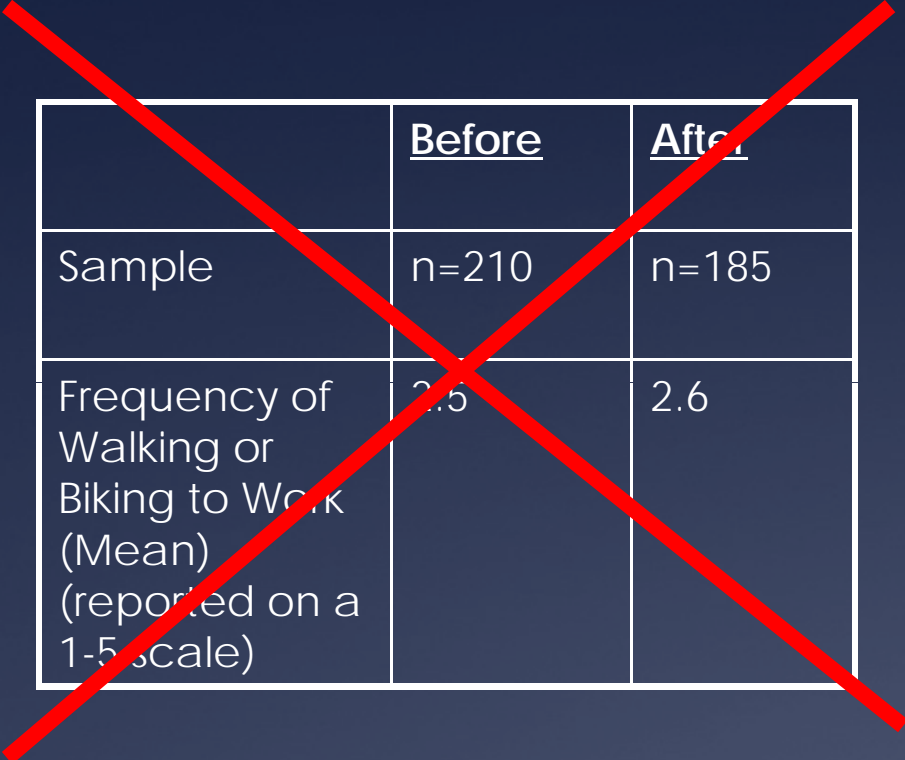
Title: Average Number of Hours Spent Watching Television Each Week by Gender and Age^a

Finding: The 95% confidence interval around the difference in television watching shows girls ages 12 to 15 watch 4 to 12 hours more per week than boys of the same age.

	Girls (N=500)	Boys (N=500)
Girls and Boys 12-15*	37.0	31.8
Girls and Boys 15.1-18 ^{ns}	32.1	30.0
All Girls and Boys ^{ns}	34.0	31.2

a * denotes statistical significance at the 95% confidence level; ns denotes not significant at this level.

Remember: Use the More Appropriate Technique Given the Data



	<u>Before</u>	<u>After</u>
Sample	n=210	n=185
Frequency of Walking or Biking to Work (Mean) (reported on a 1-5 scale)	2.5	2.6

	<u>Before</u>	<u>After</u>
How Frequently Do You Walk or Bike to Work?	n=210	n=185
Never (1)	60	55
Once Every 6-12 Months	10	8
Once Every 3-5 Months	10	8
Monthly	10	9
Weekly (5)	10	20
Total	100%	100%

Section 4:

Presenting Qualitative Data Effectively

Reporting Findings/Conclusions From Qualitative Data: Similarities to Quantitative Data?

- Adherence to the “Rule of Evidence” should be the same, i.e., evidence should be relevant, competent and sufficient
- There is an even stronger need to demonstrate methodological rigor—e.g., clarify your decision rules!
- There is a need to clarify the role of the researcher

Working With the Data: Objectivity and Measurement Validity Concerns

Typical Threats to Objectivity and Measurement Validity:

- Inaccurate or incomplete data
- Misinterpreting the data meaning or meanings
- Discounting or not paying attention to data running counter to emerging findings
- Failure to document the “chain of evidence” sufficiently

Tips for Presenting Qualitative Data

- Clarify your evidence trail
- Clarify your logic in linking ideas/themes
- Be transparent about how you identified themes or constructed categorical schemes
- Provide only representative quotes, not atypical (yet interesting) quotes

What About Reporting Open-Ended Responses Volunteered in Quantitative Research?

- Asking open-ended questions in surveys does not really qualify as qualitative data collection, but processes used to identify themes in the answers that are volunteered can follow the same process as with qualitative data analysis
- Remember, there is even a stronger selection bias affecting these volunteered comments

Tables Useful in Presenting Qualitative Data Analyses

- Provide *direct quotes* to illustrate themes
- Provide *descriptors* of attitudes, behaviors and/or direct quotes to illustrate ordering (like low, medium, and high)
- Insert *boxes* to give extremely illustrative direct quotes
- See next table for illustration

Table 3: Parent’s Perceived Impact of Martha’s Table Elementary & Bridge Programs

Survey/Interview Question	% of parents responding Improved (4) or Greatly Improved (5)	Sample Interview Responses to: “Why do you think you have seen this improvement/not seen an improvement?”
Since your child/children has attended Martha’s Table, to what extent has:		
Your child/children’s self-esteem increased?	69% (n=26)	<ul style="list-style-type: none"> • <i>“[My son] does have problems with his self esteem. He has been working with [a Martha’s Table teacher], she encourages the children, she builds them up and he has come up.”</i> • <i>“My oldest daughter has kind of opened up at Martha’s Table. I’m not sure if it’s because of the volunteers, the mentors, or the director but she has become a social butterfly.”</i> • <i>“[My daughter] loves her friends at Martha’s Table and is sad when she can’t go there. Just from talking to her, I know she is being encouraged at all three places – home, school and Martha’s Table.”</i> • <i>[My daughter] already has high self esteem.</i>
Your child/children’s behavior at home improved?	56% (n=27)	<ul style="list-style-type: none"> • <i>“Their behavior at home greatly improved I think because they are in an environment at Martha’s Table that has open space. They can get out more energy and Martha’s Table has activities where they can do that. They are tired when they get home.”</i> • <i>“At Martha’s Table they listen to both children and both sides of the story and ask the child what they could have done better. I now stop and listen to [my son’s] side of the story, we can talk about it and I tell him I expect him to do better next time.”</i>

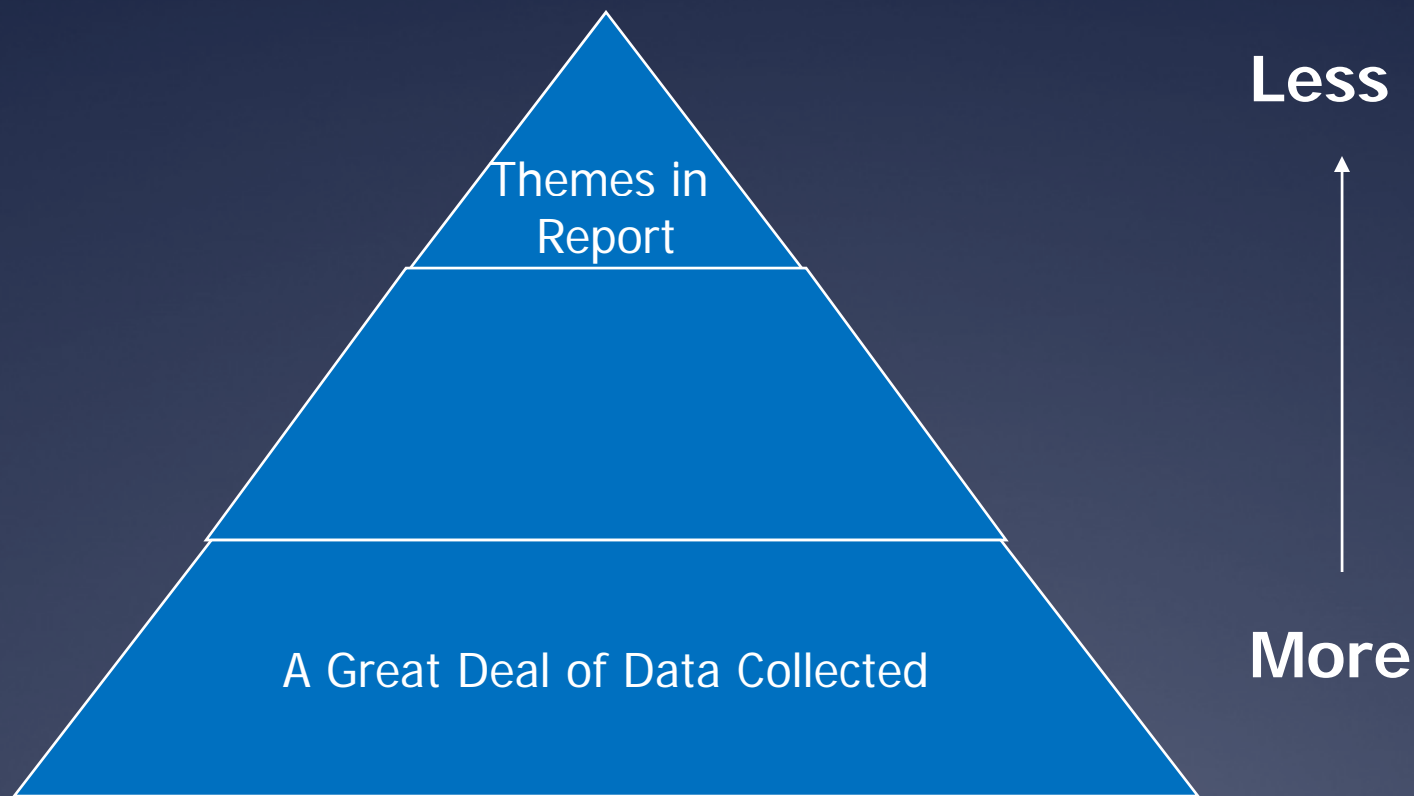
“Counting” Qualitative Data

- It is not accepted practice to give counts from focus groups, so care must be taken in conclusions such as “the majority or consensus view was...”
- When summarizing views from a small number of (fewer than 15) interviews, is it not accepted practice to give percentages, such as “80% reported that...” (unless you also show the actual number right in the text—better still to say “8 of the 10 state officials interviewed responded that...”)

“Counting” Qualitative Data con’t.

- Be careful in clarifying what the denominator is with qualitative data!
 - Those volunteering responses to open-ended questions?
 - The total number of ideas or issues identified?

Implications for Reporting Qualitative Data Analyses



The role of the evaluator is to reduce the volume of data to well-founded and representative themes!

Section 4:

Crafting Effective Executive Summaries

Executive Summary (or Results-in Brief)

- **Both content and format matter!**
- Content — include basic information on purpose, use, sponsor, and all information from informed consent form!
- Include pertinent information on scope and methods, including limitations, major findings, and recommendations for future research and evaluation
- Use graphics, font size, and font style to highlight different sections or key points
- Remember, this may be the only piece of information that some may read!

Consider Alternative Venues to Publicize Your Results

- Brief summaries of results may be adapted for practitioner audiences to help inform practice
- Abbreviated versions of evaluation results may be appropriate for presentation in online publications and popular magazines and newsletters
- Example:
http://www.activelivingresearch.org/files/ALRPlanningMagazine_CaseStudies.pdf

Executive Summary

BACKGROUND (OR PURPOSE)

Sponsor; audiences for evaluation; description of policy evaluated; identity of evaluation team; time and location(s) of evaluation; and other pertinent background information.

SCOPE AND METHODS

Focus of evaluation, such as implementation, results, or both; source of data; data collection methods used; sample size(s); response rates; and potential limitations.

KEY FINDINGS

1. XXX
2. XXX

RECOMMENDATIONS FOR FUTURE RESEARCH/EVALUATION

1. XXX
2. XXX
3. XXX

In Sum

1. **Anticipate your audience**—think about their expectations regarding products and specificity
2. Convey the **methodological integrity** of your work from start to finish

In Sum con't.

3. **Transparency and open discussion** about methodological decisions and any obstacles encountered during data collection is best, but prioritize the methodological issues or challenges to discuss, and discuss them in an appropriate manner
4. **Design tables effectively** so that they provide sufficient information to be clear to the reader— with information included about such things as sample size and measurement

In Sum con't.

5. Clearly discuss both the **statistical significance and practical importance** of findings
6. Describe clearly the **trail of evidence** when qualitative data have been collected
7. Think through what you want your **key messages** to be, and use graphics appropriately, as well as clear descriptions of limitations to ensure your messages are credible

Resources

Evaluation Texts

- Pawson & Tilley (1997): Realistic Evaluation, Sage Publications.
- Rossi, Peter & Freeman (2003): Evaluation: A Systematic Approach, Sage Publications.
- Weiss (1997): Evaluation, 2nd Ed. Prentice Hall.
- Wholey, Hatry & Newcomer Eds. (2004): The Handbook of Practical Program Evaluation, Jossey-Bass.

Special Thank You...

- * Susie Nanney, University of Minnesota
 - * Debra Haire-Joshu, Washington University in St Louis
-
- * Brian Saelens, University of Washington and Seattle Children's Hospital Research Institute
 - * Heidi Blanck, CDC
 - * Allyson Harkey and Ben Neal, NOVA Research
 - * Mari Nicholson, AED
 - * Lawrence Hammond, NIH