

Lecture 32/Chapter 27 Putting Skills to the Test

- Seven Guidelines Applied to Night Light Article
- Chi-Square Analysis of Night Light Data

Seven Guidelines (Review)

- Step 1: Determine if study was sample survey, experiment, obs study, census, or anecdotes.
- Step 2: Consider 7 Critical Components (details).
- Step 3: Check for “Difficulties and Disasters” (sampling p. 69, exp. p. 90, obs. studies p. 96)
- Step 4: Is info complete? If not, find original?
- Step 5: Do results make sense?
- Step 6: Are alternative explanations possible?
- Step 7: Do results affect your attitude/lifestyle?

Seven Critical Components (Review)

1. Source of research and funding
2. Researchers who had contact w. participants
3. Individuals studied, how they were selected
4. Variables studied [measurements, questions]
5. Setting (time, place)
6. Confounding variables [differences besides factor of interest] if causal relationship is claimed
7. Extent or size of claimed effects/differences

Example: *Night Lights & 7 Guidelines*

- **Background:** *Night Lights Bad for Kids?*
 - **Question:** How does each guideline apply?
 - **Response:** **Step 1 (design):** retro obs study
- Step 2 (7 Components):**
- #1 source/funding: (reputable?)
 - #2 researchers having contact w. participants: _____
 - #3 individuals/how selected: _____

Example: *Night Lights & 7 Guidelines*

Response: Step 2 (7 Components)
continued:

#4 variables: explan: _____
response: _____

#5 setting: _____

#6 confounding variables (diffs in groups compared): _____

#7 magnitude/quantify effect: _____

Example: *Night Lights & 7 Guidelines*

Response: Step 3 Difficulties? (Obs. p. 96)

1. Confounding variables? _____
2. Extending results inappropriately? _____
3. Using the past as a source of data? _____

Example: *Night Lights & 7 Guidelines*

Response: Step 3 Difficulties(sampling p.69)

1. Using the wrong sampling frame? _____
2. Not reaching individuals selected? _____
3. Having a low response rate? _____
4. Volunteer/self-selected sample? _____
5. Convenience or haphazard sample? _____

Example: *Night Lights & 7 Guidelines*

Response:

Step 4 Information complete? _____

Step 5 Do results make sense?

Step 6 Alternative explanation? _____

Step 7 Results' impact on you? _____

Example: Night Lights & Chi-Square

- **Background:** Article reports % myopic: darkness 10% of 172; nightlight 34% of 232; lamp 55% of 75
- **Question:** What are the observed counts?
- **Response:**

	Myopic	OK	Total
Darkness			172
Nightlight			232
Lamp			75
Total			479

Example: Night Lights & Chi-Square

- **Background:** We have table of observed counts.
- **Question:** What are the expected counts?
- **Response:**

Obs	M	NM	Total
D			172
N			232
L			75
T	137	342	479

Exp	M	NM	Total
D			172
N			232
L			75
T	137	342	479

Example: Night Lights & Chi-Square

- **Background:** Observed and expected counts are

Obs	M	NM	Total	Exp	M	NM	Total
D			172	D			172
N			232	N			232
L			75	L			75
T	137	342	479	T	137	342	479

- **Question:** What is chi-square? Conclusions?
- **Response:**