How to Give a Contributed Talk at JSM

Tracy L Bergemann PhD
Assistant Professor of Biostatistics
University of Minnesota
berge319@umn.edu

http://www.biostat.umn.edu/~tracyb

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Goals

This presentation aims to

1. improve communication within the statistical professions

2. increase my enjoyment of future statistics conferences

3. demonstrate a positive example of a talk

Background

- $\approx 5,600$ JSM participants in 2008
- In 2009 there are projected to be more than 500 posters
- Next week there are 475 technical sessions scheduled
  - 154 invited sessions with 2–4 speakers per session
  - 132 topic contributed sessions with ≥ 4 speakers per session
  - 189 contributed sessions with 5–7 speakers per session

$\Rightarrow$ More than 2,000 speakers in technical sessions

Just like birds in Alaska trying to find mates within a very short breeding season, the most attention will go to those with the most beautiful plumage and the most brilliant and clear song.

Bohemian Waxwings courtesy of John Harrison

http://flickr.com/photos/15512543@N04/

Issues

- Poor communication - anonymous source "I don't bother going to contributed sessions anymore, I only attend invited sessions."
  - Improperly motivated research
  - Lack of clarity and focus
  - Ill-defined variables and formulae
  - Debate continues about whether or not to include formulas in talks
  - Tables versus graphs
- Poor timing - anonymous source "I get angry when people go over time. Don't they know that others also should have time to speak?"
- Too much information - anonymous source "People try to present their entire dissertation in 15 minutes"

A Failure Time Model

Suppose $Y =< t, \delta >$ is a time to event outcome where t is time in minutes and δ indicates a binary event.

$$\delta = \left\{ \begin{array}{ll} 0 & \text{no annoyance} \\ 1 & \text{annoyed listeners} \end{array} \right\}$$

Assume a waiting time distribution.

$$Y_i \sim \text{Weibull}(\theta = \exp\{\vec{X}_i\vec{\beta}\}, \gamma)$$

When $\gamma > 1$, this is an accelerated failure time model.

The linear combination is $\vec{X}_i\vec{\beta} = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + X_{i3}$. For each speaker i

$$S(t|\mathbf{X}) = S_0(t \exp\{\mathbf{X}\vec{\beta}\})$$

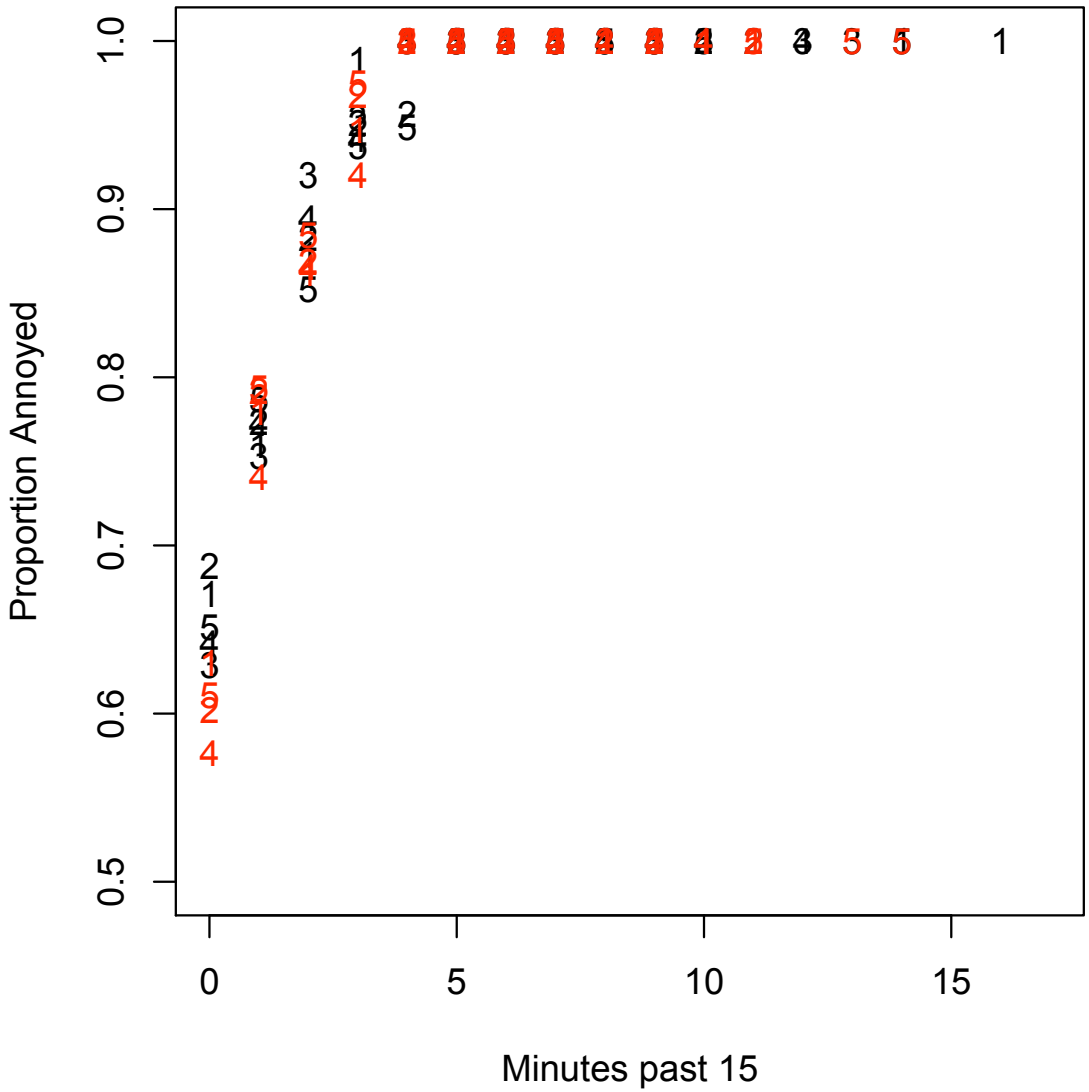
The variables are defined as follows:

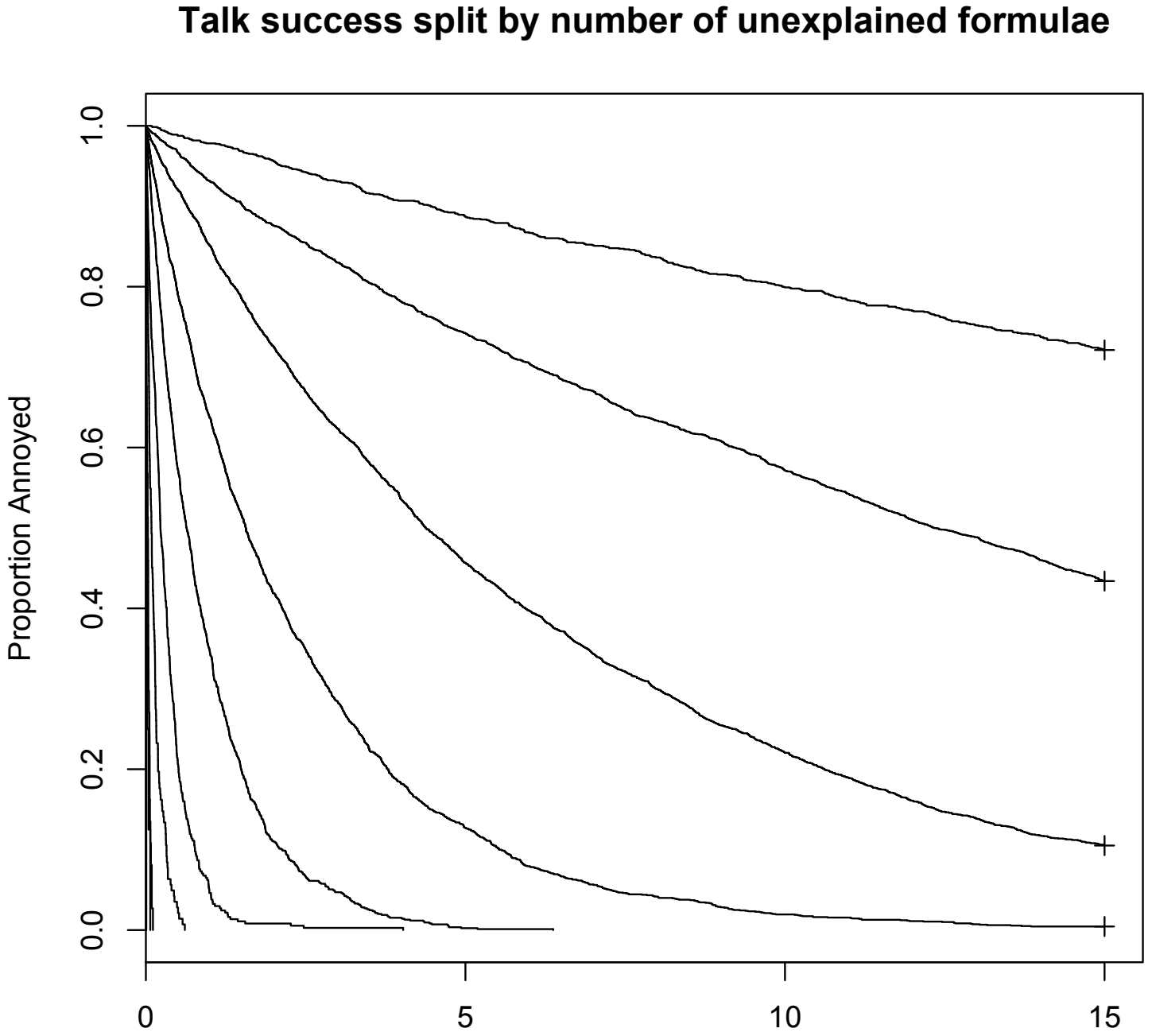
$X_{i1} =$	The number of seconds past the allotted 15 minutes
$\exp\{\beta_1\} =$	The relative risk of audience annoyance comparing two talks extended past 15 minutes where one is a second longer than the other
$X_{i2} =$	The number of formulas presented that are not carefully defined
$\exp\{\beta_2\} =$	The relative risk of audience annoyance comparing two talks where one has an additional undefined formula compared to the other
$X_{i3} =$	The total number of slides
$\exp\{\beta_3\} =$	The relative risk of audience annoyance comparing two talks where one has an additional slide compared to the other

Simulation parameters

- 10,000 talks
- $X_1 \sim \text{Exp}(0.01)$ for the number of seconds past 15 minutes
- $X_2 \sim \text{Poisson}(2)$ for the number of ill-defined formulae
- $X_3 \sim \text{Poisson}(16)$ for the total number of slides
- $\gamma \in \{1, 1.2, 1.4, \ldots, 2.6, 2.8\}$ to model various accelerated failure times
- $\beta_0 = 6, \beta_1 = -0.01, \beta_2 = -1, \beta_3 = -0.1$

Scaling parameters $\{1, 1.2, 1.4, 1.6, 1.8\}$ are black
and $\{2, 2.2, 2.4, 2.6, 2.8\}$ are red.




Talk success split by number of unexplained formulae
Proportion Annoyed
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15

Proportion of annoyed listeners for each minute past the 15 minute deadline

Scale	Number of minutes past 15											
γ	1	2	3	4	5	6 $\cdots$	11	12	13	14	15	17
1	0.67	0.76	0.87	0.99	1	1	X	X	X	X	1	1
1.2	0.69	0.77	0.88	0.95	0.96	1	1	1	X	X	X	X
1.4	0.63	0.75	0.92	0.95	1	1	X	X	1	1	X	X
1.6	0.64	0.77	0.89	0.94	1	1	1	X	1	X	X	X
1.8	0.65	0.79	0.85	0.94	0.95	1	1	X	X	X	1	X
2	0.63	0.78	0.86	0.95	1	1	1	1	X	X	X	X
2.2	0.60	0.79	0.87	0.97	1	1	X	1	X	X	X	X
2.4	0.61	0.71	0.90	0.97	0.97	1	1	1	X	X	X	X
2.6	0.58	0.74	0.87	0.92	1	1	1	X	X	X	X	X
2.8	0.61	0.79	0.88	0.98	1	1	X	1	X	1	1	X

Solutions

- JSM contributed talks should have a maximum of 15 slides and take a maximum of 15 minutes to present
- Only present things that can be carefully and rigorously explained
- Emphasize three main concepts so that listeners can remember the most important messages from the research

These solutions require the presenter to properly prepare in advance.

Issues

- Should JSM talks include formulas?
  - Yes! The audience is full of people who know how to read formulas
  - Caution: Be sure to carefully define the notation
- Tables versus graphs?
  - Graphs! They are easier to read than lots of columns of little numbers
  - Caution: Be sure that are lines and colors are visible and not invisible

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