

DESIGNING STUDIES THAT YOU CAN LEARN FROM

Scott Klemmer

“Do You Like My Interface?”

“How much do you like
my interface?”

“How much do you like
my interface?”

“This is a useful
interface: agree/disagree”

Please the Experimenter Bias

Getting beyond “*do you like my interface?*”

Getting beyond “*do you like my interface?*”

- What's the comparison?

Getting beyond “*do you like my interface?*”

- What's the comparison?
- What's the yardstick?

Getting beyond “*do you like my interface?*”

- **Baselines:** How often does Y occur?
 - Requires measuring Y.

Getting beyond “*do you like my interface?*”

- **Base rates:** How often does Y occur?
 - Requires measuring Y.
- **Correlations:** Do X and Y co-vary?
 - Requires measuring X and Y.

Getting beyond “*do you like my interface?*”

- **Baserates:** How often does Y occur?
 - Requires measuring Y.
- **Correlations:** Do X and Y co-vary?
 - Requires measuring X and Y.
- **Causes:** Does X cause Y?
 - Requires measuring X and Y, and manipulating X.
 - Also requires somehow accounting for the effects of other independent variables (confounds)!

Let's introduce a few terms...

manipulations

Independent Variables

measures

Dependent Variables

IS MY COOL NEW APPROACH BETTER
THAN THE INDUSTRY STANDARD?

iPhone & Qwerty users similar speed, but make more errors

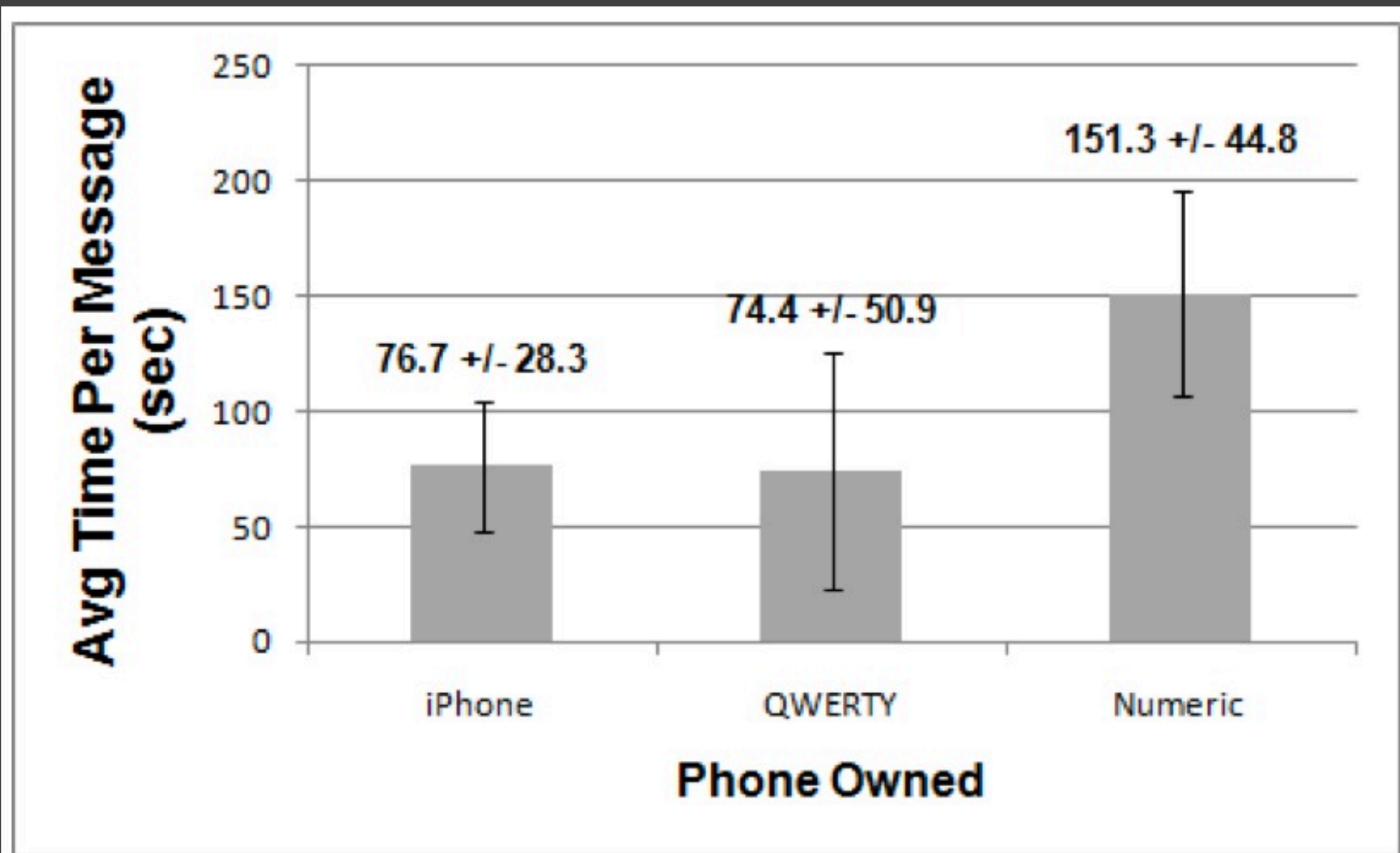


Figure 1. Average time to type a message on phones owned by the participants ($M \pm SD$).

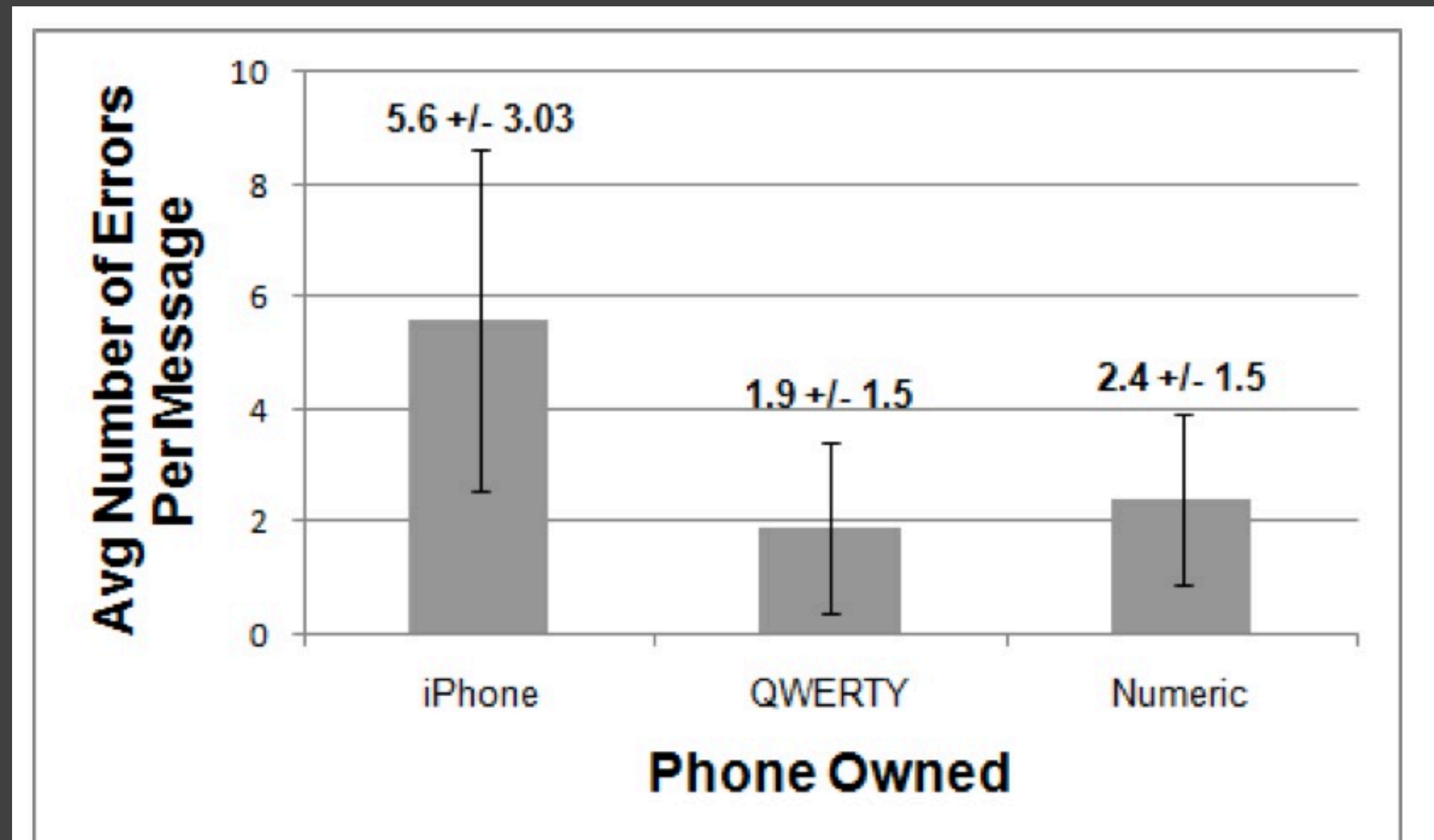


Figure 2. Average number of total errors per message made by participants using their own phones ($M \pm SD$).

Strategies for fairer comparisons

Strategies for fairer comparisons

- Insert your new approach into the production setting

Strategies for fairer comparisons

- Insert your new approach into the production setting
- Recreate the production approach in your new setting

Strategies for fairer comparisons

- Insert your new approach into the production setting
- Recreate the production approach in your new setting
- Scale things down so you're just looking at a piece of a larger system

Strategies for fairer comparisons

- Insert your new approach into the production setting
- Recreate the production approach in your new setting
- Scale things down so you're just looking at a piece of a larger system
- When expertise is relevant, train people up

IS INTERFACE X BETTER
THAN INTERFACE Y?

Most often, the answer is
“it depends”

Most often, the answer is
“it depends”

The question is “on what”?

Class Task

Class Task

- We get a lot of questions regarding TA and Instructor office hours.

Class Task

- We get a lot of questions regarding TA and Instructor office hours.
- Let's try and come up with questions that would help us improve this part of the class website

Class Task

- We get a lot of questions regarding TA and Instructor office hours.
- Let's try and come up with questions that would help us improve this part of the class website

Class Task

- We get a lot of questions regarding TA and Instructor office hours.
- Let's try and come up with questions that would help us improve this part of the class website
- Please come up with 2-3 questions you would ask a user, in order to improve this issue