

“Yours is Better!”

Participant Response  
Bias in HCI

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 be aware

 ...ppl are bias

 underprivileged popu.



# Demand Characteristics and socioeconomic status

# unfortunately



HCI lacks  
quantifiable  
research on effects  
of demand  
characteristics

...fortunately!



450  
interviews

5x increase for  
foreign  
interviewers

set the scene



Bangalore  
India

2.5x bias  
increase for  
interviewer

most will  
root for  
your  
success



some  
might  
resent  
you



“groupthink” => bad decisions

## psychology

disguise the purpose of the study

Kenyans mistrust strangers

## public health studies

Indonesians withheld critical comments

Indian vs US interviewer  
received diff. feedback

## work in HCI, HCI4D

demand char. make  
field trials possible

.gather data from  
multiple sources

?

# Three hypotheses

1. Participants will favor the interviewer associated technology
  2. Foreign researcher + translator will create a even higher bias
  3. Participants will show preference for inferior technology if they believe it is favored by the interviewer
-

# Experimental Design



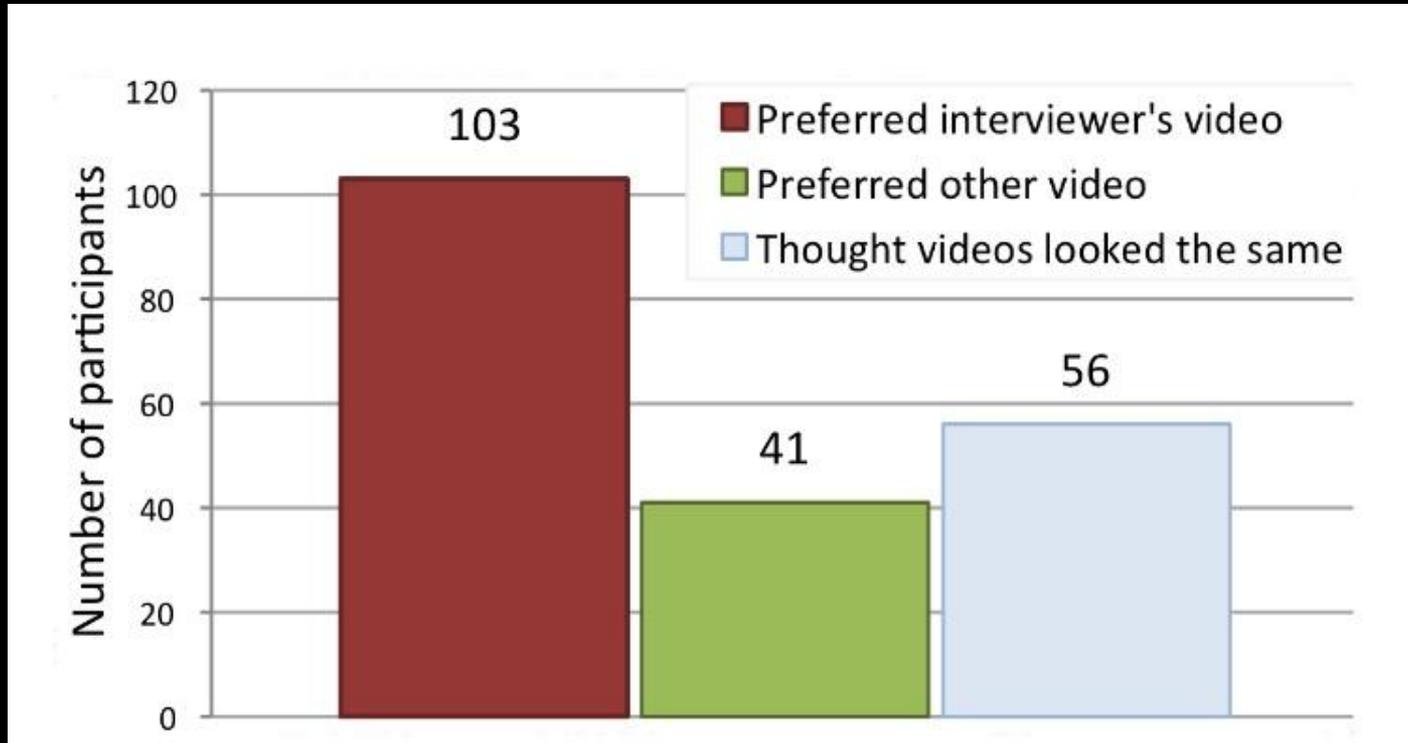
# Experimental Design: Interviewers



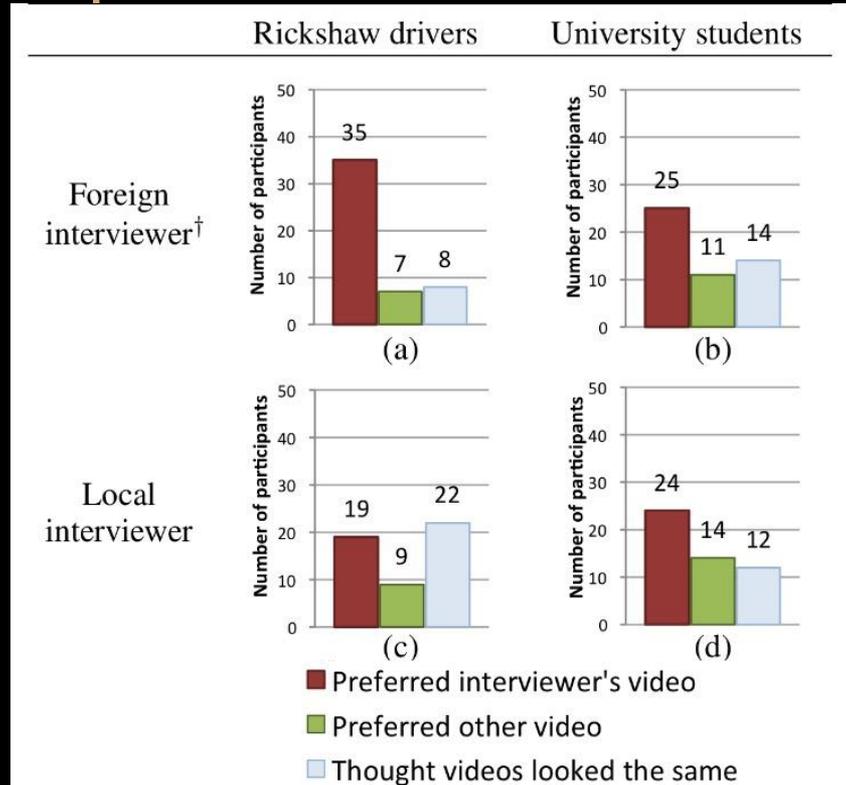
# Experiment 1: Response to Identical Videos

What happens when you show the same exact video but presented in different ways?

# Presence of Response Bias



# Impact of Foreign Interviewer



† The foreign interviewer interacted with rickshaw drivers with the aid of a translator.

# Experiment 2: Response to a Degraded Video

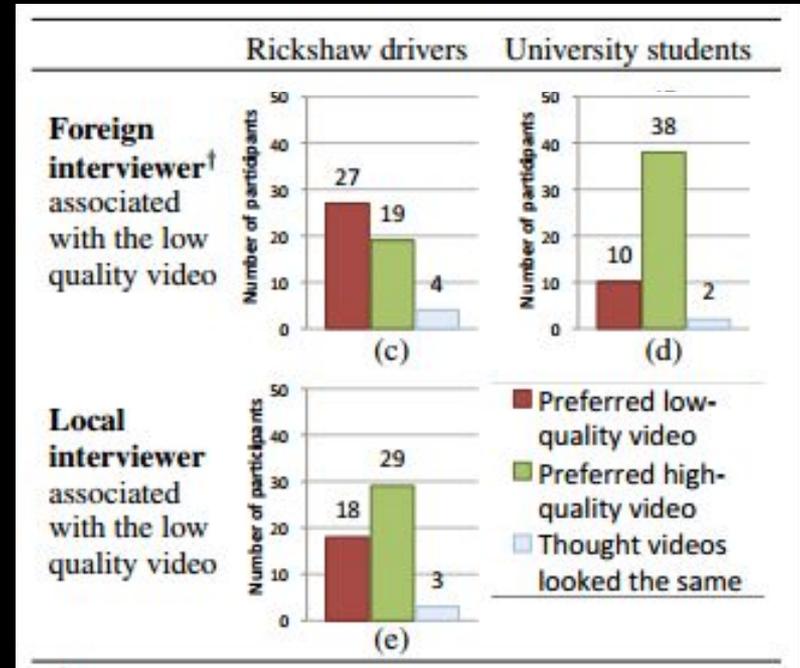
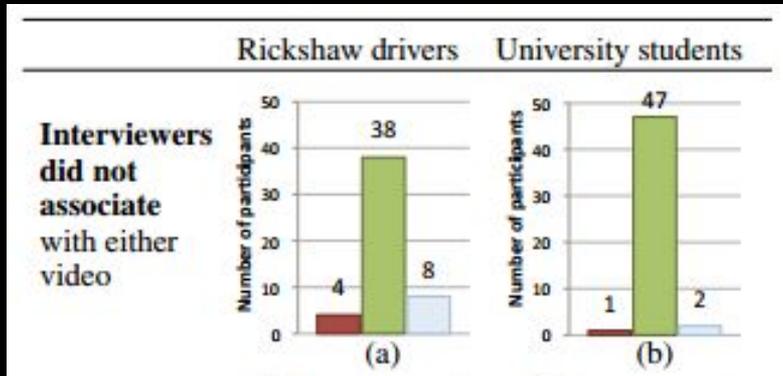
- Testing H2 & H3
- One video was downgraded:
  - Resolution decreased from 640 x 480 to 120 x 90 Pixels per frame
  - Video frame rate was halved, from 30 to 15 frames per minute
  - Audio, brightness, content, and length remained the same



# Experiment 2: Results

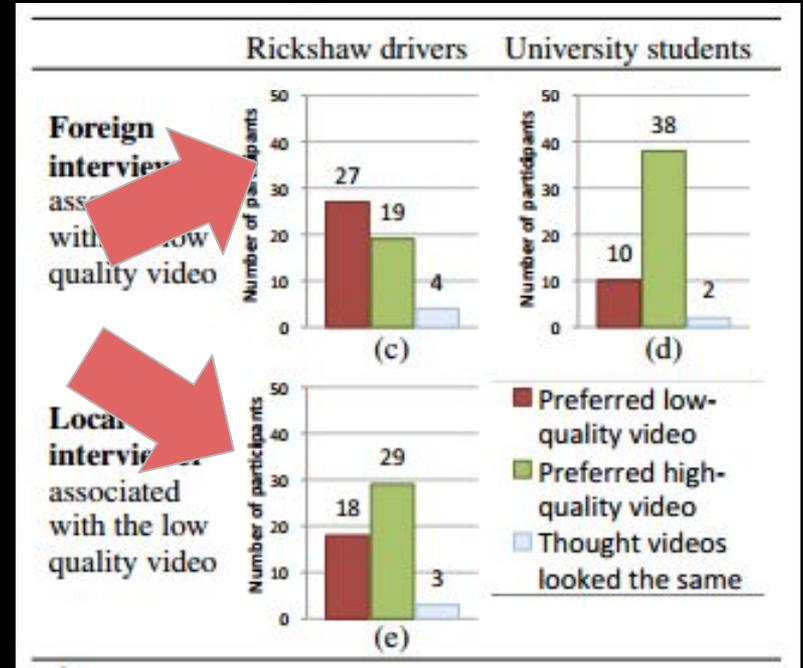
Interviewer associated themselves with lower quality video:

Control:



# Experiment 2: Key Learnings

- In a normal HCI4D scenario, it is likely that only one interviewer (foreign or local) will be utilized.
- This experiment shows that the choice of the interviewer can change the outcome of the experiment.



# Testing Hypothesis - Results

## H1: Response Bias:

- Participants that preferred the low quality video no associated to the interviewer vs. associated

Significant in all cases!

## H2: Impact of Foreign Interviewer:

- Response of rickshaw drivers across local and foreign interviewer

Significant in both cases!

## H3: Preference for Inferior Technology:

- Preference for inferior technology if it is believed to be favored by the interviewer

Not significant but foreign interviewer is unable to confirm the superior technology!

# Other Findings

- Participant genuinely believed the interviewer's artifact to be superior and identified convincing reasons to justify their choice.
  - Shown the same video:
    - “I feel that in the newer version which you have coded, whenever there was a significant color contrast between two parts of an image, your version was somewhat smoother and less pixelated”.
- Some participant were anxious to give genuine opinion.

What should experimenters do to avoid these pitfalls in field research?

# Recommendations

- Interviewers should dissociate themselves as much as possible from any particular design or solution.
- Avoid collecting and reporting subjective information from participants as a primary method of evaluation.
- Obtain factual, not subjective, information during interviews.
- Use implicit metrics or triangulation to validate data collected.
- Minimize the differences between interviewers and participants in field work to decrease response bias.