

“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



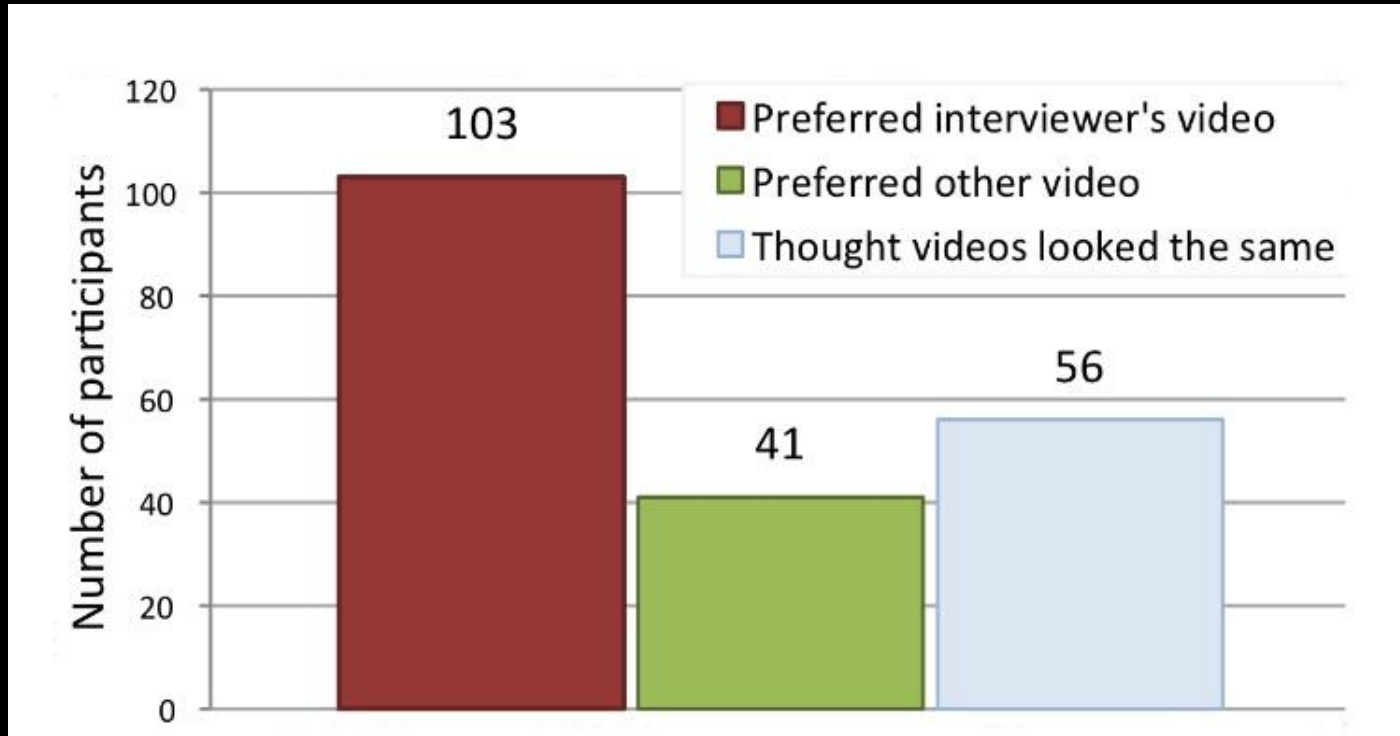
Experimental Design: Interviewers



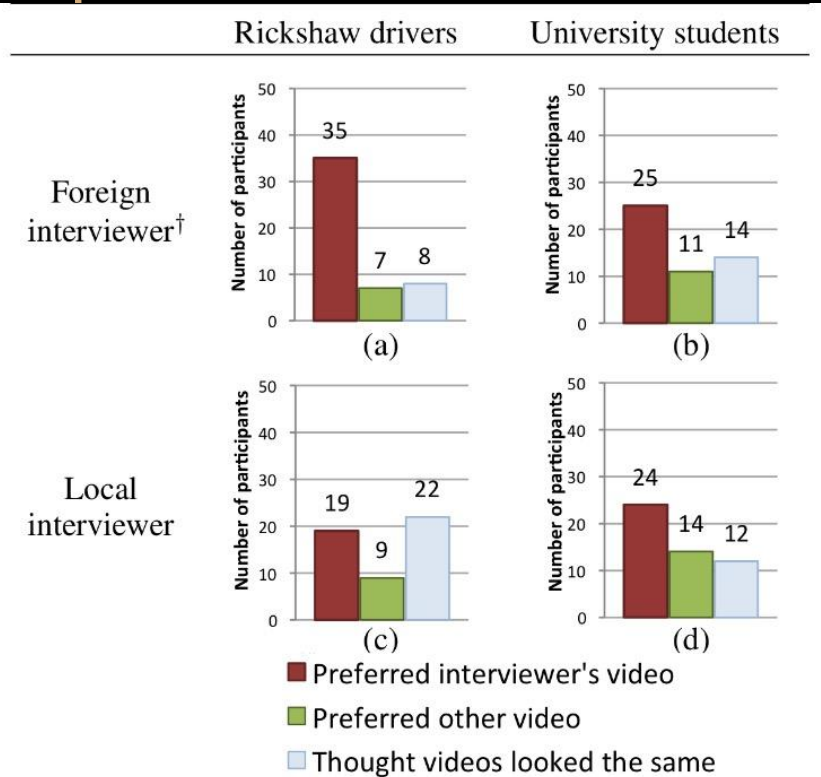
Experiment 1: Response to Identical Videos

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

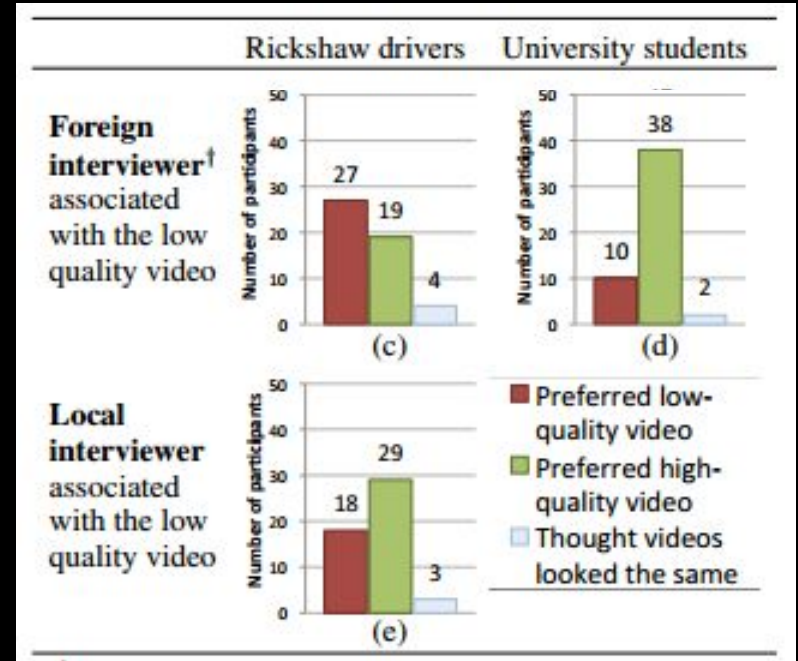
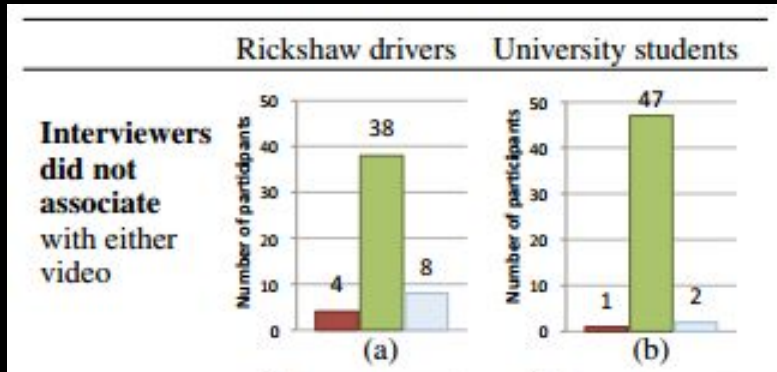
- Testing H2 & H3
- One video was downgraded:
 - Resolution decreased from 640 x 480 to 120 x 90 Pixels per frame
 - Video frame rate was halved, from 30 to 15 frames per minute
 - Audio, brightness, content, and length remained the same



Experiment 2: Results

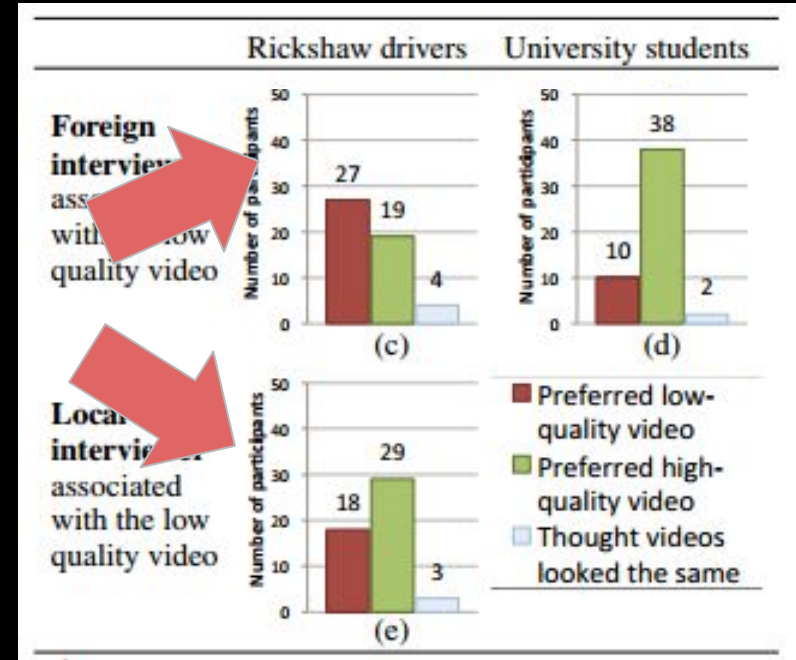
Interviewer associated themselves with lower quality video:

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.