

HRI Reading Group

@ Instituto Superior Técnico

Meeting #4 (12 Nov 2018)

Paper

Bethel, C. L., & Murphy, R. R. (2010). **Review of human studies methods in HRI and recommendations.** International Journal of Social Robotics, 2(4), 347-359.

HRI evaluation methods?

HRI is not HHI

→ Some psychology / social sciences methods are not appropriate

HRI is not HCI

→ Some design and evaluation methods are not appropriate

Experiment design

- (1) Between-subjects
- (2) Within-subjects
- (3) Mixed-model factorial design

More:

Pretest-posttest

Mixed-model

Repeated measure? What does this exactly mean?

Evaluation methods

(1) self-assessments,

Godspeed (earlier version: ALMERE), RoSAS, PANAS, Trust perception scale-HRI, Myers-Briggs (validity?), Big five (for profiling)

(2) interviews,

structured , semi-structured, or informal, depending on goals

(3) behavioral measures,

Video coding, ethnographic methods: notes, etc.,

(4) psychophysiology measures,

(5) task performance metrics

more?

Neurophysiological?

Importance of open-ended questions

Legal / ethical aspects

- IRB or equivalent
- Online vs. physical studies
- Data storage and sharing
- Multiple affiliations

Statistical tests

- Is there a systematic way to choose which test is the most appropriate?
- Is p-value enough to draw a conclusion?
- To what extent is a non-significant result useful?
- Is there an inverse test for each statistical test?
- What to do in case of “contradicting” results on different valid tests?
- What to do in case of assumptions not met for any of possible tests?
- Are there necessary standard ways of reporting statistical results, and where to look?

Failures / Unexpected behaviors

- Even when contingency plans are determined and followed, what is an acceptable percentage of failure?
- When is it okay to eliminate data points? (Assumption is violated, outlier in the data, misunderstanding of the instructions ...)

Interpreting results / inference

- Confound?
- Are there any rules of thumb for generalization?

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Meeting #5 (19 Nov 2018)