## Working With Humans: Effects and Ethics

**Some effects to be aware of when doing human-subjects research.**

**The role of ethics in evaluating interfaces with the help of human subjects.**

## Hawthorne Effect

**The basic idea behind the Hawthorne Effect (sometimes called the observer effect) is that the act of studying people can alter their behavior.**

- The name comes from the Hawthorne Works factory and a study to look at the impact lighting changes (among other things)could have on worker productivity.
- It is felt that the increased productivity was more a result of workers being motivated by the attention being paid to them.

## Pygmalion Effect

**The basic idea behind the Pygmalion Effect (or a self-fulfilling prophesy) is that if you increase the expectations imposed on a group, you can increase the average performance.**

- There is a corollary effect where decreasing expectations risks a decrease in performance.

http://art.rmngp.fr/fr/library/artworks/jean-baptiste-regnault_l-origine-de-la-sculpture-pygmalion-amoureux-de-sa-statue-priant-venus-de-l-animer_huile-sur-toile_1786

## Clever Hans Effect

**The basic idea behind the Clever Hans Effect (or observer-expectancy) is that the biases of the research can influence the participants of a study via things like body language.**

- This is a major reason for double-blind studies.

https://www.britannica.com/topic/Clever-Hans

## Effect Examples: Education Research

**These effects can all impact education research. A faculty member trying a new technique might see improvements because of things like:**

- The students sensing the faculty member's enthusiasm.
- The faculty member is pushing harder for the students more to succeed.
- The faculty member improves their core teaching approach as they prepare lessons using their new technique because they want it to succeed.

## Ethics


http://dilbert.com/strips/comic/2011-09-05/

## Ethics


"Doctor" Sid finds yet another subject for his electric-chair experiments

## Milgram and other experiments…

**1960s experiments to understand authority figures and obedience.**

**Very controversial study and a classic example that is often given of what NOT to do in experimental design.**

- It has actually been REPEATED over the years!

**A similar experiment was done at Stanford in the 1970s using the prisoner/guard model and also later seen as unethical.**

## Institutional Review Boards

**IRB Committees review experimental designs and request changes if elements of the design raise concerns.**

- **There are exemption categories, but they are very narrow.**
- **While biomedical and socio-behavioral studies are the main types that motivated this, any systematic study with humans is typically subject to review.**

## Stress Happens

**Taking part in *any* type of testing can be stressful to the participant.**

- Performance anxiety even if they are testing their product, not you.
- Feeling foolish or uninformed even if the real cause is what you are testing hasn't been built well.
- Thinking about whether others have done things faster or better or different than you.

## R-E-S-P-E-C-T

**The NUMBER ONE RULE is to always treat your participants with respect! We talked about this briefly earlier in the semester, but as we prepare to work more with people it's well worth discussing it again!**

Remind participants that they can pause or stop any time they want. If they do, you cannot show any sign of disappointment; just thank them for their time and allow them leave.

Actually, either way be sure to thank them for their time and help at the end!

## Managing subjects in an ethical manner (I)

**Before the test**

- Don't waste the user's time
  - use pilot tests to debug experiments, questionnaires etc
  - have everything ready before the user shows up
- Make users feel comfortable
  - emphasize that it is the system that is being tested, not the user
  - acknowledge that the software may have problems
  - let users know they can stop at any time
- Maintain privacy
  - tell user that individual test results will be kept completely confidential
- Inform the user
  - explain any monitoring that is being used
  - answer all user's questions (but avoid bias)
- Always let users stop the test
  - user must sign an informed consent form

## Managing subjects in an ethical manner (II)

**During the test**

- don't waste the user's time
  - never have the user perform unnecessary tasks
- make users comfortable
  - try to give user an early success experience
  - keep a relaxed atmosphere in the room
  - coffee, breaks, etc
  - hand out test tasks one at a time
  - never indicate displeasure with the user's performance
  - avoid disruptions
  - stop the test if it becomes too unpleasant
- maintain privacy
  - do not allow the user's management to observe the test
  - if you are going to record the session, make sure you have their permission and try to conceal their identity

    (note: we will discuss recording sessions in more detail next session)



## Managing subjects in an ethical manner (III)

**After the test**

- make the users feel comfortable
  - state that the user has helped you find areas of improvement
- inform the user
  - answer particular questions about the experiment that could have biased the results before
- maintain privacy
  - never report results in a way that individual users can be identified
  - only show videotapes outside the research group with the user's permission

## Respect their time

**Don't waste their time.**

- Have everything prepared and tested and set up before they arrive.
- Don't have them doing things that you don't care about.
- Thank them for their time and help at the end.

## Respect their curiosity

**Keep them informed.**

- Make it clear what you are testing (which is NOT them).
- Ask if they have any questions and answer those that you can and let them know you can answer the others after the experiment is over.
- If something goes wrong because what you are testing broke, let them know that and how long it might be if you try to fix it on the spot.

## Respect their comfort

**Make sure they have a comfortable working space.**

- This could be a good chair, fresh air, etc.
- A dorm room with dirty laundry around is not good ☺
- Give them breaks if the experiment takes a while.
- If something goes wrong, don't show emotions which make the participant think they did something wrong.
- Remind them that they aren't being tested, you are.

## Respect their privacy

**A part of respect is privacy.**

- Keep data confidential.
- Don't do testing in public spaces.
- Do not discuss experiment details with them before or afterwards in a public space.
- When writing reports, make sure there is no way to figure out who you are discussing in anecdotes.
- If videos were made for data collection, do not post them anywhere public.

## To summarize, respect…

**…their time by having everything prepared and tested and set up before they arrive and not having them doing things that you don't care about.**

- if something does go wrong, let them know that (and take responsibility for it) and if you plan to try to fix it on the spot let them know how long it might take…

**…their curiosity by keeping them informed of what's going on, answering questions they might have, etc.**

**If something does goes wrong, try to conceal emotions which may make the participant think they did something wrong and remind them that they aren't being tested, you are ☺**



## Facebook, News Feeds, and Emotions

A few years ago researchers at Facebook published outcomes of a study that looked at how emotions of one user can influence the emotions of their friends. As part of this they manipulated over half a million news feed (some to show more positive posts and some to show more negative posts).

- What do you think about this type of study in terms of Internet research, informed consent, and ethics?

## Readings (required to be done before Phase 3)

**Belmont Report**

https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/#xbasic

**Research Ethics**

http://www.ugresearch.umd.edu/researchethics.php

**When is an IRB Required?**

http://www.umresearch.umd.edu/IRB/whenisirbrequired.htm

**Consent Form guidance**

http://www.umresearch.umd.edu/IRB/Consent%20Form%20Completion%20Guide.doc