Ethics & Assessing papers

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Lecture 5

Office Hours

- Room 134- Computer Science
- Tuesdays 1-3pm
- Email- b.r.cowan@cs.bham.ac.uk
- Email me to arrange a time

What will be covered

- Ethics
  - Major points to consider in experimentation
  - Deception
- Assessing a research paper
  - What each section should say
  - The importance of method and results sections
- The concept of social capital
  - What is it?
  - Questionnaire and data for assessment

Experiments with human participants

- Voluntary consent is absolutely essential.
- Experiments should yield fruitful results for the good of society...
- The experiment should be conducted as to avoid all unnecessary physical and mental suffering and injury

Experiments with human participants

- No experiment should be conducted where there is an a priori reason to believe that death or disabling injury will occur
- Degree of risk should never exceed that determined by humanitarian importance
- Proper preparations should be made and adequate facilities provided to protect the experimental subject

Experiments with human participants

- The experiment should be conducted only by scientifically qualified persons
- Participant should be at liberty to bring the experiment to an end
- The scientist in charge must be prepared to terminate the experiment at any stage...

Experiments with human participants

Participants are NOT crash test dummies.

There are many code of ethics

- Association of Social Anthropologists of the UK and Commonwealth.
- British Association of Social Workers - Code of Ethics.
- British Educational Research Association - Ethical Guidelines.
- British Psychological Society - Code of Ethics and Conduct.
- The Chatham House Rule.
- ESRC Research Ethics framework.
- National Children's Bureau Research guidelines.
- (see http://www.rcs.bham.ac.uk/ethics/links/index.shtml)

Safety guidelines

- Social Research Association - Code of practice for the safety of social researchers

- Universities & Colleges Employer Association - Safety in fieldwork and guidelines for working overseas.

Legislation

- Data Protection Act 1998
- Equality Act 2010
- Human Rights Act
- Mental Capacity Act 2005
- NHS Act 2006 (section 251)
- Police Act 1997
- Safeguarding Vulnerable Groups Act 2006
- Criminal Records Bureau (CRB) checks - Eligible positions requiring CRB

Ethics are not easy

- do not be complacent.
- do not make the mistake of believing that you know it all.
- academics employed by a university are obliged to consult an ethics committee.
- marketers and private individuals are not!

Deception

- Participants should not, *where possible,* be deceived.
- Why might this be an issue for the integrity of an experiment?

Deception

Let's take an example:

- bystander apathy (see Piliavin & Charng, 1990 for a review).
  - What influences a member of the public to help a bystander in need?
  - E.g. a drunk who had fallen over; or a well-dressed business person who had fainted?
- Should we tell the participants the true nature of the study? Why/why not?

Deception

- If a participant knows the desired outcome of the experiment then that is likely to affect their behavior.
- To study bystander apathy we cannot even inform participants that they are in a study prior to observing them without biasing the study!
- So we try and build an ethical reason for deceiving someone.

Debriefing

- Participants should not stay deceived.

- they should be debriefed fully as to:
  - The motivations of the study
  - The condition/s they took part in
  - Given contact details of the researcher for further questions

Over to you…..

You want to test whether fear of certain objects/ creatures is innate (present at birth) or whether it is learned

- What conditions could you have?
- Who are your participants?
- What are the ethical considerations?

Little Albert

- John Watson (a behaviorist), used a 9 month old child as a subject.
- Placed Albert in the middle of a room with a white lab rat. Albert was not scared.
- Over a period of two months Albert was then exposed to various things without any sort of conditioning; a white rabbit, a monkey, masks etc...

Little Albert

- Then Albert was again placed in a room with the rat. However, this time, when the rat was touched by Albert, Watson would make loud sounds behind him.
- When this occurred, Albert would get frightened and begin to cry. Watson continued to do this until eventually, Albert became distressed whenever exposed to the rat.

Little Albert

- Eventually, Albert associated anything fluffy or white with the loud noise.

- Albert was never desensitized to his fear.

Assessing a paper

Papers and Reports

- There are 4 core elements to a scientific paper
  - Introduction
  - Method
  - Results
  - Discussion
- Each serves an important purpose

Introduction

- Laying the ground for the work
  - Introducing the problem/question
  - Using existing literature
  - Argumentation and clear reporting of previous findings
  - Clear statement of hypotheses and aims of the research

Method

Fully describe the research methods

Participants

- How many participants did you use?
- Who were they?
- How were they sampled?

Materials

- What questionnaires did you use? Reference the original authors
- What materials did you use?

Method

Conditions (Independent variables)

- What were the conditions in your experiment?
- Was it within or between participants?
- How did you design them? What were the key manipulations?
- Counterbalancing?

Procedure

- A step by step guide of how the experiment was run
- Payment of participants
- Number of trials
- Debrief procedure

content of your methods section depend on the details of the study conducted.

Results

- Reporting the data analysis
  - What tests were used?
  - What program/packages?
  - Descriptive statistics (mean/standard deviation)
  - Graphs of the data
  - Reporting of statistics in APA style
    - E.g. r (88) = .78, p<.001
  - State whether null hypothesis can be rejected
  - Non technical explanation of the results

Discussion

- Placing the findings in the context of previous work
  - Reiterate findings in non technical way
  - Place findings in wider literature
  - Describe limitations
  - Expand with ideas for future work
  - Conclude with summary

Critiquing a paper

- Introduction
  - Does the "story" make sense? Is argumentation used effectively? Is there good evidence used for claims?

- Method
  - Is the sample selected appropriately? Are the conditions/measures effective? Is the experimental approach actually answering the question?

Critiquing a paper

- Results
  - Are the tests effective in assessing the hypothesis? Are they appropriate? Have assumptions been checked? Has the familywise error rate been controlled for?

- Discussion
  - Does the interpretation of the statistics make sense? Does the interpretation use relevant literature to bolster its claims? Is this literature of good quality itself?

Critiquing a paper

- Why is this important?
  - Lots gets published, not all of it is of good quality
  - Poor papers lead to wasted scientific effort
  - Spot problems and you will avoid wasting time
  - Spot problems and you will be helping the community
  - It is important that science is based on good quality, replicable evidence

Social Capital- Assessment

What is social capital?

understood roughly as "the good will that is engendered by the fabric of social relations and that can be mobilized to facilitate action."

- Resources which are available in one's network

Bridging Social Capital

- Also known as 'weak ties'
- Typically do not provide emotional support.
- But access to individual's outside one's close circle provides access to non-redundant information, resulting in benefits such as employment connections, novel information and perspectives

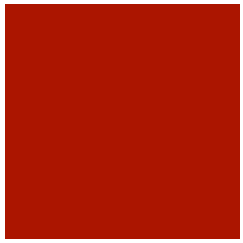
Bonding Social Capital

- Found between individuals in tightly-knit, emotionally close relationships.
  - e.g. family and close friends.
- Highly trusting relationships.
- With e.g., delayed reciprocation.
- Access to social and emotional support

Jung, Gray, Lampe & Ellison (2013)

- Social media (like Facebook) helps build, maintain and benefit from relationships
- Looking at dimensions of social capital as well as favour executions by friends.
- Task: people ask facebook friends for favour to complete a survey
- Found:
  - No relationship between favours and social capital
  - Sub scales of social capital "individual benefit" related to favour asking
  - People who have higher frequency of asking for help from Facebook friends had higher number of responses

Bridging social capital		
Outward-looking	1	Interacting with people in my Facebook network makes me interested in things that happen outside of my town.
	2	Interacting with people in my Facebook network makes me want to try new things.
	3	Interacting with people in my Facebook network makes me interested in what people unlike me are thinking.
	4	Talking with people in my Facebook network makes me curious about other places in the world.
Broader group	5	Interacting with people in my Facebook network makes me feel like part of a larger community.
	6	Interacting with people in my Facebook network makes me feel connected to the bigger picture.
	7	Interacting with people in my Facebook network reminds me that everyone in the world is connected.
	8	I am willing to spend time to support general Facebook community activities.
Meeting new people	9	Interacting with people in my Facebook network gives me new people to talk to.
	10	Through my Facebook network, I come in contact with new people all the time.
Bonding social capital		
Individual benefit	1	There are several people in my Facebook network I trust to help solve my problems.
	2	There is someone in my Facebook network I can turn to for advice about making very important decisions.
	3	There is no one in my Facebook network that I feel comfortable talking to about intimate personal problems.
	4	When I feel lonely, there are several people in my Facebook network I can talk to.
	5	If I needed an emergency loan of $500, I know someone in my Facebook network I can turn to.
	7	The people I interact with in my Facebook network would be good job references for me.
Collective action (More sacrifice)	6	The people I interact with in my Facebook network would put their reputation on the line for me.
	8	The people I interact with in my Facebook network would share their last dollar with me.
	9	I do not know people in my Facebook network well enough to get them to do anything important.
	10	The people I interact with in my Facebook network would help me fight an injustice.



Model 1						
Variables	1	2	3	4	5	6
1 Actual friends	-					
2 F of asking help	.375**	-				
3 SRI	.387**	.250**	-			
4 N of strategies	.004	-.101	.204*	-		
5 Bridging SC	.213*	.334**	.504**	.138	-	
6 Bonding SC	.238*	.195*	.259**	.128	.213*	-

Model 2									
Variables	1	2	3	4	5	6	7	8	9
1 Actual friends	-								
2 F of asking help	.375**	-							
3 SRI	.387**	.250**	-						
4 N of strategies	.004	-.101	.204*	-					
5 Outward looking	.129	.254**	.334**	.185	-				
6 Broader group	.214*	.278**	.443**	.168	.399**	-			
7 New people	.127	.218*	.351**	-.067	.382**	.284**	-		
8 Individual benefit	.164	.108	.184	.097	.147	.076	.046	-	
9 Collective action	.241*	.195*	.307**	.116	.196*	.350**	.052	.479**	-

Table 4. Correlation matrices

Ellison et al (2007)

- Relationship between the use of Facebook, and the formation and maintenance of social capital at Michigan State University

- Hypotheses
  - H1: Intensity of Facebook use will be positively associated with individual's perceived bridging social capital
  - H2: Intensity of Facebook use will be positively associated with individual's perceived bonding social capital

Measures

- Bridging social capital
- Bonding social capital
- Maintained social capital
- self-esteem
- Facebook intensity
- Life Satisfaction at MSU
- All questionnaire based- Scores calculated by taking the mean of the item scores on that scale

Table 2 Summary statistics for Facebook intensity

Individual Items and Scale	Mean	S.D.
Facebook Intensity[1] (Cronbach's alpha = 0.83)	**−0.08**	**0.79**
About how many total Facebook friends do you have at MSU or elsewhere? 0 = 10 or less, 1 = 11–50, 2 = 51–100, 3 = 101–150, 4 = 151–200, 5 = 201–250, 6 = 251–300, 7 = 301–400, 8 = more than 400	4.39	2.12
In the past week, on average, approximately how many minutes per day have you spent on Facebook? 0 = less than 10, 1 = 10–30, 2 = 31–60, 3 = 1–2 hours, 4 = 2–3 hours, 5 = more than 3 hours	1.07	1.16
Facebook is part of my everyday activity	3.12	1.26
I am proud to tell people I'm on Facebook	3.24	0.89
Facebook has become part of my daily routine	2.96	1.32
I feel out of touch when I haven't logged onto Facebook for a while	2.29	1.20
I feel I am part of the Facebook community	3.30	1.01
I would be sorry if Facebook shut down	3.45	1.14

Notes: [1]Individual items were first standardized before taking an average to create scale due to differing item scale ranges. [2]Unless provided, response categories ranged from 1 = strongly disagree to 5 = strongly agree.

Ellison et al., (2007)

- Findings
  - Facebook intensity strong predictor of three types of social capital measured
  - Strongest prediction was with bridging social capital

Limitation of Ellison et al. (2007)

- Focuses on social capital between MSU students
  - What about someone's wider social network?
- Conducted in 2006- Perhaps influenced by fashion?
- Causal direction impossible to establish
  - Does high social capital cause, or is caused by SNS use?

Our study

- Facebook intensity, Bonding & Bridging social capital
- Using measures from Jung instead of Ellison (2007)
  - Focus on Facebook network rather than local group
- Correlation study
- Based on what we know from the papers and social capital, what are our hypotheses?
- How would we analyse this with the data we have?

Today's practical

- Clean your dataset
- Assess the demographics- mean and SD of age, gender split of sample.
- Analyse questionnaire data
  - Create scale scores
  - Descriptives/graphs
  - Normality test of data
  - Analysis of the relationship between the variables (see last week if stuck for analysis ideas)

Hints for Practical

- Id10 does not use Facebook. Should you remove this row?

```
data[!data$id == "10", ]
```

- There are 6 questionnaires in the dataset. We are only interested in 3 of them.
- Reverse scoring items
  - bonding_3 and bonding_9 are not the same polarity as the other items. We need to reverse those scores e.g. make a score of 5 into 1; 4 into 2 etc..

    You can do this with a simple calculation
- Making scores for the questionnaire scales can be done by creating a mean of the scores in the relevant columns for each participant

```
rowMeans (data[row, column])
```