Sizing up Psi in a University Classroom: Exploration, Acceptance & Skepticism

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Class on Research in Psi Phenomena: Edges of Science

- psi = “supposed psychic faculties or phenomena” (Oxford English Dictionary)
- How to teach as an acceptable university course?
  - The approval process
  - Provided Core-Curriculum credit in “Critical Thinking,” not Science
  - Offered as Honors seminar course
- How would in-depth knowledge affect students’ view of the existence of psi?
## Acceptance of the Existence of Psi

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Course Format

• Reading research papers, summary texts & articles
• Class discussions. Divided into three groups:
  – Advocates, Skeptics & Interrogators
• Rigorous experimental research projects
• History of maverick science success & failures
• The “scientific method”
  – Hypothesis ⇒ experiment ⇒ conclusion: an artificial construct
  – Falsifiability: necessary
• Statistical analysis
  – Statistical significance & inference
    • Unconvincing for some
• Psi research
  – Telepathy
  – Remote perception
  – Psychokinesis
  – Precognition; logic & retro-causality (mind bending)
  – Remote healing
  – Models
  – Reproducibility & experimenter effect
    • Most troubling aspect of phenomena
• Skepticism & debunking
Experimental Projects

1. Telepathy among intimate partners
2. Intention & random number generators
3. Intention & staring
4. Physiological effects of Feng Shui
5. Premonitions
6. Retroactive intercessory prayer & holocaust survival
7. Effect of “meanspeak” on plant growth
1: Telepathy among Intimate Partners
Kristen Walker & Tehani Pestalozzi

- Motivation
  - Tibetan tradition: strong karmic connection between intimate partners lasts 7 years after an encounter

- Approach
  - Sensing whether room on other side of brick wall contains: partner, stranger, or no one

- Hypothesis
  - Hit rate for trials involving receiver’s partner should be greater than 33.3%

- Experiment
  - 504 trials
    - 7 couples together 3-10 years, 4 couples 11-22 yrs
  - Protocol set out in advance
  - Carefully managed so receiver saw & heard no one
Telepathy among Intimate Partners: Results

Kristen Walker & Tehani Pestalozzi

- Chance would be 33.3% correct
- Success between partners: 38.3%
  - Success rate between partners of fewer than 10 years: 44.4%
- Success between strangers: 28.8%
  - If opposite sex: 35.1%
- Success rate for empty room: 28.6%
- p-values
  - Overall: 0.23
  - Related samples t-test comparing hits ratio for partner versus stranger or empty room: 0.034 ⇒ statistically significant
2: Intention & Random Number Generators
Stacia Roberts & Doug Schuyler

- Using psychokinesis to affect output of random number generators (RNGs)
  - Used Orion Electronics RNGs with Orion software package
- Looked at change in success rate over time
- 540 trials
- Results
  - No clear trend in hit rate over time
  - Overall p-value: 0.012 ⇒ statistically significant
3: Intention & Staring
Meg Risley & Danielle Summerlin

• Motivation
  – To determine whether intention during staring affects one’s ability to sense the stare

• Hypothesis
  – Staring with intention will be sensed better than without

• Experiment
  – 1073 trials
  – All trials videotaped for experimenter to monitor
    • Note: student experimenters were aware of studies showing that subjects could sense being stared at via TV, but considered it “rather ridiculous”

• Results
  – No consistent trend with intention ⇒ null result

• Professor’s comment
  – TV monitoring was major confounding variable
Motivation
  - To measure effects of Yin and Yang surroundings versus Feng Shui

Hypothesis
  - A Yin environment will produce relaxation and a Yang environment will produce agitation compared to a balanced Feng Shui environment

Experiment
  - 23 x 3 trials in Yin, Yang & balanced Feng Shui rooms
  - Subjects blindfolded
  - Pulse rate of subjects measured before & after exposure to environments

Results
  - Yang environment: no significant effect (p-value = 0.97)
  - Yin environment: higher pulse (p-value = 0.0007) ⇒ psi missing?
  - Confounding variable? (e.g., candle, individual’s presence)
5: Premonitions
Suzanne Spiegel & John Christiansen

• Motivation
  – To analyze psi in natural, non-laboratory conditions

• Procedure
  – Gathered 30 premonitions and categorized them
    • Subjects: Death in family, 9/11, traffic citation, etc.

• Conclusions
  – 70% premonitions of negative events
  – 48% concerning family, 23% concerning self
  – Appear to prepare for & possibly prevent misfortune
  – Difficult to assess probability that premonitions were due to chance
  – Persons having premonitions develop strong sense as to whether they are accurate
6: Retroactive Intercessory Prayer & Holocaust Survival
Michelle Bedard & Amy Cacace

• Motivation
  – Intercessory prayer studies including retroactive effect on bloodstream infection published by Leibovici

• Hypothesis
  – Retroactive intercessory prayer would affect survival rate of Auschwitz concentration camp prisoners

• Experiment
  – List of 178 survivors and 363 non-survivors generated
  – 277 randomly assigned to prayer group & 264 to non-prayer group (double blind)
  – 17 people prayed for prisoners represented by the number 277
    • People praying not told experiment was retroactive

• Results
  – Within chance ⇒ null result
    • Prayer group p-value = 0.85
    • Control group p-value = 0.98
  – Might be better to pray for results that lie on a continuum, to allow for subtle influence
7: Effect of “Meanspeak” on Plant Growth

Jesse Rains

- Hypothesis
  - Plants will respond to negative human communication with reduced rates of vertical growth

- Experiment
  - 100 seeds divided into four groups & allowed to germinate
    - A: Exposed to plant cutting & meanspeak (15 min/week)
    - B: Exposed to plant cutting only
    - C: Exposed to meanspeak only
    - D: Neither
  - Treated identically otherwise
  - Measured height & germination rate using ruler and camera
Effect of “Meanspeak” on Plant Growth

Jesse Rains

Results

A: Exposed to plant cutting & meanspeak  \( p = 0.0007 \)
B: Exposed to plant cutting only  \( p < 0.0001 \)
C: Exposed to meanspeak only  \( p = 0.0003 \)
D: Neither (control)
   \( \Rightarrow \) Statistically highly significant
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After

Most convincing evidence
Personal
Anecdotal
Statistical
Does this course belong in a university curriculum?

Surveyed at end of course

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Possibly

Probably not

No way
Conclusions

• In course
  – Students were exposed to real issues in the scientific method through experimentation
  – Students participated in critical thinking, with no obvious correct answer

• Among intelligent people who are knowledgeable about psi research, a fully convincing case for the existence of psi has not yet been made

P.S.: This is what tenure is for!