

# **Paranormal Beliefs: Levels of Skepticism among Psychology Students**

*Andrew Russell*  
*Robert Morris University*

## **Abstract**

The term paranormal can be interpreted as referring to anything currently unexplained by science. Historically, humans have believed in strange things (earth is flat, sun orbits the earth, etc.). However, with today's scientific progress it would stand to reason that belief in the paranormal would be on the decline. Three psychology classes were given the Survey of Beliefs (General psychology, cognitive psychology, and psychology of paranormal beliefs). Surveys were scored to indicate general level of skepticism. Class survey means and the five top and bottom scoring questions were compared.

## **Introduction**

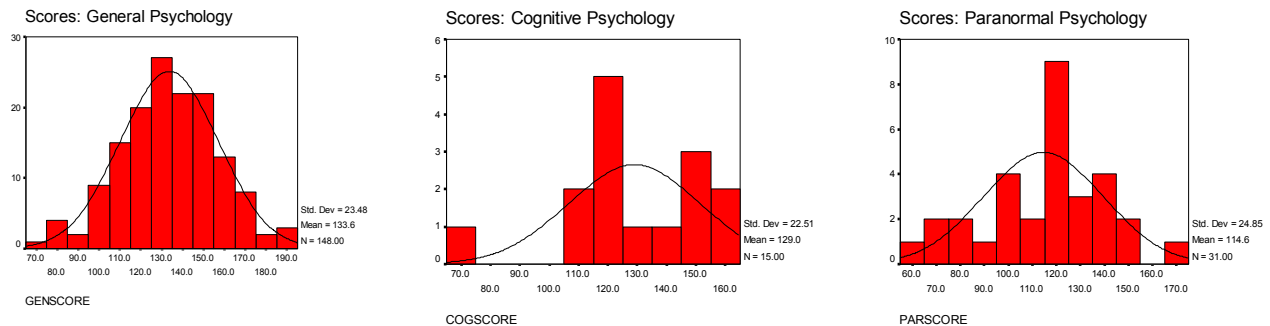
Skepticism is the process of “questioning the validity of a particular claim by calling for evidence to prove or disprove it” (Shermer, 1997, p. 17). By applying skepticism, an individual should be able to come to an accurate conclusion about the validity of a belief. How common is the application of skepticism? How effectively is it applied? We surveyed 194 college students to determine levels of skepticism for normal and paranormal beliefs.

## **Methods**

The Survey of Beliefs consists of 35 questions; some about accurate scientific and historical ideas, others about paranormal or unusual beliefs. It was administered at the end of the semester to three classes of undergraduate students: a General Psychology class, a Cognitive Psychology class, and a Psychology of Paranormal Beliefs class. The General Psychology class is mandatory for all students and representative of the general student population. The Cognitive Psychology class is an elective, taken by students who are interested in thought. The Psychology of Paranormal Beliefs class is taken by students who are interested in paranormal beliefs.

# Data

## Comparison of score distributions between classes:



### Top and Bottom 5:

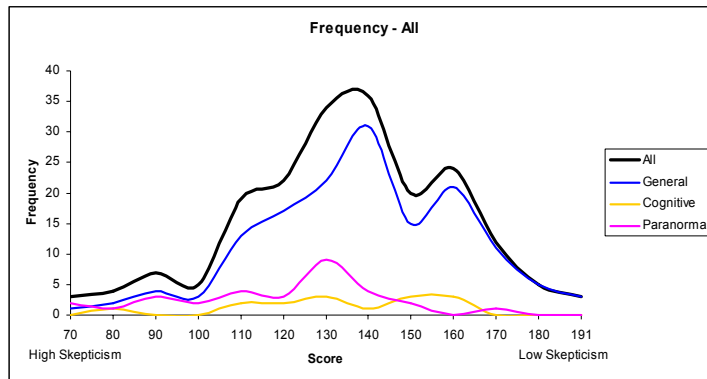
#### Overall Top 5 – The LEAST amount of skepticism applied:

- **6.86: Beliefs are harmless**  
“I don't think there is anything wrong with believing in superstitions, supernatural events, or anything paranormal because doing so doesn't harm anyone.”
- **6.75: The Bermuda Triangle is dangerous**  
“There is a section of ocean called the Bermuda Triangle where an unusual number of strange disappearances have occurred over the years.”
- **5.62: Ghosts are real**  
“There is NO such thing as ghosts.”
- **5.01: The Shroud of Turin is real**  
“I believe that the Shroud of Turin is a holy relic that shows the imprint left by the crucified body of Jesus Christ.”
- **4.95: Subliminal messages work**  
“Subliminal Messages (such as those in self-help tapes) are a scam and do NOT really work.”

#### Overall Bottom 5 – The MOST amount of skepticism applied:

- **1.58: The Holocaust Didn't Happen**  
“The Holocaust actually happened.”
- **1.66: A Blatantly Silly Claim**  
“If a stranger told me that they received messages from aliens through braces in their teeth, I would believe them.”
- **1.76: Smoking Causes Cancer**  
“Smoking causes cancer.”
- **1.32: The Easter Bunny**  
“There is NO such thing as a real Easter Bunny that delivers candy and decorated eggs to children.”
- **1.81: Elvis is dead**  
“Elvis Presley is dead.”

## Comparison of score distributions between classes:

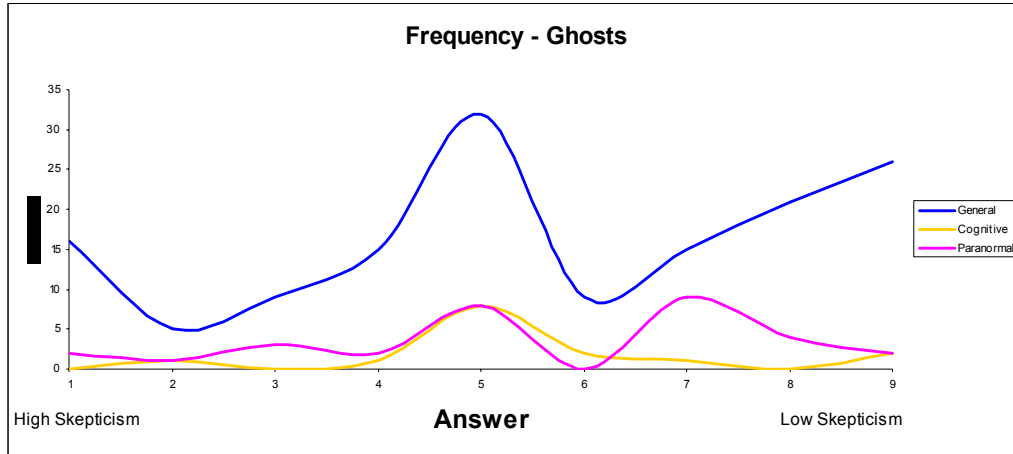


	Gen	Cog	Para	OVERALL
AVG	133.6	129.0	114.6	130.2
SD	23.5	22.5	24.5	24.5
MIN	67	74	64	64
MAX	191	160	168	191
N	148	15	30	194
%	42%	41%	36%	41%

## Analysis of Four Individual Questions

### Ghosts are real

“There is NO such thing as ghosts.”

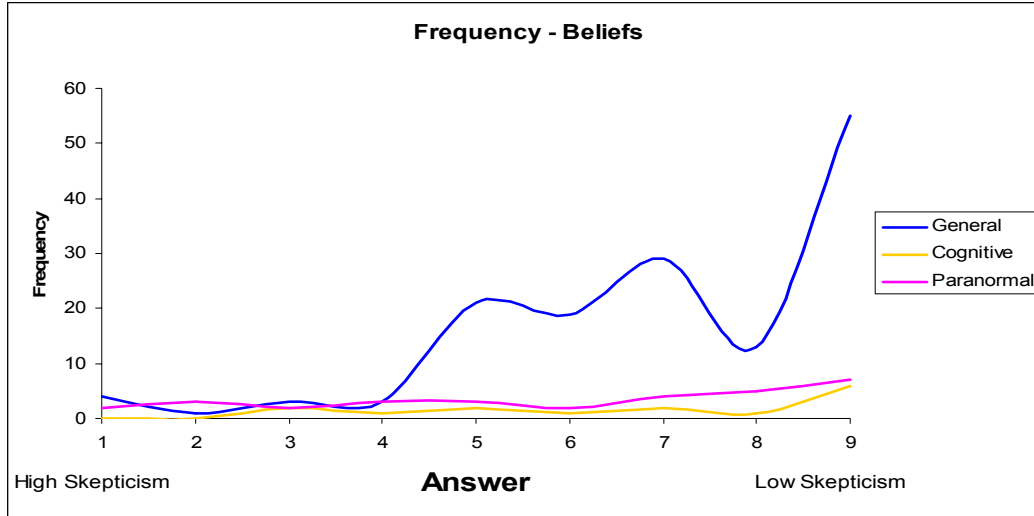


	General	Cognitive	Paranormal
AVG	5.635135	5.533333	5.6129032
SD	2.591122	2.14716	2.3709096
MIN	1	2	1
MAX	9	9	9
N	148	15	30
AVG %	0.576613	0.566667	0.5766129

- Very low amount of skepticism
- Cognitive class is mostly unsure
- High standard deviation
- Possible Explanations:
  - Hope for an afterlife
  - Simple explanation for events which are difficult to explain (noises, dreams)
  - Religion

## Beliefs are harmless

“I don't think there is anything wrong with believing in superstitions, supernatural events, or anything paranormal because doing so doesn't harm anyone.”

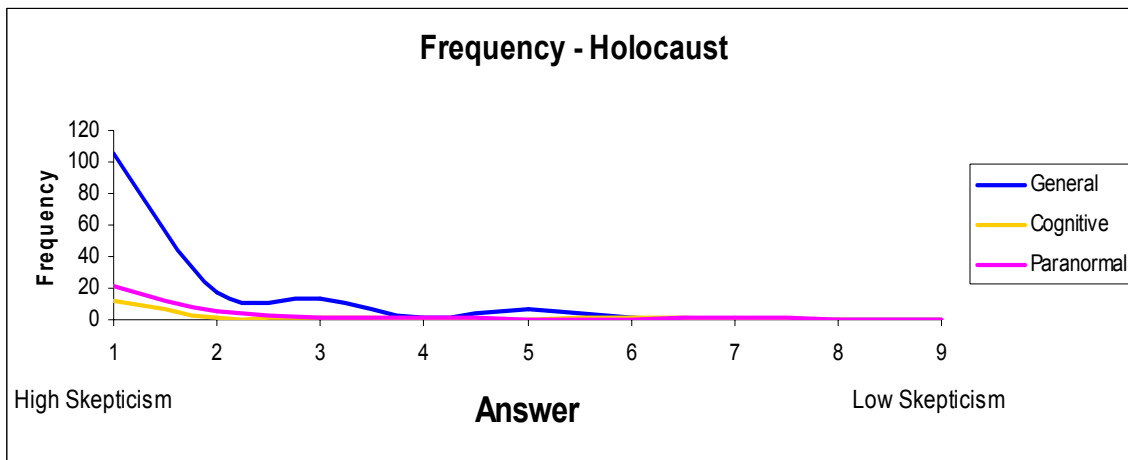


	General	Cognitive	Paranormal
AVG	7.081081	6.8	5.9354839
SD	3.071563	7.453779	5.8138745
MIN	1	1	1
MAX	9	9	9
N	148	15	30
AVG %	0.760135	0.725	0.6169355

- Lowest amount of skepticism
- Psychology of Paranormal Beliefs class more likely to answer correctly
- Possible Explanations:
  - The students didn't think the question through before answering
  - Based on the nature of the question, the answer may have seemed obvious
  - The students in the Psychology of Paranormal Beliefs class are there because they know how important beliefs are

## The holocaust actually happened

“The holocaust actually happened.”

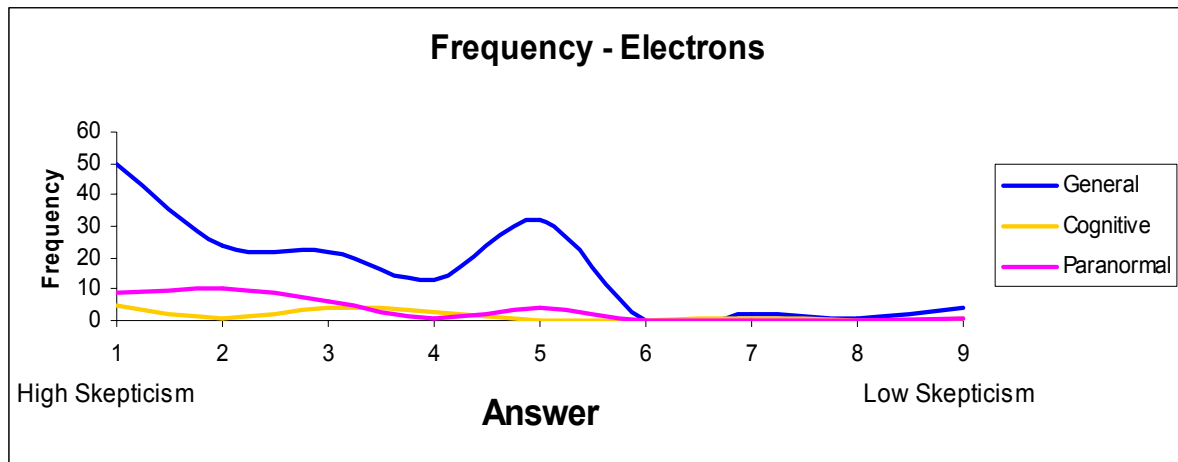


	General	Cognitive	Paranormal
AVG	1.574324	1.533333	1.6129032
SD	1.19282	1.888432	1.5666989
MIN	1	1	1
MAX	7	7	7
N	148	15	30
AVG %	0.071791	0.066667	0.0766129

- Highest amount of skepticism
- The max was 7: the lowest max of any question
- Very low standard deviation
- Possible explanation:
  - This is a sensitive issue; the skeptical answer also happens to be the politically correct answer.
  - In this case, people intuitively recognize that it is *not* harmless to maintain false beliefs and therefore apply skepticism thoroughly.

## Electricity

“The movements of electrons allow electric lights and appliances to work.”



	General	Cognitive	Paranormal
AVG	2.932432	3.133333	2.5806452
SD	2.046047	2.871001	2.1976227
MIN	1	1	1
MAX	9	9	7
N	148	15	30
AVG %	0.241554	0.266667	0.1975806

- This is a scientific theory
- Subjects were *half* as skeptical about this as they were about the holocaust denial.
- Possible explanations:
  - Subjects thought it was a trick question

## Conclusion

What does this mean?

Overall, subjects are skeptical of most beliefs. There are some exceptions, however. Subjects seemed to apply skepticism less to religious questions, including the question about the Shroud of Turin and the question about whether ghosts are real.

The data makes it appear that the Psychology of Paranormal Beliefs class is the most skeptical of the three psychology classes. This could be because the students in that class have thought about (and applied skepticism to) these subjects more than students of the other classes. There is a minor difference between the General and Cognitive Psychology classes, but it is not significant.

## **Further Research...**

- Determine whether skepticism is affected by age or gender
- Determine the cause of a lack of skepticism: Do people believe things in spite of the evidence or have they not thought things through? What makes a person hold on to a belief which contradicted by the evidence?
- How beliefs change as evidence is given.
- Determine what types of beliefs change with the least additional evidence
- Determine what kind of evidence is the most effective in changing a belief
- We know that people believe these things. Now we might pursue why people believe these things.

## **References**

Shermer, M. (1997). *Why people believe weird things: Pseudoscience, superstition, and other confusions of our time.* New York: Freeman.