



# Validating the Continuum Mysteriosum

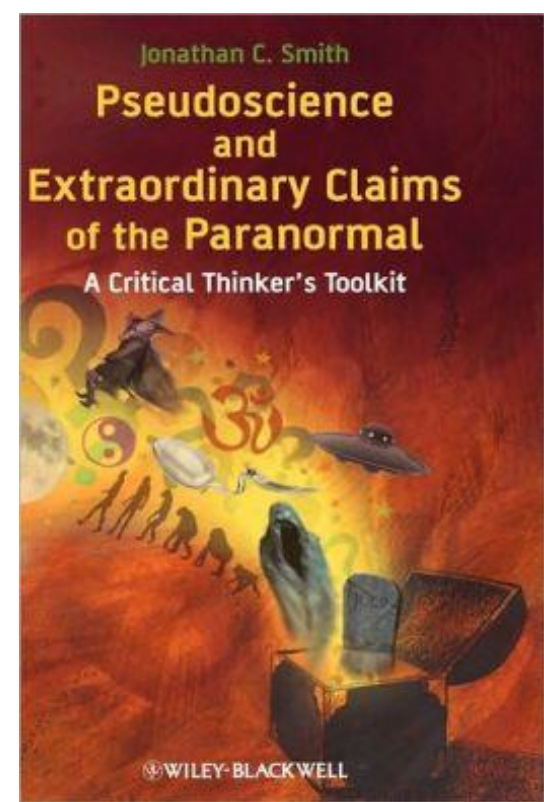


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Presented at the 60<sup>th</sup> Anniversary of the South Eastern Psychological Association Annual Meeting (2014)

## INTRODUCTION

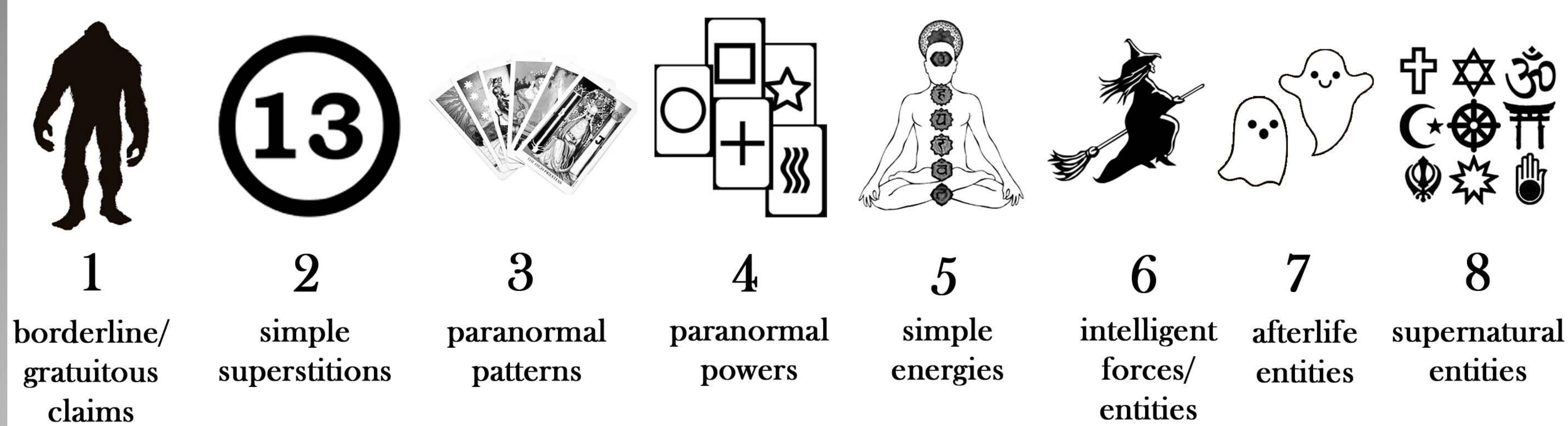
- Evaluations currently based on individual beliefs (Tobacyk, 2004; Williams, Francis, & Lewis 2009)
- Objective scale needed classify claims
- We propose use of a physics-based spectrum for use in future studies on paranormal claims



- Smith's (2009) "Continuum Mysteriosum" (ranging from lower- to higher-level paranormal claims) was evaluated for use as an objective measure of paranormal claims

## BACKGROUND

- Few alternative metrics to Tobacyk's (2004) "Revised Paranormal Belief Scale" which evaluates belief only. Offers little insight into reasoning underlying beliefs
- Rice (2003) identified different patterns for beliefs:
  - Belief in religion and paranormal
  - Belief in only one claim
  - Belief in neither claim
- Williams, Francis & Lewis (2009) found:
  - positive correlation between religiosity and religious-based paranormal beliefs
  - no relationship between religiosity and paranormal beliefs
- No consistent results have been found (Emmons & Sobal, 1982; Orenstein, 2002; Rice, 2003; Williams, Francis, & Lewis, 2009; Shiah, Wu, & Chang, 2010)
- Focus has been on correlations between religiosity and belief in the paranormal
- Lack of research into multi-variable approach.
- Goal: examine psychometric properties of the "Continuum Mysteriosum" using a factor analytic approach
- Hypothesis: participants will classify paranormal claims according to their deviation from physics



## RESULTS

Obliquely rotated component loadings for 46 survey items\*

Component	1	2	3	4			
Stepping on a crack	<b>.756</b>	Ghosts	<b>.790</b>	Modern Acupuncture	<b>.723</b>	UFO	<b>.678</b>
Rabbit's Foot	<b>.705</b>	Spirits of Inanimate	<b>.745</b>	Modern Tai Chi	<b>.721</b>	Bigfoot	<b>.643</b>
Tooth Fairy	<b>.679</b>	Communicate w/Dead	<b>.726</b>	Traditional Tai Chi	<b>.656</b>	LochNess Monster	<b>.634</b>
Haruspex	<b>.673</b>	Karma	<b>.622</b>	Meditation/Yoga	<b>.654</b>	UFO Cults	<b>.612</b>
Santa Claus	<b>.657</b>	Fate	<b>.589</b>	Traditional Acupuncture	<b>.653</b>	Giant Squid	<b>.452</b>
Number 13	<b>.644</b>	ESP	<b>.581</b>	Magnet Therapy	<b>.552</b>	Fire Walking	<b>.422</b>
Tasseography	<b>.640</b>	Astral Projection/OOBE	<b>.572</b>	Early Chiropractic	<b>.527</b>	Lunacy	.311
Tarot Cards	<b>.630</b>	Healing Touch	<b>.534</b>	Homeopathy	<b>.516</b>		
Palmistry	<b>.599</b>	Chi	<b>.502</b>	Oxygen	.344		
Magic Charms	<b>.586</b>	Faith Healing	<b>.477</b>				
Fortune-Telling	<b>.572</b>	Witches	<b>.471</b>				
Werewolves	<b>.505</b>	Yin-Yang	<b>.463</b>				
Numerology	<b>.464</b>	Psychokinesis	<b>.433</b>				
Astrology	<b>.457</b>	Org. Religion	.349				
Dowsing	.394						
Bible Code	.343						

Notes. Factor loadings  $\geq .40$  are in boldface.

\*Loadings  $\geq .30$

- Individual mean scores for each of the 46 claims were calculated to determine the claim's relative position on the natural/supernatural scale
- Factor analysis was performed on the data to determine which claims would load onto similar factors, and if these patterns were consistent with Smith's scale. Using a cutoff value of 0.3, the data loaded onto four distinct factors which accounted for 45% of the variance (see table)
- Results were inconsistent with Smith's "Continuum Mysteriosum"

## SELECTED REFERENCES

- Orenstein, A. (2002). Religion and paranormal belief. *Journal For The Scientific Study Of Religion*, 41(2), 301-311. doi:10.1111/1468-5906.00118.
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- Williams, E., Francis, L., & Lewis, C. A. (2009). Introducing the modified paranormal belief scale: Distinguishing between classic paranormal beliefs, religious paranormal beliefs and conventional religiosity among undergraduates in Northern Ireland and Wales. *Archiv Für Religionspsychologie / Archive For The Psychology Of Religions*, 31(3), 345-356. doi:10.1163/008467209X12499946199605.

## METHOD

- 874 Participants
  - 566 female, 308 male
  - Mean age = 21.75 years
- 46 paranormal claims (spanning eight categories conceptualized in Smith's "Continuum Mysteriosum") were rated on a 8-point Likert scale ranging between :
  - Natural = could be proven with current science
  - Supernatural = cannot be proven with current science
- Survey
  - Emotional inclusion/exclusion questions
  - Demographic questions
  - Religiosity scale (Abdel-Khalek, 2006)

## DISCUSSION

- Factor analysis yielded four distinct factors (see Results table).
  - Factor 1 = Magical Thinking
  - Factor2 = External Influential Agent
  - Factor 3 = Complementary Alternative Medicine
  - Factor4 = Unproven yet Plausible Claims
- Future research efforts are needed to:
  - Examine relationship between available paranormal scales
  - Test and validate current scales based on paranormal claims
  - Develop objective measure via psychometric principles and standardized definitions (as developed by the Society of Psychical Research) (Thalbourne, 2009)
- Present findings support that many paranormal claims derive from magical thinking.
  - However, results = inconsistent
- Future research needed to analyze factors further to include other variables/claims

