

10 mark questions for ANOMALISTIC PSYCHOLOGY

POTENTIAL QUESTIONS:

1. Discuss explanations for psychic mediumship (2013)
2. Discuss what research has shown about psychic mediumship
3. Discuss explanations for psychic healing
4. Discuss what research has shown about psychic healing (2013 - 2015)
5. Discuss explanations for OBE's(2014)
6. Discuss what research has shown about OBE's
7. Discuss explanations into NDE's (2015)
8. Discuss what research has shown about NDE's
9. Discuss the role of coincidence and probability judgement in anomalous experience (2013 - 2015)
10. Discuss explanations for magical thinking
11. Discuss explanations for superstitions
12. Outline personality factors underlying anomalous experience
13. Discuss methodological issues with ganzfeld studies into ESP (paranormal cognition)
14. Discuss methodological issues with the study of psychokinesis (paranormal action)
15. Discuss the scientific status of parapsychology and pseudoscience.

“discuss what research (studies) has shown” = FINDINGS AND CONCLUSIONS OF STUDIES AS AO1

“discuss research into”= EXPLANATIONS AS AO1 (OR FINDINGS AND CONCLUSIONS AS AO1)

1. PSYCHIC MEDIUMSHIP

EXPLANATIONS:

- 🍷 **BIOLOGICAL** – mediumship is an altered state of consciousness leading to a trance like state with a role being played by the limbic system
- 🍷 **COGNITIVE** – believers interpret connections between unrelated events and so make a Type 1 error
- 🍷 **PERSONALITY** – mediumship is an extreme form of dissociative identity disorder
- 🍷 **MEDIUM'S TACTICS** – cold reading and SELECTIVITY OF ATTENTION - tendency to remember hits and ignore misses. Filling in gaps using schemas. Giving the information yourself.

STUDIES:

- **Winkelman** – the trance like state is characterised by a shift towards right hemispheric dominance and dominance of the parasympathetic nervous system
- Biological indicators are not consistent across mediums – when EEG reading from 9 mediums in trance like states compared they showed different brain states.
- **Schwartz** – mediums found accurate information even when using a triple blind technique.
- **Roe** – evidence of both cold and warm reading being used (e.g. medium John Edward)

EVALUATION:

- Ethical implications of using vulnerable people who will interpret anything. Does it matter if they don't have real psychic powers if they still provide comfort, relief and closure?
- Lack of control so hard to establish cause and effect
- The processes involved in cold reading might contribute to belief in mediumship e.g. filling in the gaps, making links, doing the work for the psychic, noticing the hits and ignoring the misses
- Cognitive and personality factors underlying belief in mediumship might contribute to beliefs e.g. probability misjudgement
- Messages from the grave always seem positive – perhaps the reading match cultural beliefs held about death and the after-life.
- Problems with sensory leakage by having medium search up the sitter online to gather prior information reduces the internal validity
- Participant effects – participants may be biased to feel that the messages are more relevant than they are as the hit rates rely on self-report on the relevance and so may be open to demand characteristics in that the participants may be willing to claim something that's so general is a hit
- However other studies have not found many similarities as mediums generally show good mental health which obviously dismisses traits of DID
- Biological indicators are not consistent across mediums – when EEG reading from 9 mediums in trance like states compared they showed different brain states.

2. PSYCHIC HEALING

EXPLANATIONS:

- 🍷 **REDUCTION OF ANXIETY AND HEALERS PRESENCE** – having the healer there may provide social support and reduce stress and so enhance the immune system
- 🍷 **PLACEBO EFFECT** – believing an effective treatment has been given and so you psychological get better
- 🍷 **ENERGY FIELDS** – healers detect and re-align a person's aura
- 🍷 **BELIEF**

STUDIES:

- **Krieger** – those treated by healer had higher haemoglobin and this even lasted into the next year
- **Keller** – therapeutic touch helped tension headaches and was significant at $p < 0.0001$.
- **Cha** – prayer helped women become pregnant. Twice as many women prayed for by strangers became pregnant
- **Writh** – showed that TT speeded up wound healing
- **Braud** – healers could selectively lower a person's Electro-Dermal Activity
- **Rosa** – healers could only detect energy field 44% of time, less than chance.
- Success rates may be due to spontaneous recovery or because relapses happen later and are not reported in studies.

EVALUATION:

- When studies are done that're tightly controlled they usually find no support but do provide evidence for placebo effects
- Most evidence comes from case studies but these usually lack methodological rigour such as lack of control for natural healing process.
- Case studies rarely satisfy Randi's criteria for valid studies of psychic healing
- Writh's work has been failed to be replicated by himself and he's been accused of criminal fraud, raising doubts about the validity of their findings
- Ethical issues of exploiting those who're vulnerable and seeking healing

3. OUT OF BODY EXPERIENCES

EXPLANATIONS:

- 🍷 **NEUROSCIENCE** – Blanke suggests it's due to problems with the neural pathway from the pre frontal cortex to the temporo-parietal junction (temporal lobe controls hearing and parietal lobe controls touch)
- 🍷 **COGNITIVE** – disruption of visual self-perception and shift to birds-eye view. Sensory inputs break down and our brain tries to make sense of what's occurring around us by "filling in the gaps" using memory and imagination
- 🍷 **SLEEP HYPOTHESIS** – OBE's occur during hypnogogic state
- 🍷 **PERSONALITY** – belief in OBE's associated with personality like fantasy proneness

STUDIES:

- **Ehrsson** – OBE's induced by disrupting sense of visual perception. People wore video-display goggles so they can see their own back. If the experimenter touched the participant's chest at that same time as apparently touching their illusory body, their centre of consciousness is changed and located behind the position of their real bodies. He then even threatened the illusory body and participants displayed a physiological fear response.
- **Blanke** - stimulation of the angular gyrus created OBE's – so must be biological component and not paranormal. Weak stimulation made them feel they were "sinking into the bed" and stronger stimulation caused an OBE
- **Irwin** – people who report OBE's are often believers and people who score high on disassociation

EVALUATION:

- Difficult to study natural OBEs because they occur without predictability.
- Issues with memory
- Biological explanations cannot explain how people report things during an OBE that they could not otherwise have known (e.g. Alvarado found one participant could read out a randomly selected 5 digit number placed in another room).
- Studies use controlled conditions which is far from normal conditions of OBE's. If a researcher was present during a natural OBE then it would cease as soon as the participant reported it.
- The fact that research into OBE's has to rely on self-report means that it has low scientific validity. It is open to biases such as researcher expectancy (when the researchers' expectations cue the participants) and this leads to participant effects, such as demand characteristics, where participants report what they think the researcher expects to hear.
- Ehrsson – used a small sample size and used volunteer sampling

4. NEAR DEATH EXPERIENCES

EXPLANATIONS:

- 🍷 **PSYCHOLOGICAL APPROACH** – Ring found there were “core experiences” – feelings of deep peace, OBE’s, passing through a tunnel and seeing ‘the light’
- 🍷 **NEUROLOGICAL APPROACH** (dying brain hypothesis) – Cortical anoxia explains the light at the end of the tunnel as anoxia creates a flood of neurotransmitter glutamate which causes neuronal death and so, as a defence, the brain creates a blockage and this causes NDE’s.
- 🍷 Release of endorphins when near death can bring about the feelings of euphoria and peace
- 🍷 Abnormal activity in temporal lobes produce flashbacks

STUDIES:

- Ketamine has been found to cause NDE’s as it also triggers the same blockade as glutamate
- Most visual cells in eye are at the centre of visual field and anoxia causes the cells to be triggered randomly, creating the tunnel
- **Van Lommel** – examined NDE’s in survivors of heart attacks. 60 patients who’d been resuscitated reported an NDE.
- **Parnia** – interviewed survivors of heart attacks and 11% reported an NDE. When comparing the NDE group with the other survivors there was no physical differences except that the NDE group had twice as high levels of oxygen in their brain which counteracts the anoxia explanation as anoxia is the absence of oxygen in the brain.

EVALUATION:

- Not all those experiencing an NDE have anoxia
- Negative NDE’s are increasingly common and the endorphin explanation cannot account for this
- May be due to belief and expectation not the paranormal – example cultural factors as Christian may see God but Hindu may see Yamraj
- NDE’s not experienced by everyone so likely to be a psychological component
- May have constructed a false memory or conversely actually had one but not remember due to brain damage
- They may not be really dead – scientists did an fMRI on a woman in a vegetative state and parts of her brain showed activity when she was spoken to and asked to think of things which discounts claims that people could recall conversations when they are “dead”
- Non falsifiable
- The research on NDE is anecdotal and uses self-report and so there is no way of being sure exactly how valid or true it is.
- Some models account for individual components of NDE’s but not other components so not complete.
- In Parnia’s study, the 11% only amounted to 4 participants so it was a small sample so generalisability is low

5. The role of coincidence and probability judgement in anomalous experience

- 🍷 People have a deep-seated need to seek causality and have a poor understanding of chance and probability
 - 🍷 **PROBABILITY MISJUDGEMENT** – less understanding of chance and coincidence so make links where there are none
 - 🍷 **INTELLECTUAL ABILITY** – people who believe usually have reduced intellect and don't appreciate role of coincidence
 - 🍷 **SUBJECTIVE VALIDATION** – cognitive bias when you remember the hits and overlook the misses
 - 🍷 **SHEEP-GOAT EFFECT** – believers tend to see patterns between random events
 - 🍷 **LAW OF TRULY LARGE NUMBERS** – unusual events are likely to happen when there are lots of opportunities for the event, so it really is just a coincidence
 - 🍷 **PERSONALITY** – fantasy prone, sensation seeking and extrovert
 - 🍷 **MULTIPLE END POINTS** – adjust it slightly to meet our requirements for it to be more than coincidence
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- Esgate – disasters are often reported on the news and disaster dreams are common making the two likely to co-occur
 - Blackmore – believers are more likely to recognise coincidence where there are none and had bad probability judgements
 - Sheldrake - found that between 51% and 71% of people surveyed in London reported times when they had correctly predicted who was calling them
 - Musch - discovered an overall correlation between paranormal belief and error rates on probability reasoning tasks, however, they found that this relationship disappeared when they took into account the participants' cognitive ability.
 - Those with lower level of achievement on SAT tests had heightened belief
 - But belief is also high among scientific community as 67% on New Scientist readers regarded ESP as likely possible
 - Research into intellectual ability is flawed as most studies use university students and they'd naturally have better cognitive ability

6. DISCUSS EXPLANATIONS FOR MAGICAL THINKING

EXPLANATIONS:

- 🍷 **LAW OF CONTAGION** – an object which has been in contact with a person comes to possess the 'essence' of that individual, this could be adaptive to prevent touching diseased person
- 🍷 **REDUCTION OF ANXIETY AND LOCUS OF CONTROL** – magical thinking occurs often in people living in places of uncertainty as it reduces anxiety and gives them a sense of control
- 🍷 **PSYCHODYNAMIC AND CHILDHOOD THINKING** – Freud identified it as a defence mechanism to regress into a childlike form of thinking as a means of coping with anxiety. Children often think with animism (ascribe feelings to objects).

EVALUATION:

- **Kainan** – more prevalent in war zones
- Demonstrated in pre-operative patients
- More magical thinking in people living in high risk areas during Gulf War
- **Rozin** – saw sugar being poured but reluctant to drink it if labelled cyanide
- Might act as a placebo – self-fulfilling prophecy
- Associated with number of mental disorders like schizophrenia or OCD

7. **DISCUSS EXPLANATIONS FOR SUPERSTITIOUS BEHAVIOUR**EXPLANATIONS:

- 🍷 **BEHAVIOURAL** – accidental pairing of behaviour with a positive outcome leads to them becoming incorrectly linked. Operant conditioning → accidental stimulus-response link learned and maintained through NEGATIVE reinforcement as anxiety reduced when it is performed.
- 🍷 **ILLUSION OF CONTROL** –
- 🍷 **MAGICAL THINKING** – attempts to influence an outcome
- 🍷 **TYPE 1 AND TYPE 2 ERRORS** – superstitions are adaptive as its better to assume two unrelated events are linked (Type 1 error) than to miss a genuine link (Type 2 error)

EVALUATION:

- **Skinner** – pigeons showed ritualistic behaviours in expectation that it would influence food coming as the random behaviours they were doing were reinforced by the arrival of food. Staddon repeated it but felt the behaviours were unrelated as the behaviours occurred as frequently even before the reinforcement occurred.
- **Matute** – participants were exposed to uncontrollable noises on a computer and when they randomly clicked a button it stopped so when it started again they tried clicking the same button
- **Whitson** – those made to feel less in control were more likely to believe a superstition could have affected an outcome

8. **PERSONALITY FACTORS UNDERLYING ANOMALOUS EXPERIENCE**

- 🍷 **NEUROTICISM** – experience negative emotional states so may create a distance from reality as a defence mechanism
- 🍷 **EXTROVERSION** – perform better on ESP tasks. Seek extra stimulation to increase brain arousal levels.
- 🍷 **FANTASY PRONENESS** - show high levels of hypnotic susceptibility and live rich fantasy lives. They have very vivid imaginations and sometimes confuse reality and imagination by becoming so absorbed in the fantasy
- 🍷 **SENSATION SEEKING** – paranormal belief offers a source of excitement
- 🍷 **LOCUS OF CONTROL** (linked to SOME beliefs like superstition) – external locus of control as explain their life as being controlled by outside factors

- **Honorton** - meta-analysis found that extroverts scored higher than introverts in 77% of the experiments.
- Participants who sign up to studies are likely to be more extroverted
- **Wiseman** – significant correlation between neuroticism and superstition
- **Wiseman** – believers were more fantasy prone
- **Kumar** found that sensation seeking personality scores were related to greater paranormal belief

9. METHODOLOGICAL ISSUES WITH GANZFELD STUDIES INTO ESP

- 🍷 **LACK OF CONTROL** – Sensory leakage, insecure storage of images, bent corner
 - 🍷 **RANDOMISATION ANOMALIES** – selected related to receiver's interests. Order of presentation.
 - 🍷 **RESEARCHER BIAS** – sceptical researchers less encouraging to elaborate leading to more negative results
 - 🍷 **CHEATING** – fraud
 - 🍷 **SHEEP-GOAT EFFECT** – believers have higher hit rate
 - 🍷 **FILE-DRAWER EFFECT** – in meta-analysis tweaking by including or emitting certain results
- **Sargent** – 6 of 12 sessions (50%) were direct hits, however Blackmore believes he prompted participants at times
 - **Bem** – found hit rate of 33% even when the autoganzfeld technique was used which provides significant evidence.
 - **Honorton** – hit rate of 38%
 - Tightening of controls don't find such accurate results
 - **Smith** - results are more likely to support ESP when the experimenters believe in the existence of psi phenomena
 - The assumption that a deviation from chance is due to the paranormal is controversial, it only ensures somethings happened to deviate from chance

10. METHODOLOGICAL ISSUES WITH STUDIES INTO PSYCHOKINESIS

- 🍷 **BIAS OR SLIGHT OF HAND IN DICE** – risk of artefact like biases in the manufacture of dice that emerge statistically after many rolls.
 - 🍷 **EXPERIMENTER EFFECTS IN MACRO PK** – may inaccurately interpret results (e.g. overestimate the distance an object has moved)
 - 🍷 **LACK OF VALIDITY IN MICRO PK** – linked with biases in dice as you're not actually measuring psychokinesis
 - 🍷 **PROBLEMS WITH REPLICATING** – loss of effect size
 - 🍷 **EXPECTATION** – Wiseman found when participants were expecting an object to move they were more likely to report seeing it move
- **Schmidt's electric coin flipper** – significant deviation from chance, no experimenter involvement was needed so there was reduced chance of fraud. However not all participants achieved this consistently

- **Levy** – tested to see if rats could use PK to influence electrodes placed in their brain in pleasure centres. It shocked 50% of the time but he wanted to see if rats could increase number of shocks. Found increase to 54%, but one of his colleagues later found he was unplugging the generator, causing hits only to be recorded when electrodes were active.
- With **DIRECT MENTAL INTERACTION WITH LIVING SYSTEMS**, this is a form of psychic healing and most of its research are case studies rarely satisfy Randi's criteria for valid studies of **psychic healing**
- Random event generators use radioactive decay yet still find hits suggesting strong evidence
- **Radin and Ferrari** - reviewed 148 experiments using a meta-analysis and found only 69 studies of these did check to see if the dice were biased. The results were still significant and so did support PK but not as strongly as when all of the studies were used.
- Uri geller was a fraud
- Well controlled studies have found no support, e.g. Hansel

11. **DISCUSS THE SCIENTIFIC STATUS OF PARAPSYCHOLOGY**

👉 Pseudoscience refers to beliefs that are based on a body of knowledge or “evidence” that appears to be scientific but that, on closer inspection, does not adhere to scientific principles or methods.

👉 Similar in that they both gather data, pick their area of study and research a hypothesis

👉 **REPLICABILITY**

👉 **PEER REVIEW** – parapsychology often communicates direct to audience

👉 Pseudoscience collects data first then forms hypothesis to fit observations

👉 **KEY TERMS** – used vaguely and not operationalised

👉 **BURDEN OF PROOF** – misplaced with sceptics to disprove

👉 **NOT-FALSIFIABLE** – claim phenomena disappears under certain conditions

👉 **ANACHRONISTIC THINKING** – uses outdated theories

👉 **QUANTITY NOT QUALITY**

👉 **REFUSE TO REVISE IN LIGHT OF CRITICISM**

- **American Association** for the Advancement of Science allowed Parapsychological Association to become a member in 1969
- **Fraud** occurs
- Not only pseudoscience – Freud
- **Mousseau** – compared articles and found parapsychological journals came out better as they also reported negative findings