Possible topics for dissertation and projects

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Research interests
How people detect structure in data
How they organise information to reduce the complexity of cognitive tasks
Can these abilities:
explain cognitive development?
explain the uniqueness of human cognition?
characterise individual differences related to clinical conditions?

Variations of the Corsi-test
The most widely used non-verbal neuropsychological test (Berch et al 1998)

Memory and spatial cognition in search and foraging
also implemented in new VR and touch screen based tasks

Visual organisation and Global-Local Processing
Grouping cues
Redundancy
Global-Local processing

Publications and conference presentations co-authored by Leicester undergraduates (underlined)

**Facilities**

- Touch-screens and portable touch sensitive tablet
- Immersive Virtual Reality headsets
- Simple devices for testing spatial memory abilities in large scale environment
- Corsi-tests
- Battery of neuro-psychological tests
- Previously developed e-prime tasks
  - Global-local processing
  - Matching to Sample
  - Visual search
  - Computerised foraging tasks
  - Object relocation experiments
  - n-back tasks
- No need for programming skills if you use variations of previously developed tasks, test-batteries or mechanical devices -

**Research relevant to:**

- Evolutionary and comparative psychology (what makes humans unique?)
- Autism (Hyper-systemising; Weak central coherence)
- Sex differences (Extreme male brain theory and systemising)
- Cognitive development and developmental conditions (Autism, ADHD)
- Healthy aging and dementia (deterioration of frontal, executive and planning abilities, prospective memory)
- Eating disorders (Weak central coherence)
- Schizophrenia and schizotypy (Prevalence of local processing; deficits of grouping processes)

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**I would be very interested in supervising dissertations on:**

- Memory
- Systemising
- Central coherence
- Spatial cognition
- Visual organisation

also in relation to

- cognitive training (e.g. video games)
- individual differences (autistic traits; schizotypy; sex differences; disordered eating etc.)
- lifespan cognition (child development; aging)

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**I am happy to meet informally with students who:**

- would like to join an on-going research project
- have access to a particular population of participants (e.g. in schools or nursing homes)
- have a partially formulated idea and want to discuss it
- have a precise experimental hypothesis, grounded in the literature and need help mainly with the methodology

For more information:
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