

Divergent and convergent thinking in persons with varying degrees of magical ideation

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Overview

- **Introduction**
 - Magical ideation and schizotypy
 - Divergent and convergent thinking
- **Experiment**
 - Design
 - Results
- **Discussion**
 - Interpretation of findings
 - What is this good for anyway?

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Introduction - Experiment - Discussion

Magical Ideation Scale

- Developed by Eckblad & Chapman (1983) as a **measure for paranormal and delusion-like beliefs**
- 30 yes/no-questions about people's beliefs in telepathy, astrology, conspiracy theories, UFOs, etc.
I think I could read other people's minds if I wanted to.
- correlates with other schizotypy measures (e.g. the Schedule for Affective Disorders (Spitzer & Endicott))

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Introduction - Experiment - Discussion

Schizotypical thinking

- Degree of proneness to schizophrenic-like reasoning about reality in normals
- Caused by overinterpretations of the synchronicity of co-occurring events and an urge to build links between concepts
- Suggestion that a right-hemispheric processing bias is the underlying cause for such increased association-building

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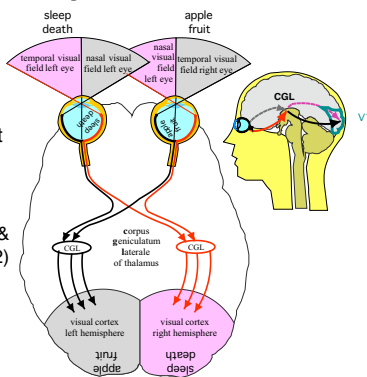
Laterality - Experiment - Discussion

Semantic asymmetries

Left hemisphere better at recognizing close associates (*fruit - apple*)

Right hemisphere better at recognizing remote associates (*sleep - death*)

Rodel, Cook, Regard & Landis (1992)



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Introduction - Experiment - Discussion

Di- & Convergent thinking

- Concepts developed by the creativity researcher J. P. Guilford in the 1950s
- **Divergent thinking:** associated with fluency, flexibility, originality and elaboration
- **Convergent thinking:** capacity to arrive at unique and original solutions & tendency to consider problems in terms of multiple solutions
- **Combined:** ability to generate new ideas and to "reality test" them in order to determine if they will work

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Experiment - Overview

- Information about subjects
- Introduction to tests

Magical Ideation Scale	Handedness Index
Word Halo Test	Language laterality Test
Remote Associates Test	Creative Personality Scale
	Mental Dice Test

- Presentation of results

Subjects

- 48 healthy right-handed persons, native speakers of (Swiss-)German
- 25 females, 20-48 years (mean 27.4), edu: 12 to 24 years (mean: 17.4)
- 23 males, 20-49 years, mean age 30.4, edu: 12 to 24 years (mean: 16.7)
- Subset of 66 person sample with varying handedness
- Recruited via blackboard ads, predominantly in university buildings, no payment offered

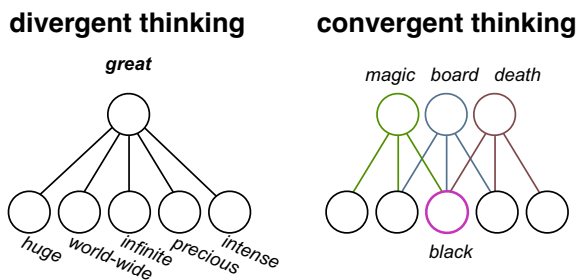
Word Halo Test

- Developed by Armstrong & McConaghy (1977) as a measure of “allusive thinking”
- 20 items consisting of a stimulus word and five near-synonyms (all taken from a thesaurus)
great: huge - world-wide - infinite - precious - intense
- Participants are asked to mark those words which they perceive as being “identical or nearly identical” in meaning to the first word
- German-language design based on nouns. Items with highest variance picked from a pre-test.

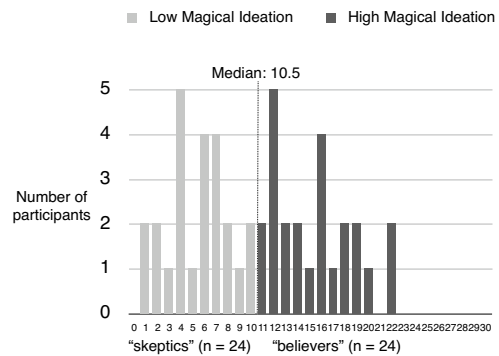
Remote Associates Test

- Developed by Mednick (1958) as a general measure of creativity which he defined as
“the forming of associative elements into new combination, which either meet specified requirements or are in some way useful”
- 20 items consisting of 3 words *magic - board - death*
- Participants are asked to find a word which can be related to every one of the stimulus items
black
- Own design based on nouns. Selection of easy / medium / difficult items picked from a pre-test.

Word Halo vs Remote Associates

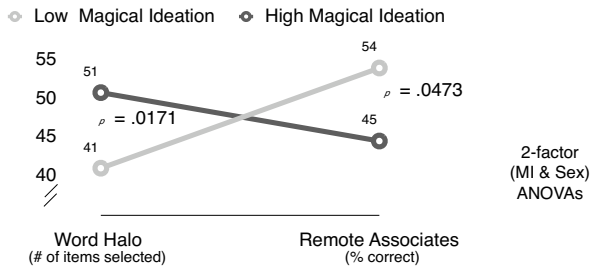


Magical Ideation Distribution



Word Halo & Remote Associates

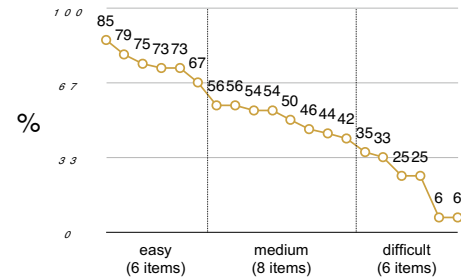
No group effects for sex (X^2), age, edu & handedness (1-factor (MI) ANOVAs). But...



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RAT item categorization

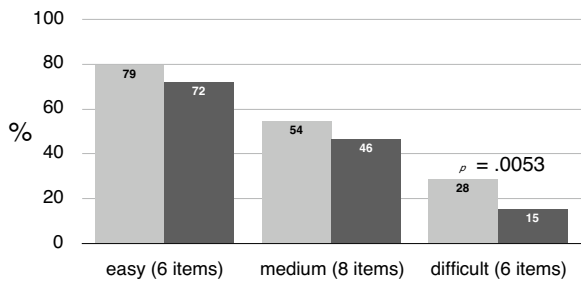
Basis: Percentage of correct answers per item (n=48)



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RAT performance

■ Low Magical Ideation (n=24) ■ High Magical Ideation (n=24)

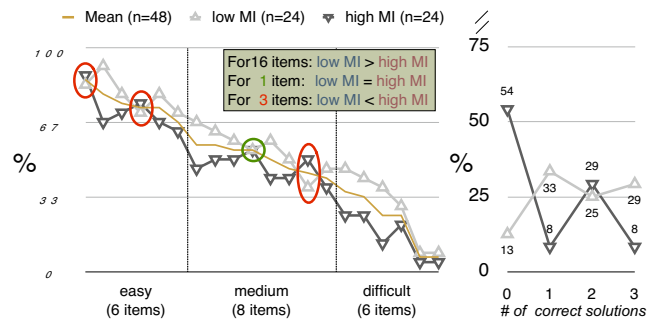


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RAT per item analysis

Per item percentage of participants giving correct answers for low & high MI groups

Performance for difficult items



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Interpretation (by inference)

- Results *are* - in part (there was considerable within-group variance) - due to differences in the degree of right-hemispheric activity
- Persons with an assumed right-hemispheric bias
 - show more spreading activation in their semantic network
 - they show a more pronounced pattern of *divergent thinking*
 - are less well able to control this activation
 - they are poorer at *convergent thinking*

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What is it good for anyway?

- Observed influence of task complexity may help to explain why only some previous studies found links between schizotypy and creativity.
- Demonstrates the relativity of linguistic relativity. Preferences for certain styles of thinking seem to influence language processing.
- May help to explain the very different recovery patterns often found in clinical linguistic studies when comparing individuals with similar etiologies.

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