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In this study carried out in the Czech Republic, Flegr *et al* (2013) concluded that blood group rhesus D positive (RhD) phenotype influences the strength and direction of the association of latent *Toxoplasma* infection with personality and intelligence.



## Objective

To find the differences in the toxoplasmosis-associated effects between RhD-positive and RhD-negative subjects



## Intervention/ Comparators

*Toxoplasma* infection vs no *Toxoplasma* infection in RhD-positive and RhD-negative individuals



Cross-sectional study

502 subjects tested for RhD phenotype and toxoplasmosis



Data collection on personal traits and intelligence



Descriptive statistics, General Linear Model tests and computing taus by standard Kendall correlation tests.

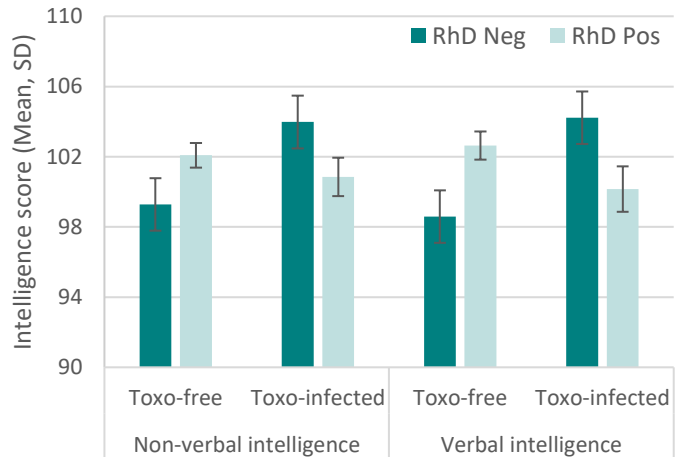


2005

time

## KEY RESULTS

- Toxoplasma*-infected individuals scored **lower** in **anxiety, depression, phobia, vegetative lability, neuroticism, and hysteria** ( $p < 0.05$ )
- In **RhD-neg.** subjects, *Toxoplasma* infection was associated with a **higher mean intelligence** ( $p < 0.05$ )
- In RhD-pos. subjects, *Toxoplasma* infection was associated with a lower mean intelligence, though the statistical significance was less clear
- All observed *Toxoplasma*-associated differences were **stronger in RhD-negative** than in RhD-positive individuals.



**Study summary:** RhD phenotype may be important in determining the strength and direction of association between toxoplasmosis and personality and intelligence.

**Limitations:** Only male army recruits were included. RhD-genotype subgroups were not tested.

**Future work:** To broaden the study to include general population, females and RhD-genotypes.

**What do we think?** These findings may not be generalized because the study sample did not represent the general population. It is not clear whether the sample power and size were adequate.

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