

# Marital resemblance of obsessive-compulsive behavior in a population-based sample

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## Introduction

Marital resemblance can be due to phenotypic assortative mating, social homogamy or marital interaction. A significant degree of assortment has consequences for the genetic architecture of a population. We examined the existence and cause of marital resemblance for Obsessive-Compulsive (OC) behavior.

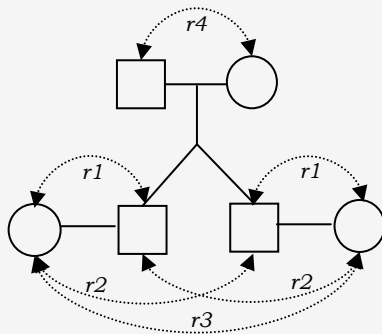


## Results

Correlations are shown in table 1. All MZ and DZ correlations could be equalled. Spouse similarity ( $r1$  and  $r4$ ) is low, but significant. The pattern in the correlations,  $r4 > r1$ , suggests marital interaction, but the correlations did not differ significantly between generations. No correlation between length of relationship and marital resemblance was seen ( $r = 0.0$ ). The pattern in the correlations,  $r1 > r2 > r3$ , suggests phenotypic assortment, but as confidence intervals overlap, social homogamy cannot be ruled out.

## Method & Sample

OC behavior was measured by 12 items from the Padua Inventory Revised in a sample of monozygotic (MZ) and dizygotic (DZ) twins, their spouses (average age 35.4) and their parents (average age 56.2). We studied correlations between twins and spouses ( $r1$ ), co-twin and spouses ( $r2$ ), spouses of both twins ( $r3$ ) and parents of the twins ( $r4$ ).



**Table 1**

Type of pairings	Complete pairs (N)	Correlation (95% CI)
Twin-spouse ( $r1$ )	1349	.13 (.08 - .18)
Cotwin-spouse ( $r2$ )	1157	.04 (-.02 - .10)
Spouse 1 - spouse 2 ( $r3$ )	264	.00 (-.11 - .12)
Parents ( $r4$ )	875	.21 (.14 - .27)

## Definitions

- Marital resemblance: mated pairs are more similar for a phenotypic trait, than would be expected by chance:  $r1$  and  $r4$ .
- Phenotypic assortment: partner selection is based on phenotype:  $r1 > r2 > r3$  and correlations  $MZ > DZ$ .
- Social homogamy: non-random assortment due to shared environment:  $r1 = r2 = r3$  and correlations  $MZ = DZ$ .
- Marital interaction: process of interaction between partners living together leading to resemblance:  $r4 > r1$ .

## Conclusion

Small but significant marital resemblance exists for OC behavior. No evidence for marital interaction was found. Correlations are small, which makes it difficult to distinguish between social homogamy and phenotypic assortment. However, it is unlikely that correlations of this size will have a large impact on heritability.