GENETIC EPIDEMIOLOGY OF BURNOUT. A TWIN-FAMILY STUDY.
Middeldorp CM(1,2), Stubbe JH(1), Cath DC(2), Boomsma DI(1)
(1) Department of Biological Psychology, Vrije Universiteit (VU), Amsterdam.
(2) Department of Psychiatry, Vrije Universiteit – Medical Center, (VU-MC), Amsterdam.

Introduction
The aim of this study was to investigate the influence of genetic factors (G), common environment (C) and unique environment (E) on individual differences in burnout.

Methods
- **Population:**
  2707 twins, 737 siblings and 575 spouses.

- **Questionnaire:**
  Emotional Exhaustion Subscale of the Maslach Burnout Inventory – General Survey

- **Background of the twin-family design**
  - MZ twins share (nearly) all their genes.
  - DZ twins and siblings share ± 50% of their genes.
  - MZ and DZ twins share the same amount of environment.
  - Siblings might share less of their environment.
  - Spouses share environment.

- **Therefore**
  - Correlations MZ > DZ ~ sibs → Genetics explains resemblance (G)
  - Correlations MZ = DZ ~ sibs → Common family environment explains resemblance (C)
  - Differences in MZ → Importance of unique environment (E)
  - Correlation spouses > 0 → C or non-random mating

Results

<table>
<thead>
<tr>
<th>Correlations total burnout score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male pairs</td>
</tr>
<tr>
<td>MZ</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Correlations total burnout score spouses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total group</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

Conclusions
- Burnout is mostly influenced by unique environmental factors, which explain 78% of the variance. These could include work related factors.
- The remaining part of the variance (22%) is explained by common environment. This is supported by the significant partner correlation, especially since this correlation increases with the length of the relationship.
- Genetic factors do not seem to be of any importance. This finding is rather unexpected, because most (personality) traits are genetically influenced.

cm.middeldorp@psy.vu.nl