Grandparental Investment Across Europe

A study from an evolutionary perspective

Sonja Hilbrand

David A. Coall, Thomas Hills, & Ralph Hertwig

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Grandparental investment

• Is grandparental investment in modern societies systematically influenced by lineage?

• Does grandparental investment vary across European countries?
Why use an evolutionary framework?

• Unique human life history

• Grandparental Investment Pattern (GPI):
  Euler & Weitzel (1996) used three evolutionary concepts to propose a systematic pattern of grandparental investment:

1. Genetic relatedness
   • People are more likely to invest in people they are related to (+)

2. Sex-specific parental reproductive strategies
   • Parents invest more in their daughters (+) than sons (-)

3. Relationship certainty
   • Women are certain (100%) who their children are (+)
   • Men are not certain (< 100%) who their children are (-)


Why use an evolutionary framework?

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<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>MGM</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>MGF</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>PGM</td>
<td>-</td>
<td>+</td>
<td>-</td>
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<tr>
<td>PGF</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

**GPI pattern:**

1. Maternal grandmother (MGM)
2. Maternal grandfather (MGF)
3. Paternal grandmother (PGM)
4. Paternal grandfather (PGF)

Overview of our study: research questions

- Type of grandparent
- Control variables
- Grandparental investment
- Filial expectations
- Regions across Europe
Overview of our study: data and sample

- Release 2.0.1 of SHARE first wave data
- 9811 grandparents (40 - 104 years of age)
- Regions across Europe
  - North
  - Central
  - South

Regions:
- Denmark, Sweden
- Austria, Belgium, France, Germany, Netherlands, Switzerland
- Greece, Italy, Spain
Overview of our study: measurements

- **Dependent variable:** Grandparental investment

  „During the last twelve months, have you regularly or occasionally looked after your grandchildren without the presence of the parents?“

  Yes / No

  „On average, how often did you look after your grandchildren in the last twelve months?“

<table>
<thead>
<tr>
<th>$M$</th>
<th>$SD$</th>
<th>Min</th>
<th>Max</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.36</td>
<td>1.06</td>
<td>1</td>
<td>4</td>
<td>4779</td>
</tr>
</tbody>
</table>

4-point scale:
- Almost daily
- Almost every week
- Almost every month
- Less often
Overview of our study: measurements

- **Independent variables:**
  - Types of grandparents
  - Regions of Europe
    - North
    - Central
    - South
  - Filial expectations: 4 statements

Example:

„Grandparents‘ duty is to help grandchildren‘s parents in looking after young grandchildren“

5-point scale
Strongly disagree to strongly agree

Cronbach’s Alpha = .79
Overview of our study: measurements

Control variables

<table>
<thead>
<tr>
<th>Control variable</th>
<th>Correlation with grandparental investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical distance to grandchildren</td>
<td>-.403 **</td>
</tr>
<tr>
<td>Health of grandparents</td>
<td>-.080 **</td>
</tr>
<tr>
<td>Conflicts with parents of grandchildren</td>
<td>.067 **</td>
</tr>
<tr>
<td>Age of grandparents</td>
<td>-.015</td>
</tr>
<tr>
<td>Number of grandchildren</td>
<td>-.116 **</td>
</tr>
<tr>
<td>Highest educational degree of grandparents</td>
<td>-.064 **</td>
</tr>
<tr>
<td>Marital status of grandparents</td>
<td>-.008</td>
</tr>
<tr>
<td>Parent's marital status</td>
<td>-.030 *</td>
</tr>
<tr>
<td>Mother's employment situation</td>
<td>.020</td>
</tr>
</tbody>
</table>

*p < .05  **p < .01
Results

Replication of the GPI pattern

ANOVA: $F(3,2046) = 8.54, p = .001$

MGM: $M = 2.56$, MGF: $M = 2.44$, PGM: $M = 2.39$, PGF: $M = 2.22$
Results

Filial expectations across types of grandparents

ANOVA: $F(3,2966) = 2.53$, $p = .05$

MGM: $M = 3.84$, MGF: $M = 3.93$, PGM: $M = 3.84$, PGF: $M = 3.91$
Results

Filial expectations across regions of Europe

ANOVA: $F(2,2967) = 121.32, \ p = .001$

South: $M = 4.27$, Central: $M = 3.75$, North: $M = 3.74$
Results

Grandparental investment across regions of Europe

ANOVA: \( F(2,2047) = 151.28, \ p = .001 \)

South: \( M = 3.04 \), Central: \( M = 2.34 \), North: \( M = 1.87 \)
Results

GPI pattern with filial expectations and regions

ANCOVA: \( F(3,1394) = 6.03, \ p = .001 \)

MGM: \( M = 2.59 \), MGF: \( M = 2.40 \), PGM: \( M = 2.40 \), PGF: \( M = 2.26 \)

adj. \( R^2 = 14.7\% \)
Results

GPI pattern with filial expectations and regions and all control variables

\[ F(3,615) = 3.43, \quad p = .01 \]

\[ \text{MGM: } M = 2.59, \quad \text{MGF: } M = 2.46, \quad \text{PGM: } M = 2.30, \quad \text{PGF: } M = 2.30 \]

\[ \text{adj. } R^2 = 25.4\% \]
Conclusions

• An evolutionary framework is useful in exploring grandparent-grandchild interaction across European countries

• There are regional differences in the amount of grandparental investment, but key components which explain this need to be identified

• Grandparents are of great value to their families and society. Their informal caregiving may have consequences for subsequent support they receive in old age

• Longitudinal studies of effects of grandparental support on grandparent's life in old age and interventions over time are needed
Discussion

Thank you for your attention!

Questions?

Contact details

Sonja Hilbrand, B.Sc.
Faculty of Psychology
University of Basel
Switzerland
Phone: +41 61 267 06 62
Email: sonja.hilbrand@stud.unibas.ch

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