Exploring the Dangers for Partnership Stability through Job Related Mobility

Stefanie Kley

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Introduction

In our modern world of employment demands for spatial flexibility are widespread (e.g. Beck, 1983; Rosa, 2005).

Mobility undermines the commitment of social relationships and leads to social disintegration (Sennett, 1998).

Spatial mobility nowadays is often circular mobility; internal migration declines in many European countries (Schneider & Meil, 2008).

Intimate relationships of couples form a binding social relationship that is central for society (Huinink, 1995).

Sennett (1998): „Drift“ hinders the formation of such binding relationships.

But: Commuters in Europe are mostly married and often have children (Schneider & Meil, 2008).
Point of Departure: Own Findings (Kley 2012)

Long-distance commuting (1 hour and more one way) enhances the risk of separation, if the woman commutes, but not if the man commutes

Additive, positive effects on partnership stability:

• Full-time employment of the man
• Cohabitation of the couple
• Child in the household, especially if aged up to 3 years

Additive, negative effect on partnership stability:

• Low educational level of both partners
Obstacles for Finding the Mechanisms

• The separation of couples and the long-distance commuting of women are relatively seldom; conventional statistical level is likely missed.

• Classification of commuting distances is established to some extent (Rüger et al., 2011), but it remains arbitrary; classification always means loss of information.

• Multiple interactions among sex, region, and employment status on commuting - whereas the latter then again influences the probability of separation - are difficult to model adequately because of low numbers of cases; multiple interactions are difficult to interpret.
Methods of Analysis

Fuzzyset-Analysis (Ragin 2000; Smithson & Verkuilen 2006) is a method based on Boolean Algebra for the analysis

- of subsets with distinct characteristics (configurations)
- of the empirical coverage of the investigated group through these configurations
- of sufficient and necessary conditions for the development of the investigated outcome (here: female commuting)

Afterwards verification of the detected configurations.
### General Model of Needs

<table>
<thead>
<tr>
<th>Universal goals</th>
<th>Physical wellbeing</th>
<th>Social wellbeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrumental goals</td>
<td>Comfort</td>
<td>Activation</td>
</tr>
<tr>
<td>Areas of life</td>
<td>Occupation, income</td>
<td>Leisure time, interests</td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td>Social contacts</td>
</tr>
</tbody>
</table>

Commuting emanates

Own representation according to Lindenberg (1996), Ormel et al. (1999)
Data

First Wave of the German Family Panel (pairfam), 2008/09.
Women of the cohorts born 1971-73 with partner,
who are employed and
who have a one-way journey to work of at least 30 minutes.
For **N=267 women** there is complete information on all important items.
Analysed Characteristics with Regard to Commuting

- Dissatisfaction with partnership (fuzzy variable)
- Actual working hours per week (fuzzy variable)
- Net income of commuting women per month (fuzzy variable)
- Net income of her partner per month (fuzzy variable)
- Youngest child is toddler (fuzzy variable)
- Home ownership (dichotomous)

Truth table with $2^6$ rows = 64 complete configurations
Conversion of Variables in Fuzzy Sets

\[
\text{Frequency of commuting} = \frac{\text{ranked var} - \min(\text{ranked var})}{\max(\text{ranked var}) - \min(\text{ranked var})}
\]

Example: Fuzzy Set „Commuting“

1. Multiplication of minutes for one-way commute with frequency of commuting = mean commute to work per week

2. Predefinition of thresholds at 50 – 99 – 150 minutes mean commute per week

3. Conversion to value range 0 – 1

<table>
<thead>
<tr>
<th>Frequency of commuting</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every working day</td>
<td>5</td>
</tr>
<tr>
<td>Several times a week</td>
<td>2.5</td>
</tr>
<tr>
<td>Once a week</td>
<td>1</td>
</tr>
<tr>
<td>Every 14 days</td>
<td>0.5</td>
</tr>
<tr>
<td>Once a month</td>
<td>0.25</td>
</tr>
<tr>
<td>There is no regularity</td>
<td>0.7</td>
</tr>
<tr>
<td>Rarely or never; else</td>
<td>0</td>
</tr>
<tr>
<td>Does not apply; no answer; do not know</td>
<td>0</td>
</tr>
</tbody>
</table>
**Set „Commuter“ with empirical examples of commutes**

<table>
<thead>
<tr>
<th>Meaning of grade of membership</th>
<th>Grade of membership</th>
<th>Threshold values</th>
<th>Close empirical examples (mean commutes to work per week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full membership</td>
<td>0.99</td>
<td></td>
<td>60 min., every weekday (300 min.)</td>
</tr>
<tr>
<td>Threshold to full membership</td>
<td>0.95</td>
<td>150</td>
<td>270 min., every 14 days (135 min.)</td>
</tr>
<tr>
<td>Mostly in</td>
<td>0.88</td>
<td></td>
<td>50 min., several times a week (125 min.)</td>
</tr>
<tr>
<td>More in as out</td>
<td>0.62</td>
<td></td>
<td>45 min., several times a week (112.5 min.)</td>
</tr>
<tr>
<td>Turning point</td>
<td>0.50</td>
<td>99</td>
<td>- no empirical example -</td>
</tr>
<tr>
<td>More out as in</td>
<td>0.38</td>
<td></td>
<td>35 min., several times a week (87.5 min.)</td>
</tr>
<tr>
<td>Mostly out</td>
<td>0.12</td>
<td></td>
<td>30 min., several times a week (75 min.)</td>
</tr>
<tr>
<td>Threshold to full non-membership</td>
<td>0.05</td>
<td>50</td>
<td>60 min, there is no regularity (42 min.)</td>
</tr>
<tr>
<td>Full non-membership</td>
<td>0.01</td>
<td></td>
<td>90 min., once per month (22.5 min.)</td>
</tr>
</tbody>
</table>

Table adapted from Ragin 2008: 88
### Correlation (Pearson) of Analysed Characteristics

<table>
<thead>
<tr>
<th></th>
<th>P</th>
<th>U</th>
<th>A</th>
<th>E</th>
<th>I</th>
<th>J</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U</td>
<td>-0.0087</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>0.5504</td>
<td>-0.1033</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>0.3369</td>
<td>-0.0058</td>
<td>0.6686</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>-0.1811</td>
<td>-0.0444</td>
<td>-0.1844</td>
<td>0.0560</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>-0.2755</td>
<td>0.0917</td>
<td>-0.3678</td>
<td>-0.3575</td>
<td>0.1465</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>-0.0569</td>
<td>-0.0183</td>
<td>-0.0445</td>
<td>0.0272</td>
<td>0.1911</td>
<td>0.0803</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

P = Commuting,
U = Dissatisfaction with partnership,
A = Working hours,
E = Income of female commuter,
I = Income of her partner,
J = Youngest child is toddler,
W = Home ownership
Findings

1. Sufficient and Necessary Conditions

<table>
<thead>
<tr>
<th></th>
<th>P</th>
<th>U</th>
<th>A</th>
<th>E</th>
<th>I</th>
<th>J</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>0.685</td>
<td>0.133</td>
<td>0.714</td>
<td>0.508</td>
<td>0.544</td>
<td>0.653</td>
<td>1.000</td>
</tr>
<tr>
<td>J</td>
<td>0.652</td>
<td>0.169</td>
<td>0.670</td>
<td>0.453</td>
<td>0.556</td>
<td>1.000</td>
<td>0.527</td>
</tr>
<tr>
<td>I</td>
<td>0.740</td>
<td>0.197</td>
<td>0.806</td>
<td>0.673</td>
<td>1.000</td>
<td>0.704</td>
<td>0.556</td>
</tr>
<tr>
<td>E</td>
<td>0.864</td>
<td>0.202</td>
<td>0.970</td>
<td>1.000</td>
<td>0.656</td>
<td>0.560</td>
<td>0.506</td>
</tr>
<tr>
<td>A</td>
<td>0.866</td>
<td>0.174</td>
<td>1.000</td>
<td>0.667</td>
<td>0.540</td>
<td>0.569</td>
<td>0.489</td>
</tr>
<tr>
<td>U</td>
<td>0.860</td>
<td>1.000</td>
<td>0.920</td>
<td>0.735</td>
<td>0.699</td>
<td>0.758</td>
<td>0.483</td>
</tr>
<tr>
<td>P</td>
<td>1.000</td>
<td>0.165</td>
<td>0.865</td>
<td>0.611</td>
<td>0.511</td>
<td>0.570</td>
<td>0.483</td>
</tr>
</tbody>
</table>

P = Commuting,
U = Dissatisfaction with partnership,
A = Working hours,
E = Income of female commuter,
I = Income of her partner,
J = Youngest child is toddler,
W = Home ownership

Sufficient conditions are in the upper left triangle; necessary conditions are in the lower right triangle

Interim result: substantial labour market participation is necessary and sufficient condition for female commuting
2. Configurations

2^5 = 32 configurations are tested for consistency making use of two criteria:

- Cases which belong to the set "long-distance commuters" are significantly more often part of this set than part of the opposite set with p<0.05 and
- they are significantly more often part of this set compared with a threshold value of 0.8

=> 16 configurations meet these criteria and are logically reduced

=> Result: 5 reduced configurations of female long-distance commuters

Consistency of this solution: 91%; Coverage: 50% of all female commuters
Reduced configurations:
Fuzzy inclusion in the set „female long-distance commuters“ and coverage

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) u•E•j</td>
<td>0.930</td>
<td>0.212</td>
<td>212.3</td>
<td>0.000</td>
<td>32.2</td>
<td>13.0</td>
<td>66</td>
</tr>
<tr>
<td>(2) E•i•W</td>
<td>0.939</td>
<td>0.311</td>
<td>134.6</td>
<td>0.000</td>
<td>20.7</td>
<td>7.6</td>
<td>34</td>
</tr>
<tr>
<td>(3) I•j•w</td>
<td>0.956</td>
<td>0.263</td>
<td>84.88</td>
<td>0.000</td>
<td>11.0</td>
<td>1.2</td>
<td>15</td>
</tr>
<tr>
<td>(4) U•i•J</td>
<td>0.891</td>
<td>0.503</td>
<td>25.8</td>
<td>0.000</td>
<td>10.5</td>
<td>1.4</td>
<td>11</td>
</tr>
<tr>
<td>(5) U•E•J</td>
<td>0.887</td>
<td>0.518</td>
<td>16.7</td>
<td>0.000</td>
<td>9.5</td>
<td>0.8</td>
<td>9</td>
</tr>
</tbody>
</table>

Upper cases: condition is given; lower cases: Negation of condition is given
● = logical AND

U = Dissatisfaction with partnership, A = Working hours, E = Income of female commuter, I = Income of her partner, J = Youngest child is toddler, W= Home ownership
3. Description of configurations

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Commute per week (minutes)</th>
<th>Working hours per week</th>
<th>Net income per month, €</th>
<th>Net income of partner per month, €¹</th>
<th>Childless (percent)</th>
<th>Age of youngest child¹</th>
<th>Home ownership (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) u•E•j</td>
<td>180</td>
<td>40</td>
<td>1800</td>
<td>2000</td>
<td>80</td>
<td>12</td>
<td>48</td>
</tr>
<tr>
<td>(2) E•i•W</td>
<td>200</td>
<td>40</td>
<td>1730</td>
<td>1780</td>
<td>38</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>(3) I•j•w</td>
<td>225</td>
<td>40</td>
<td>1900</td>
<td>2600</td>
<td>80</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>(4) U•i•J</td>
<td>150</td>
<td>40</td>
<td>1220</td>
<td>1500</td>
<td>0</td>
<td>4</td>
<td>36</td>
</tr>
<tr>
<td>(5) U•E•J</td>
<td>200</td>
<td>45</td>
<td>1560</td>
<td>1890</td>
<td>0</td>
<td>3</td>
<td>44</td>
</tr>
</tbody>
</table>

¹ If characteristic applies. Upper cases: condition is given; Lower cases: Negation of condition is given

● = logical AND

Median, if not specified differently

U = Dissatisfaction with partnership, A = Working hours, E = Income of female commuter, I = Income of her partner, J = Youngest child is toddler, W= Home ownership
4. Comparison of Configurations: Satisfaction

Mean differences
(scale 0-10)
One-sided T-Tests:
Framing: sign. with p<=0,1

Lower cases mean negation

U = Dissatisfaction with partnership,
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Exploring the dangers for partnership stability through job related mobility
5. Verification of Configurations: Thoughts of Separation

Differences in percentages
Fisher's exact test,
Framing: sign. with p<=0,1

- Thought that partnership is in difficulties
- Seriously thought about separation or divorce

U = Dissatisfaction with partnership,
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I = Income of her partner,
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W= Home ownership

Lower cases mean negation
Summary

Substantial employment is sufficient and necessary condition for the long-distance commuting of women.

On the basis of five other criteria five configurations of female commuters were detected:

1. $u \cdot E \cdot j$ „the Contented“
   Family ↓  Job & Leisure ↑

2. $E \cdot i \cdot W$ „the Anchored“
   Job ↑

3. $I \cdot j \cdot w$ „the Flexible“
   Family ↓

4. $U \cdot i \cdot J$ „the Precarious“
   Leisure time ↓  acute at risk for separation

5. $U \cdot E \cdot J$ „the Overloaded“
   Leisure time ↓  latent risk for separation

U = Dissatisfaction with partnership, A = Working hours, E = Income of female commuter,
I = Income of her partner, J = Youngest child is toddler, W= Home ownership
Conclusion

High demands for spatial mobility of women can endanger intimate partnerships and family live via the „colonization“ of other areas of life (Habermas, 1981).

Thank you for your attention.