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# Exploring the Dangers for Partnership Stability through Job Related Mobility

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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

Universal goals	Physical wellbeing		Social wellbeing		
Instrumental goals	Comfort	Activation	Affection	Behavioural confirmation	Status
Areas of life	Occupation, income	Leisure time, interests	Relationship, family	Social contacts	Occupation, income
	Health	Social contacts	Social contacts	Relationship, family	Leisure time, interests

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



Commuting emanates



## 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

$$\frac{\text{ranked var} - \min(\text{ranked var})}{\max(\text{ranked var}) - \min(\text{ranked var})}$$

### 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

Frequency of commuting	Factor
Every working day	5
Several times a week	2.5
Once a week	1
Every 14 days	0.5
Once a month	0.25
There is no regularity	0.7
Rarely ore never; else	0
Does not apply; no answer; do not know	0



## Set „Commuter“ with empirical examples of commutes

Meaning of grade of membership	Grade of membership	Threshold values	Close empirical examples (mean commutes to work per week)
Full membership	0.99		60 min., every weekday (300 min.)
Threshold to full membership	0.95	150	270 min, every 14 days (135 min.)
Mostly in	0.88		50 min., several times a week (125 min.)
More in as out	0.62		45 min., several times a week (112,5 min.)
Turning point	0.50	99	- no empirical example -
More out as in	0.38		35 min., several times a week (87,5 min.)
Mostly out	0.12		30 min., several times a week (75 min.)
Threshold to full non-membership	0.05	50	60 min, there is no regularity (42 min.)
Full non-membership	0.01		90 min., once per month (22,5 min.)



## Correlation (Pearson) of Analysed Characteristics

	P	U	A	E	I	J	W
P	1.0000						
U	-0.0087	1.0000					
A	0.5504	0.1033	1.0000				
E	0.3369	-0.0058	0.6686	1.0000			
I	-0.1811	-0.0444	-0.1844	0.0560	1.0000		
J	-0.2755	0.0917	-0.3678	-0.3575	0.1465	1.0000	
W	-0.0569	-0.0183	-0.0445	0.0272	0.1911	0.0803	1.0000

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

	P	U	A	E	I	J	W
W	0.685	0.133	0.714	0.508	0.544	0.653	1.000
J	0.652	0.169	0.670	0.453	0.556	1.000	0.527
I	0.740	0.197	0.806	0.673	1.000	0.704	0.556
E	0.864	0.202	0.970	1.000	0.656	0.560	0.506
A	0.840	0.174	1.000	0.667	0.540	0.569	0.489
U	0.846	1.000	0.920	0.735	0.699	0.758	0.483
P	1.000	0.165	0.865	0.611	0.511	0.570	0.483

P = Commuting,

U = Dissatisfaction with partnership,

A = Working hours,

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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 femal 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

Configuration	Y-Consist.	N-Consist.	F	p	Raw Coverage	Unique Coverage	N best fit
(1) $u \bullet E \bullet j$	0.930	0.212	212.3	0.000	32.2	13.0	66
(2) $E \bullet i \bullet W$	0.939	0.311	134.6	0.000	20.7	7.6	34
(3) $I \bullet j \bullet w$	0.956	0.263	84.88	0.000	11.0	1.2	15
(4) $U \bullet i \bullet J$	0.891	0.503	25.8	0.000	10.5	1.4	11
(5) $U \bullet E \bullet J$	0.887	0.518	16.7	0.000	9.5	0.8	9

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

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

<sup>1</sup> If characteristic applies.

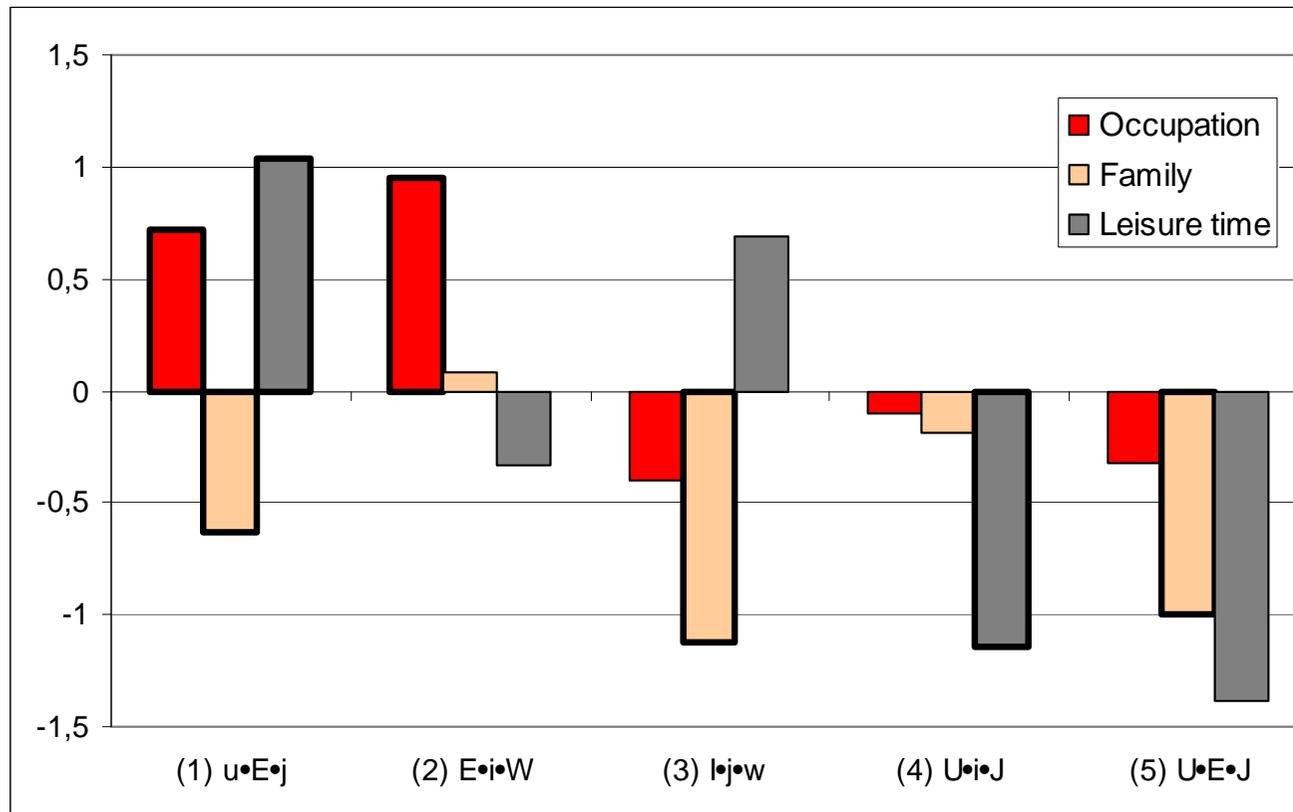
● = logical AND

Upper cases: condition is given; Lower cases: Negation of condition is given

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

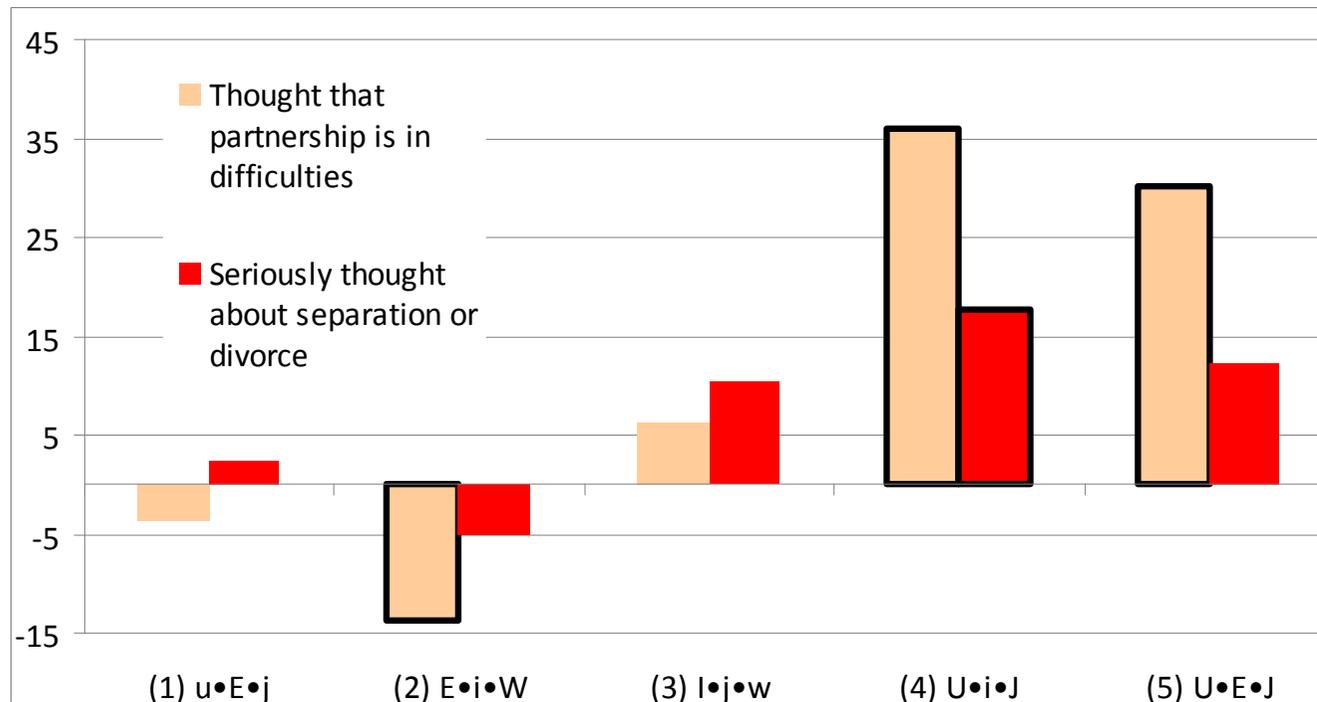


Mean differences  
 (scale 0-10)  
 One-sided T-Tests:  
 Framing: sign. with  $p \leq 0,1$

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

Lower cases mean negation

## 5. Verification of Configurations: Thoughts of Separation



Differences in percentages  
 Fisher's exact test,  
 Framing: sign. with  $p \leq 0,1$

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

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) $u \bullet E \bullet j$	„the Contented“	Family ↓	Job & Leisure ↑
(2) $E \bullet i \bullet W$	„the Anchored“		Job ↑
(3) $I \bullet j \bullet w$	„the Flexible“	Family ↓	
(4) $U \bullet i \bullet J$	„the Precarious“	Leisure time ↓	→ acute at risk for separation
(5) $U \bullet E \bullet J$	„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 life via the „colonization“ of other areas of life (Habermas, 1981).

Thank you for your attention.