EDUCATIONAL HETEROGAMY : A MEASUREMENT QUESTION.

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THE 'TEXTBOOK HYPOTHESIS'

Heterogamy
Cultural differences
Lack of social support

↔ Symbolic interactionism, Conflict theory, Bourdieu, …

Homogamy
Cultural resemblance
Social support

↓

- ↗ Divorce risk
- ↘ Marital satisfaction
- Other (child-rearing, (mental) health, …) ?

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WHAT ABOUT EDUCATIONAL HETEROGAMY?

Empirical studies give mixed results

➡ **Reason?**
- Comparability of findings?
- Methodological issues?

Research question:

What is the best method for studying educational heterogamy?

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COMPARISON OF METHODS

Two main methods:

Difference measures	• (Absolute) difference score • *e.g. years education man – years education woman* • Categorical difference variable • *e.g. 3 categories: homogamy / education M > W / education M < W*
Compound measures	• Combinations of education men and women • *e.g. both low education/ woman low, man high education/ man low, woman high education/ etc.* • With or without extra controls for main effects

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COMPARISON OF METHODS

Previous research:

Difference measures

- Results depend on control variables (diff .scores) or the number of categories considered (cat. diff. var.)
- Moderate support for heterogamy effect on marital stability (especially when education W > M)
- *e.g. Gong, 2007; Janssen, 2001; Tynes, 1990*

Compound measures

- Limited to no support for a heterogamy effect on marital stability (without/with extra controls)
- *e.g. Finnäs, 1997; Lyngstad, 2004; Vannoy & Cubbins, 2001*

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COMPARISON OF METHODS

Methodological features:

Difference measures

- Identification problem *(Edwards, 1995, 2002, 2009)*
- Lowered reliability
- Loss of information (categorical variable)

Compound measures

- Significant effect ≠ heterogamy effect *(Luo & Klohnen, 2005)*
- Extreme categories
- Loss of information

→ Alternatives?

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COMPARISON OF METHODS

Alternative?

Diagonal Reference Models (Sobel, 1981, 1985)

$$Y_{ijk} = p * \mu_{ii} + (1-p) * \mu_{jj} + \Sigma \beta_l * x_{ijl} + \Sigma \gamma_w * H_{ijw} + \varepsilon_{ijk}$$

Covariates

Heterogamy variable(s):
e.g.: - homogamy / heterogamy
- homogamy / w>m / w<m
- difference in categories
- absolute difference in categories

$0 \leq p \leq 1$

$i = 1,...,T \; ; j = 1,...,T \; ; k = 1,...,n_{ij}$

Advantages?

- Substantive motivation
- Flexible
- Easy interpretation

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DATA

- 'Child-rearing and family in the Netherlands, 1990'
- 643 married couples with children:
  - First marriages
  - Both partners born in the Netherlands
- Variables:

	N
Independent variables	
Completed education,man	643
Elementary	*38*
Lower technical or vocational	*204*
(First classes of) (lower) gen. secondary	*85*
Intermediate vocational	*110*
Upper gen. secondary	*46*
Higher vocational	*79*
University	*65*
Completed education, woman	643
Elementary	*83*
Lower technical or vocational	*188*
(First classes of) (lower) gen. secondary	*139*
Intermediate vocational	*114*
Upper gen. secondary	*40*
Higher vocational	*51*
University	*18*

	N	Mean (s.d.)
Dependent variables		
Marital satisfaction, man	629	6,08 (0,95)
Destructive communication, man	630	2,76 (1,10)
Positive communication, man	628	5,05 (1,12)
Control variables		
Marital duration	643	17,38 (3,37)
Number of children	643	2,49 (1,04)

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RESULTS – 1. DIFFERENCE MEASURES

Effect of heterogamy on 3 measures of marital satisfaction (Change in R^2)

	Difference score		Categorical variable		
	Absolute diff.	& direction	2 categ.	3 categ.	5 categ.
Marital sat.					
No control var.	0,001	0,001	0,000	0,001	0,007
Educ. man	0,003	0,005	0,001	0,003	0,006
Educ. woman	0,001	0,002	0,000	0,001	0,006
Educ. m & w	0,001	0,001	0,001	0,001	0,003
Mean educ.	0,000	0,002	0,000	0,002	0,006
Destr comm.					
No control var.	0,010**	0,012**	0,003	0,004	0,020**
Educ. man	0,005*	0,008*	0,001	0,006	0,016**
Educ. woman	0,009**	0,009*	0,002	0,003	0,018**
Educ. m & w	0,006*	0,006	0,001	0,004	0,015*
Mean educ.	0,008**	0,011**	0,003	0,005	0,019**
Pos comm.					
No control var.	0,002	0,002	0,001	0,001	0,006
Educ. man	0,000	0,001	0,000	0,001	0,003
Educ. woman	0,003	0,005	0,002	0,005	0,010
Educ. m & w	0,000	0,000	0,000	0,000	0,003
Mean educ.	0,001	0,001	0,001	0,001	0,004

*p<0,010, **p<0,05, ***p<0,01

Small + effect on destructive comm.

Small + effect on destructive comm., Nonsign direction-effect (+ when education woman > man)

Small + effect on destructive comm., which is biggest when educ. w > m
BUT: effect changes depending on control variables!!

→ Small + effect on destructive comm.

BUT: depends on entered control var. !!

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RESULTS – 2. COMPOUND MEASURES

Effect of heterogamy on 3 measures of marital satisfaction (Change in R^2)

	3x3	4x4
Marital sat.		
No control var.	0,040***	0,047**
Educ. m & w	0,003	0,007
Destr. comm.		
No control var.	0,021	0,025
Educ. m & w	0,007	0,010
Pos. comm.		
No control var.	0,033**	0,056***
Educ. m & w	0,009	0,016

*p<0,010, **p<0,05, ***p<0,01

Marital satisfaction
→ Educ. W > M: - effect
Educ. W < M: + effect

Positive communication
→ No obvious pattern

No significant heterogamy effect when controlling for main effects

Summary:

No indication of a significant effect of heterogamy, beyond the main effects of education

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RESULTS – 3. DIAGONAL REFERENCE MODELS

Effect of heterogamy on 3 measures of marital satisfaction - Model selection

	R^2
Marital sat.	
Baseline Model	0,042
BM + Two categories	0,042
BM + Three categories	0,046
BM + Number categories diff.	**0,048****
BM + Absolute number categories diff.	0,044
Destr comm.	
Baseline Model	0,017
BM + Two categories	0,017
BM + Three categories	0,020
BM + Number categories diff.	0,017
BM + Absolute number categories diff.	**0,023****
Pos comm.	
Baseline Model	0,026
BM + Two categories	0,026
BM + Three categories	0,028
BM + Number categories diff.	0,027
BM + Absolute number categories diff.	0,027

*p<0,010, **p<0,05, ***p<0,01

Marital satisfaction:
Effect of 'number of categories difference'
(b = 0,058)

Destructive communication:
Effect of 'Absolute number of categories difference'
(b = 0,087)

Positive communication:
No heterogamy effect

Summary:

Effect of heterogamy on marital satisfaction and destructive communication, BUT: small & differs in type

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CONCLUSION

3 methods for studying educational heterogamy:

- Difference measures
  - → Problem of reliability (e.g. identification problem)?
- Compound measures
  - → Loss of information & Interpretation
- DRM
  - → The best option?

Thank you for your attention!

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