Intergenerational transmission of behavioral patterns:
Similarity of parents' and children's family-life trajectories

Aart C. Liefbroer & Cees H. Elzinga

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No attention to the substantive overlap in trajectories

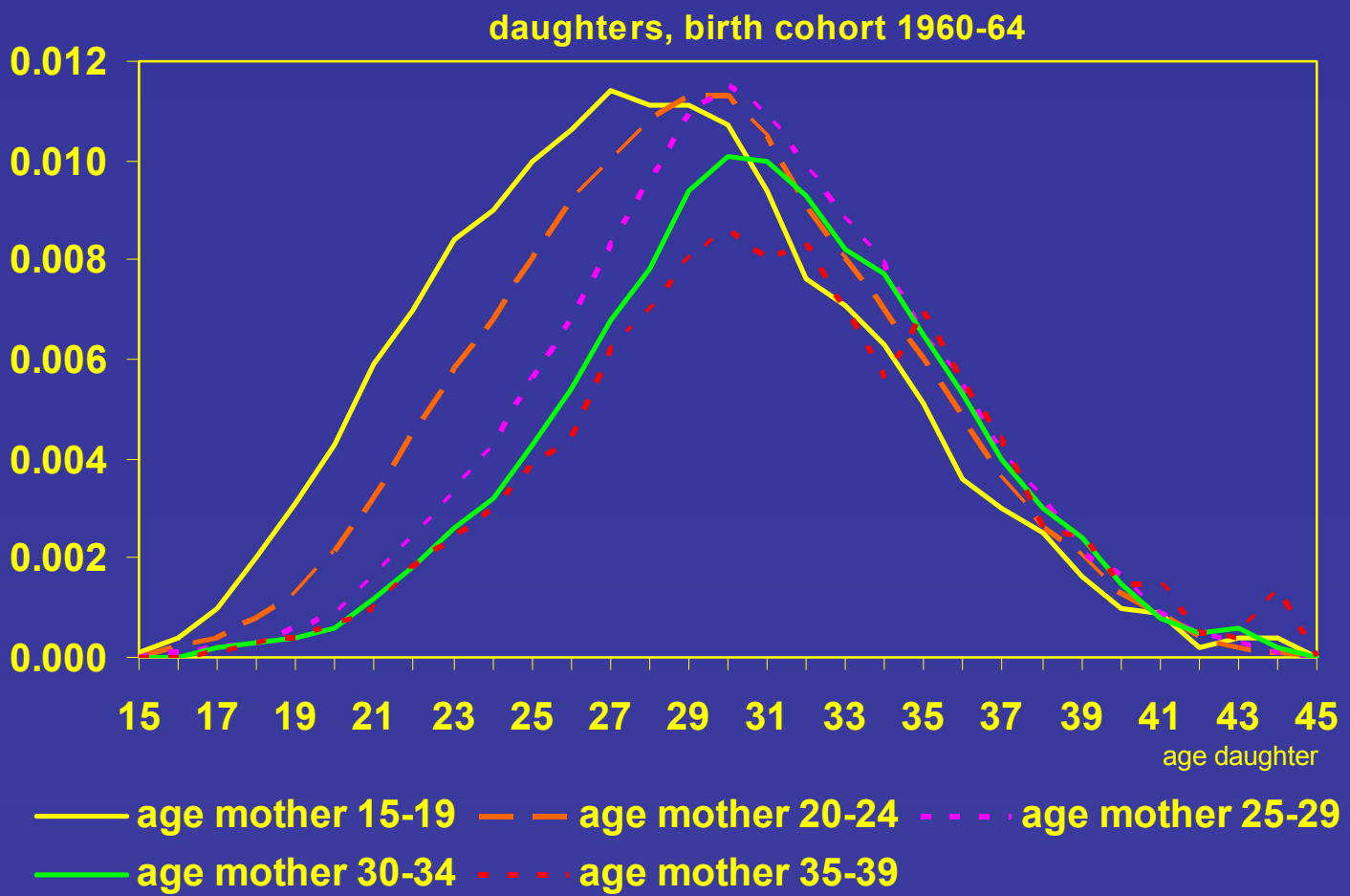
- Elzinga, C., & Liefbroer, A.C. (forthcoming). De-Standardization of Family-Life Trajectories of Young Adults: A Cross-National Comparison Using Sequence Analysis. *European Journal of Population*

Intergenerational transmission

What is it?

- Extent to which children behave in the same way as their parents
- Examples
  - If parents have their first child early, do their children enter into parenthood at an early age as well?
  - If parents divorce, are their children also more likely to experience a union dissolution?

Example I: First birth



Steenhof & Liefbroer, Population Studies (forthcoming)

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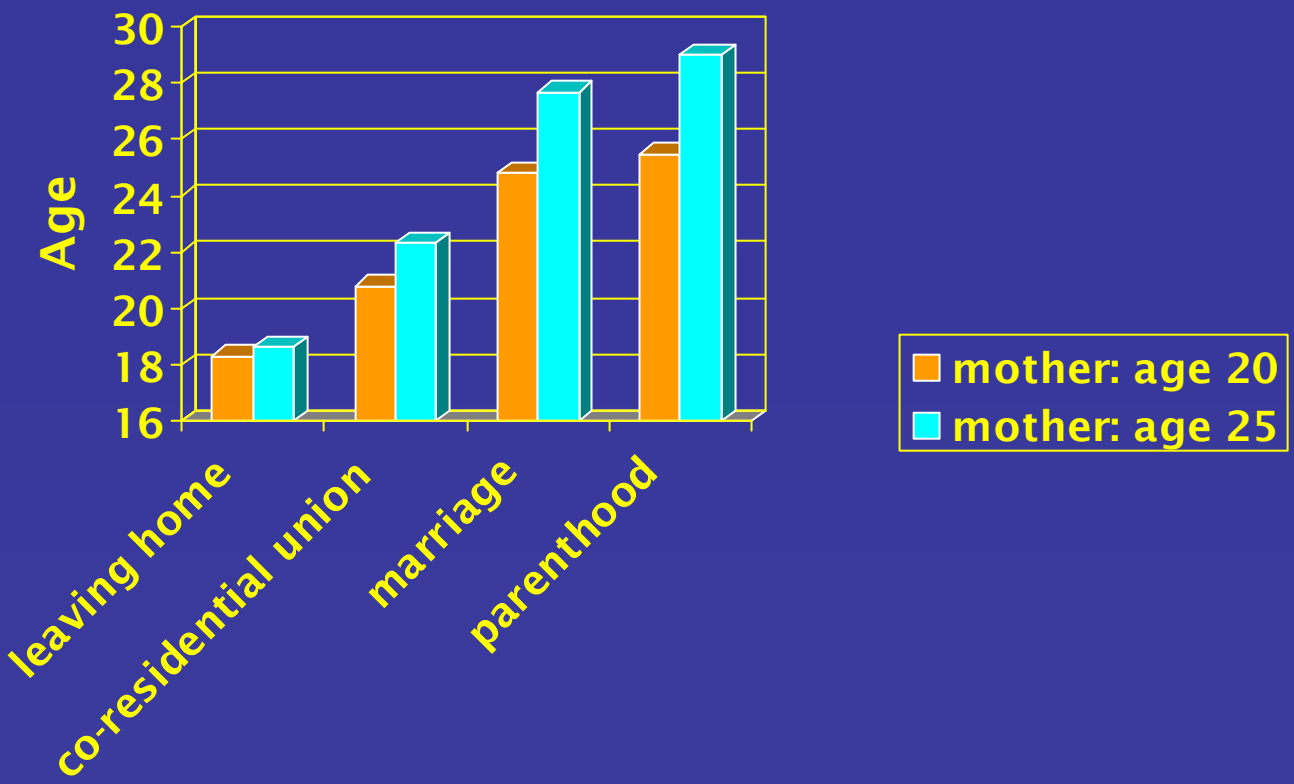
Example II: Transmission of event timing from mother to daughter



NSFH, own calculations

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Research Questions

- Most research focuses on the intergenerational transmission of individual behaviors
- It is likely that not just individual behaviors are transmitted, but that patterns of related behaviors (Family-life Trajectories) are transmitted as well

- Central Questions
  - Are family-life trajectories transmitted from one generation to the next?
  - What mechanisms are responsible for the strength of transmission of family-life trajectories?

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Methodological issues

- Data
  - Data on the life courses of parents and children
  - Preferably panel data to measure attitudes before behavior

- Measures
  - How to measure similarity in family-life trajectories?

Data

- National Survey of Families and Households
- One of few datasets with information on demographic behavior of parent and child
- First wave in 1987/1988
- Third wave in 2001/2002
- Restriction to family-life trajectories between ages 16 and 30
- Information on 1428 parent-child dyads
- Information on 349 parent-child dyads where both parent and child have been observed until age 30

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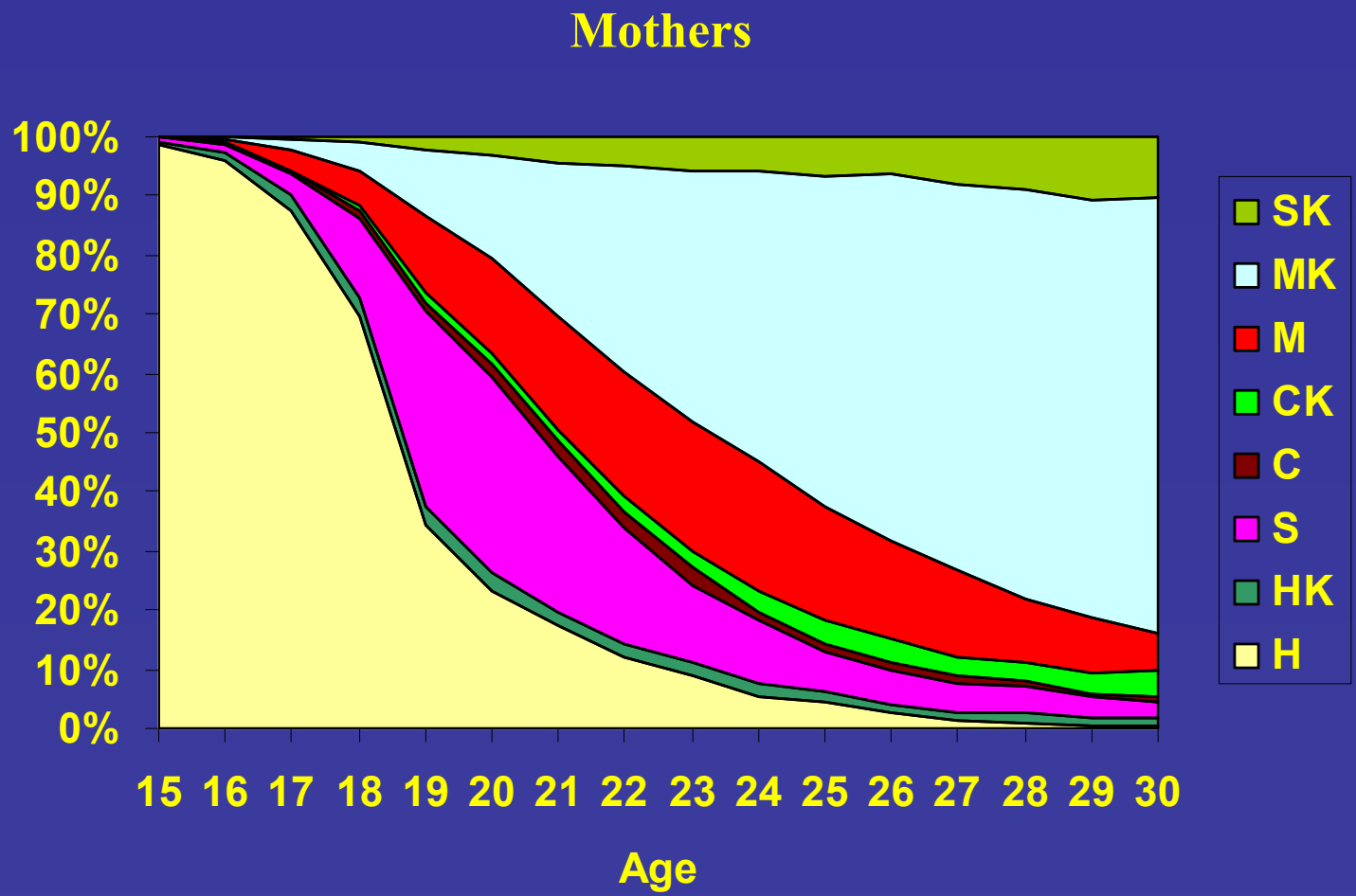
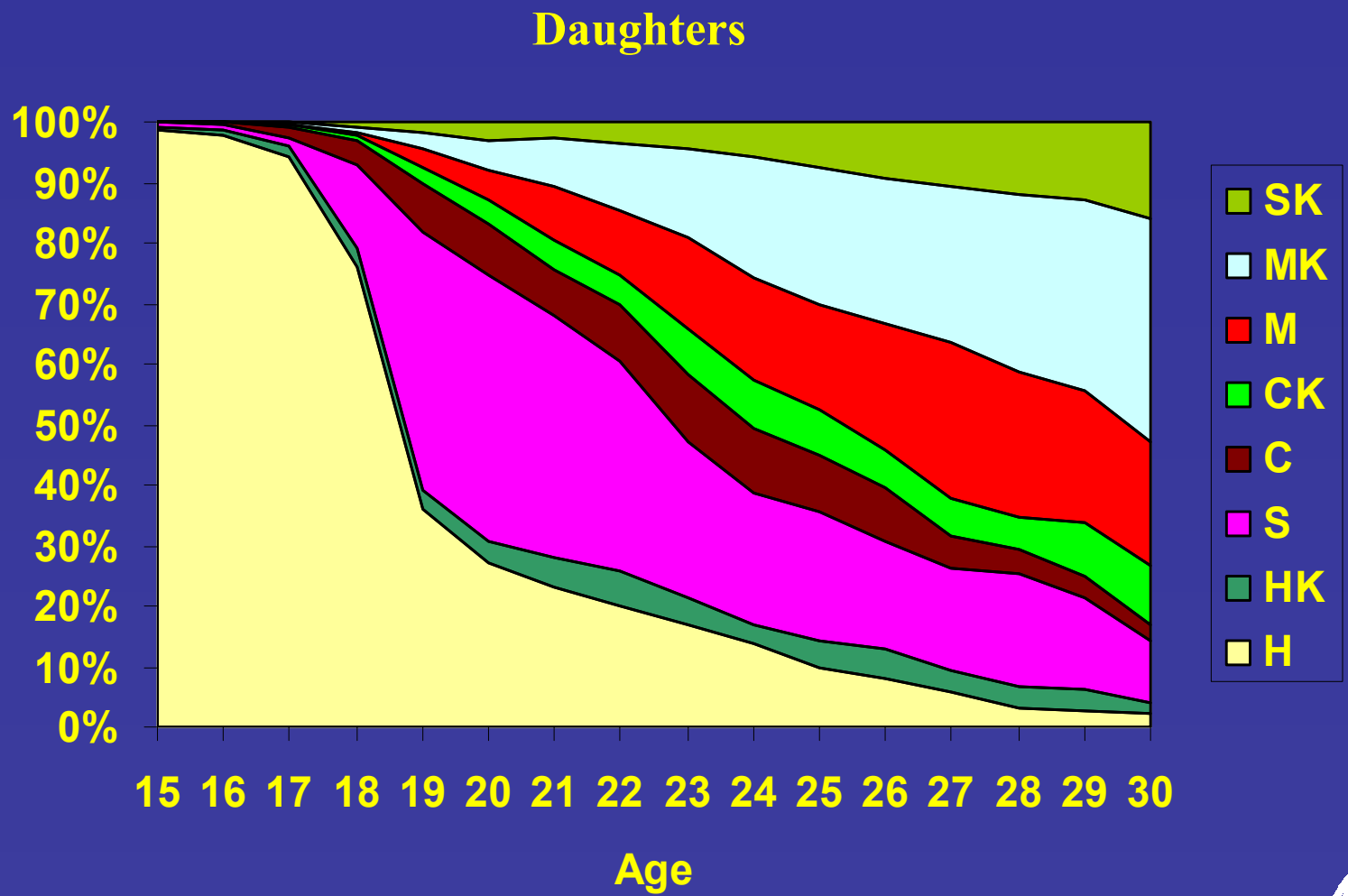
Example of state-space

Symbol	Description
H	Living in the parental home
S	Living without parents, partner and children
C	Cohabiting unmarried
M	Married
HK	Living in the parental home with child(ren)
SK	Living without parents or partner, but with child(ren)
CK	Cohabiting unmarried with child(ren)
MK	Married with child(ren)

Example of state-space



Example of state-space



Most common trajectories

Trajectories						children	parents
H	S					.043	-
H	M	MK				.046	.313
H	S	M				.026	-
H	C	M	MK			.031	-
H	S	H	S			.031	-
H	S	M	MK			.054	.245
H	M	MK	SK			-	.023
H	S	C	M			.048	-
H	S	H	M	MK		.028	.071
H	S	C	M	MK		.040	-
H	S	H	S	M	MK	-	.023
"Miscellaneous"						.650	.322

Measurement of Pattern-Similarity

- Optimal Matching (OM)
  - Similarity depends on the number of insertions, deletes and substitutions it takes to make two trajectories identical
  - Main problem: the kind of operations that are used to calculate similarity have no empirical interpretation in most social science applications
  - Additional problem: it is unclear whether OM works well if trajectories have different lengths

- Counting matching subsequences (MS)
  - Similarity depends on the number of subsequences that two trajectories have in common

Applying MS to state-space (I)

- Assume two family-life trajectories
  - *x* = H S C S M
  - *y* = H S M S M
- Count the number of common subsequences (including the empty subsequence). In this example there are 16
- Now compare
  - *x* = H S C S M
  - *z* = H S CK MK
- This time there are only 4 common subsequences

Applying MS to state space (II)

- We use this property to derive a measure of similarity between sequences
- We count the number of common subsequences and give special weight to common subsequences that occur often in both sequences
- We extend this measure to incorporate differences in duration spent in specific states; the more the duration spent in subsequences is similar between sequences, the more similar they are
- We restrict the variation in the measure from 0 (completely dissimilar) to 1 (completely similar)

How to test whether transmission exists?

- Calculate the average similarity between the family-life trajectories of random dyads consisting of a person from the parent-sample and a person from the child-sample
- Calculate the average similarity between family-life trajectories of all parent-child pairs
- Test whether the similarity of parent-child pairs is stronger than that of the random parent-child dyads
- If so, intergenerational transmission exists

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Results

$\bar{s}_{IJM}$	Children observed until age 30	All children
Random parent-parent dyads	0.45	0.35
Random child-child dyads		
Random parent-child dyads		
Parent-child pair		

Results

$\bar{s}_{IJM}$	Children observed until age 30	All children
Random parent-parent dyads	0.45	0.35
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Random parent-child dyads		
Parent-child pair		

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Results

$\bar{s}_{IOM}$	Children observed until age 30	All children
Random parent-parent dyads	0.45	0.35
Random child-child dyads	0.17	0.24
Random parent-child dyads	0.19	0.15
Parent-child pair		

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Results

$\bar{s}_{IDM}$	Children observed until age 30	All children
Random parent-parent dyads	0.45	0.35
Random child-child dyads	0.17	0.24
Random parent-child dyads	0.19	0.15
Parent-child pair	0.23	0.19

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Results

s_{DZM}	Children observed until age 30	All children
Random parent-parent dyads	0.45	0.35
Random child-child dyads	0.17	0.24
Random parent-child dyads	0.19	0.15
Parent-child pair	0.23	0.19

Mechanisms (I)

- **Value Socialization**
  - Parents try to transmit their family values and attitudes to their children
  - If parents are succesful in doing so (and if parental values correspond to parental behavior), the behavior of the children will resemble that of the parents

- **Potential indicators of value socialization processes:**
  - Parent-child similarity in attitudes towards family life
  - Parent-child similarity in religious activity

Mechanisms (II)

- **Role Modeling**
  - Children internalize the behaviors expected of them by observing the behaviors of significant others
  - Parents are the most important significant others in children's lives
  - The success of role modeling depends on the strength of the parent-child interaction

- **Potential indicators of role modeling processes:**
  - Quality of parent-child relationship
  - Parental separation during youth
  - Age difference between parent and child
  - Gender composition parent-child dyad

Mechanisms (III)

- **Status Inheritance**
  - Children and parents often face similar opportunity structures
  - To the extent that these opportunity structures influence the occurrence and timing of demographic events, intergenerational transmission can be viewed as a by-product of status inheritance

- **Potential indicators of status inheritance processes:**
  - Parent-child similarity in educational attainment

How to examine mechanisms of intergenerational transmission?

- Perform regression analyses with the level of parent-child similarity as dependent variable
- Include indicators for each of the mechanisms
- Test whether indicators have the expected effect
- If so, support for the importance of a specific mechanism

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Results
Attitudes towards family issues

- The more traditional the family attitudes of a parent-child dyad are, the more similar their family-life trajectories
- Family-life trajectories are less similar if the parent holds more traditional family attitudes than the child
- The last finding supports the Value Socialization hypothesis

Results
Frequency of church visit

- The higher the frequency of church visit of a parent-child dyad is, the more similar their family-life trajectories
- Family-life trajectories are less similar if the child visits church more often than the parent
- The last finding supports the Value Socialization hypothesis

Results
Parent-child relationship

- No significant effects for quality of parent-child relationship
- Family-life trajectories are more dissimilar if parent and child spent part or all of childhood separately from each other
- The last finding supports the Role Modeling hypothesis

Results
Gender composition dyad

- Similarity of family-life trajectories is highest in father-daughter dyads and lowest in mother-son dyads

- Can be explained by postponement of union formation and childbearing. The result is that daughters experience these transitions at roughly the same ages as their father did

Results
Educational attainment

- The higher educated a parent-child dyad is, the more similar their family-life trajectories
- Family-life trajectories are less similar if the child is higher educated than the parent
- The last finding supports the Status Inheritance hypothesis

Substantive conclusions

- Family-life trajectories are transmitted from parents to children

- Support for all three mechanisms
  - Value Socialization (attitudes towards family issues, frequency of church visit)
  - Role Modeling (parental separation during youth)
  - Status Inheritance (educational attainment)

Methodological conclusions

- Using sequence analysis is a useful way to measure similarity in trajectories
- This method can be extended to other research questions
- If you want to read the complete paper, send an email to liefbroer@nidi.nl

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