New Perspectives on Family Formation: What can we learn from Sequence Analysis?

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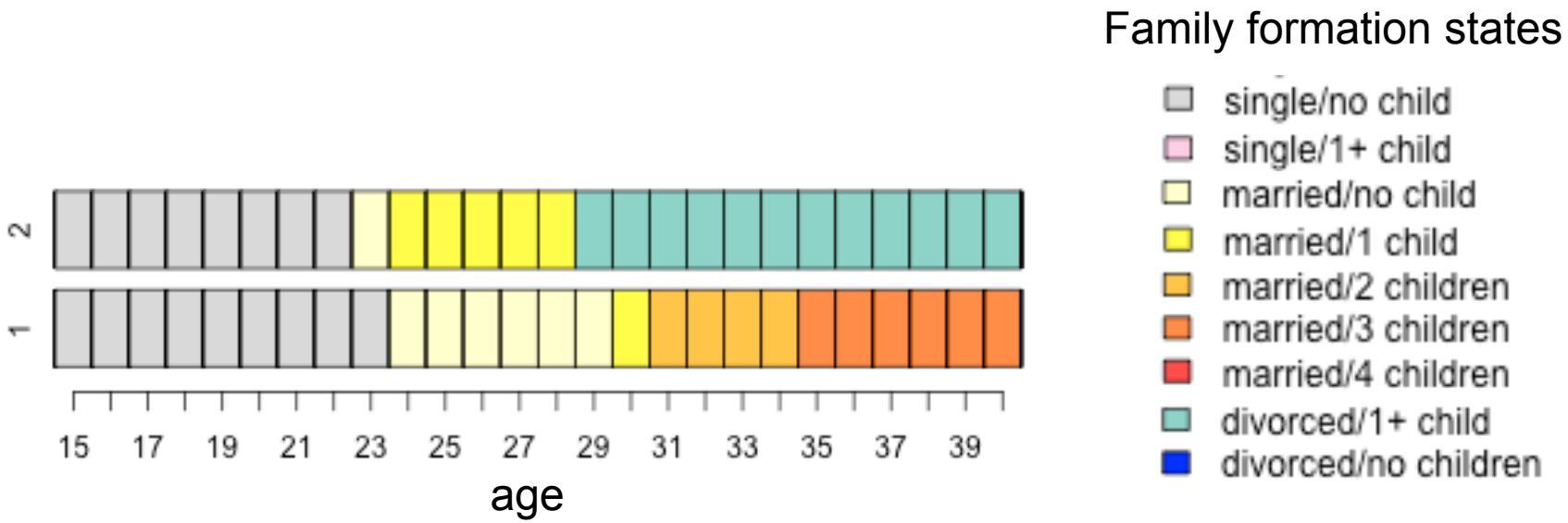
Family formation:
sequence of relationship and fertility events age 15 to 40



The life course paradigm and family formation – what is the added value of sequence analysis?

- **Macro context:** how is family formation structured by macro contexts?
  - → de-standardization/pluralization (e.g. Bras et al 2010, Fasang 2012, Lesnard et al. 2012)

- **Multidimensional lives:** how does family formation intersect with other life domains such as employment?
  - → Multiple / multichannel sequences (e.g. Pollock 2007, Gauthier et al 2010)

- **Linked lives:** how do "linked lives" within families affect family formation?
  - → dyadic sequences (e.g. Liefbroer & Elzinga 2012)

4 Subprojects to examine the added value of sequence analysis for the study of family formation

1. **Macro Contexts**
   Social change and family formation: The German Reunification

2. **Multidimensional lives**
   Synchronizing work and family in Germany and the United States (with Silke Aisenbrey, Daniela Grunow)

3. **Linked lives**
   Intergenerational Transmission: Parents' and their children's family formation (with Marcel Raab)

   Sibling similarity in family formation (with Jani Erola, Aleksi Karhula, Marcel Raab)

INTERGENERATIONAL TRANSMISSION: PARENTS' AND THEIR CHILDREN'S FAMILY FORMATION

Anette Eva Fasang and Marcel Raab

Previous research: Parents' and their children's family formation

- Literature on intergenerational transmission focuses on similarity and shows "some" transmission of parents' to children's family behavior in separate domains:
  - Marriage (Feng et al. 1999; van Poppel et al. 2008)
  - Fertility (e.g. Barber 2000; Murphy 1999)
  - Divorce (e.g. Amato 1996; Amato and DeBoer 2001; Wolfinger 2011)
- Sequential perspective shows intergenerational transmission despite dramatic changes in the societal processes that structure family formation (Liefbroer & Elzinga 2012)

Concepts

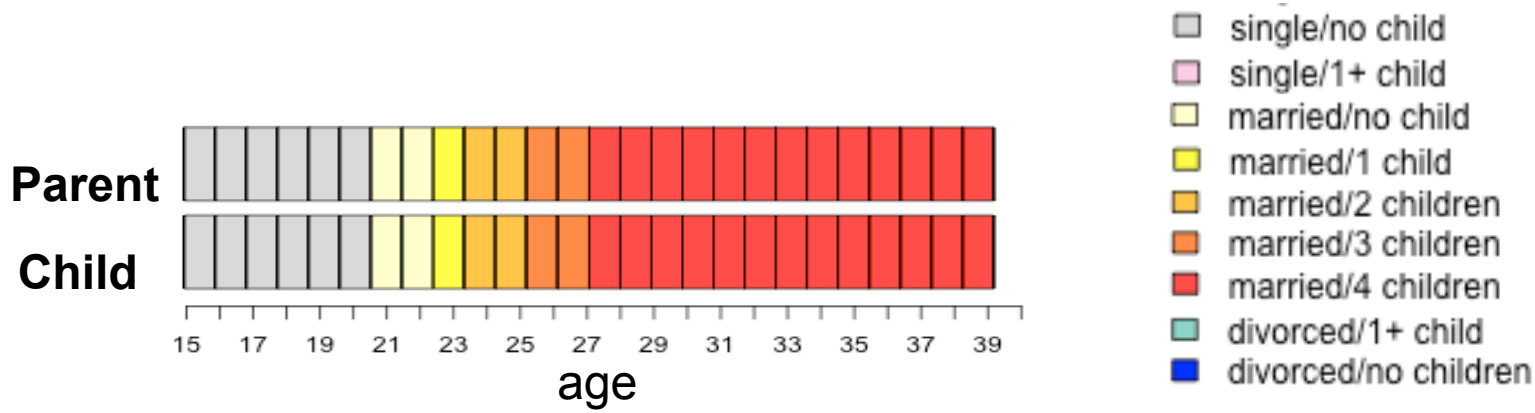
- **Intergenerational transmission**
  - Children show the ***same behavior*** as their parents (e.g. age of first birth, age of marriage).

- **Intergenerational patterns**
  - Regularity in parents' and children's behavioral patterns (family formation process) → "specific parents have specific children".

  - Three theoretically reasonable "patterns" :
    - **Strong** intergenerational transmission
    - **Moderated** intergenerational transmission (social change)
    - **Contrast** pattern

  - "Better understanding of the shape of a process can reveal something about its genesis" (Stovel, LACOSA)

I. Intergenerational pattern: strong transmission "same process at same speed"



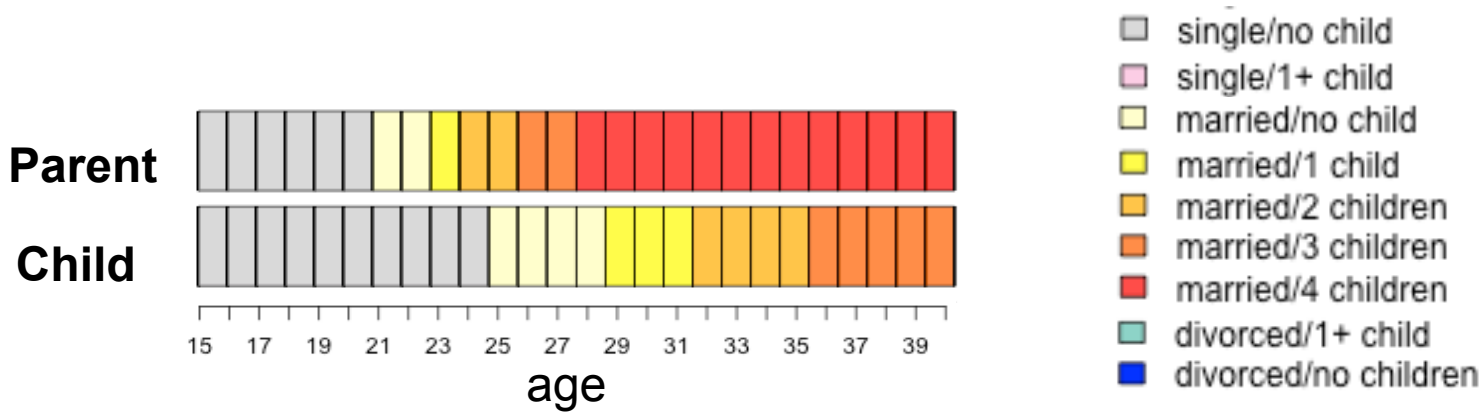
Mechanisms

- ***Socialization:*** children embrace the same values as their parents (e.g. Amato, 1996, Liefbroer & Elzinga 2012, Axinn & Thornton, 1993, 1996).

- ***Status inheritance***: children are exposed to similar opportunity structures as their parents (e.g., Barber 2000).

- ***Genetic inheritance***: genetic transmission of fertility patterns (e.g. Kohler, Rodgers, and Christensen, 1999).

II. Intergenerational pattern: moderated transmission "similar process at different pace"

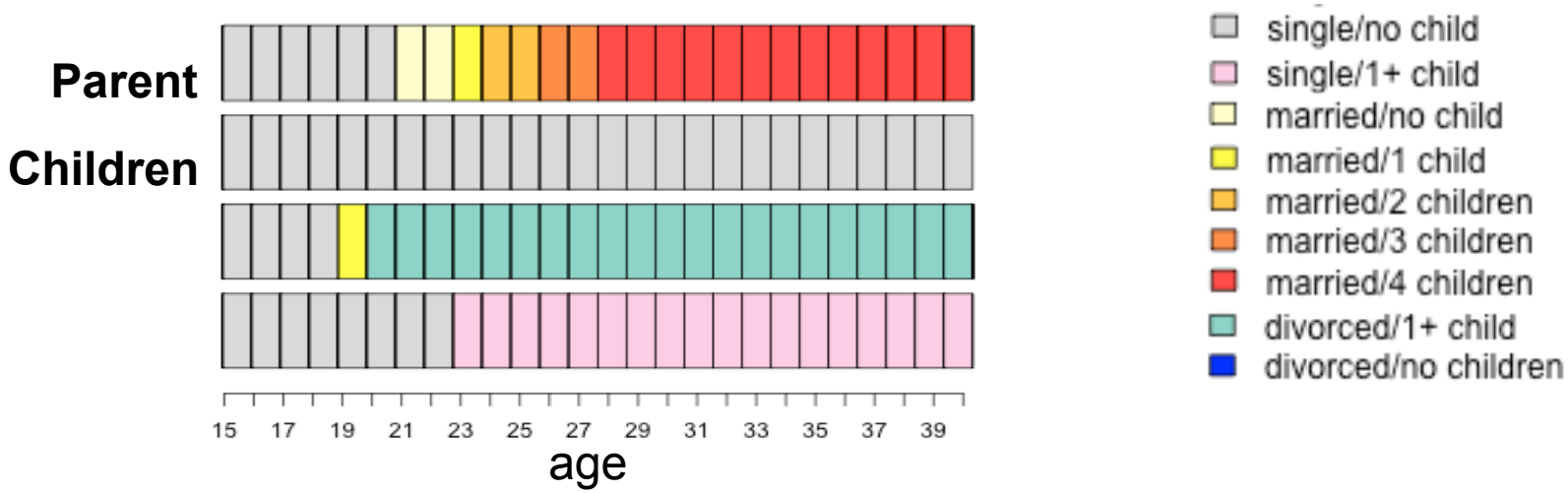


Mechanisms

- ***Structural change:*** technological change, economic restructuring, changing gender relations in the labor market (e.g. Esping-Andersen 2009, Blossfeld and Drobnic, 2003).

- ***Ideational change:*** shift from material to post-material values of self-realization "Second Demographic Transition" (Ingelhard and Baker 2000, Lesthaghe & Van de Kaa 1986).

III. Intergenerational pattern: contrast pattern "completely different process"



Mechanisms

- ***Intergenerational "struggle"***: children's need to assert autonomy and draw boundaries to parent generation (e.g. Bengtson and Troll, 1978).

- ***Family internal dynamics*** (psychological characteristics)***:***
  - *Parent-offspring conflict*
  - *Marital/spousal conflict*
  - *Birth-order*: pecking-orders within families, later-borns are "rebels" who deviate more from parental role models.

Research questions

Do these patterns exist?

What determines similarity and contrast in parent's and children's family formation?

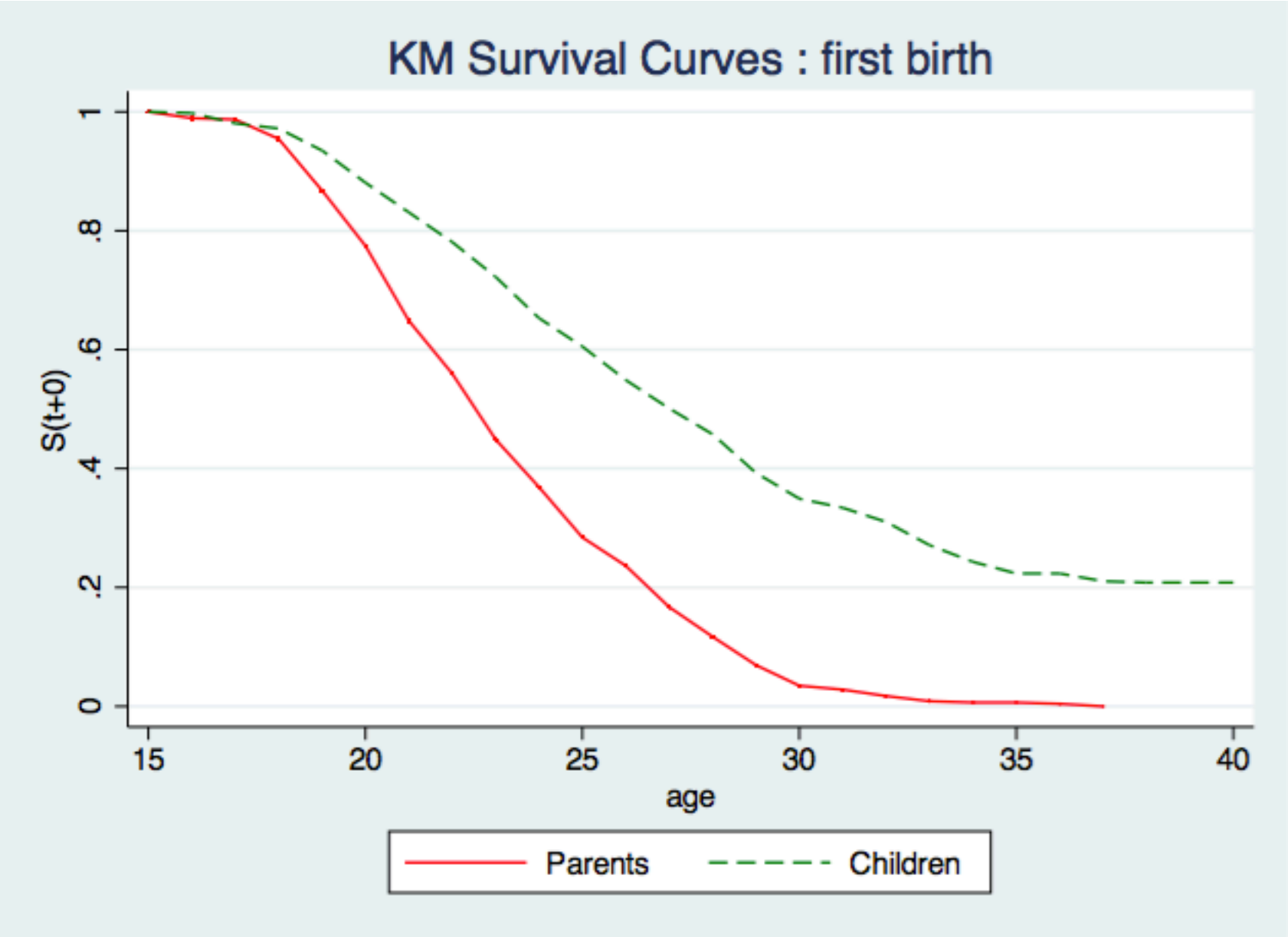
Data

- US Longitudinal Study of Generations, 1971-2000
  (PIs: Vern L. Bengtson; Merril Silverstein)

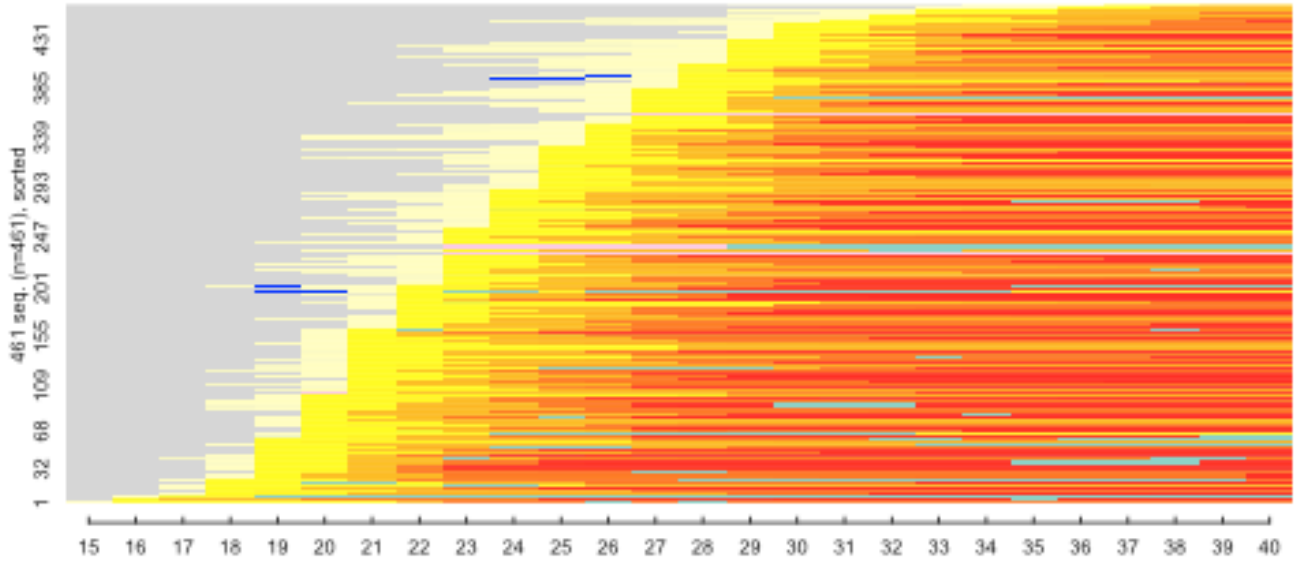
- 4 Generation Panel

- **Basic sample**: grandparents, that where members of a Health Plan in the greater area of Los Angeles (G1); their children (G2) und grandchildren (G3).

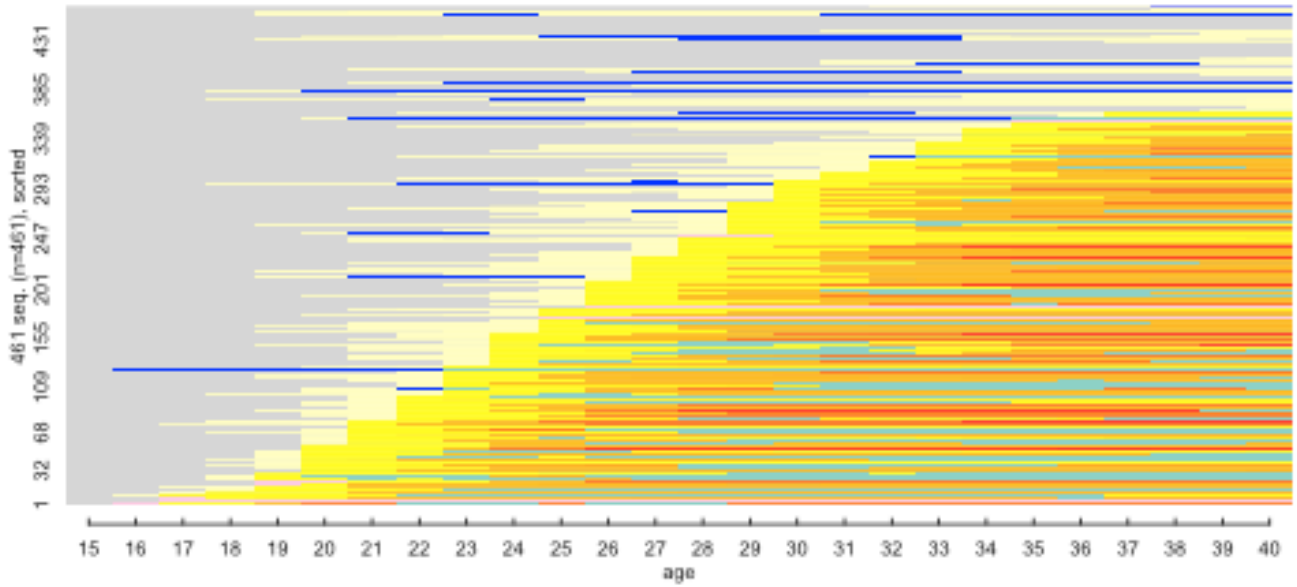
- **Analysis sample:** G2 (1920/30) and G3 (1940/50) with complete family formation sequences (N = 461 parent-child dyads) between **age 15 and 40.**


KM Survival Curves : first birth
S(t+0)
0
.2
.4
.6
.8
1
15
20
25
30
35
40
age
Parents
Children

Parents (N=461 dyads)



Children



Intergenerational patterns?

- single/no child
- single/1+ child
- married/no child
- married/1 child
- married/2 children
- married/3 children
- married/4 children
- divorced/1+ child
- divorced/no children

Multichannel sequence analysis (Pollock 2007, Gauthier et al. 2010)

- Originally developed to study parallel sequences, e.g. family & employment

- **Parent and child channel of one dyad (dyad = unite of analysis):**
  [MNC SNC]
  Parent [MNC] → married, no child
  Child [SNC] → single, no child

Sequences of two dyads

"strong transmission"

Age	16	17	18	19	20
Dyad A	[MNC MNC]	[M1C M1C]	[M2C M2C]	[M3C M3C]	[M4C M4C]
Dyad B	[MNC SNC]	[M1C SNC]	[M2C SNC]	[M3C SNC]	[M4C SNC]

"contrast pattern"

- Multichannel SA aligns both channels separately (parent / child). This enables to find contrasting patterns

"Cost assignment haunts all optimal matching analysis" (Stovel, 2001)

- Assigning numeric values to qualitative states (family formation)
- **Substitution costs**: substantive, theoretically motivated distance between states
- Weighted by generation-specific transition frequencies between states
- **Indel costs:** half the maximum substitution cost (MacIndoe and Abbott, 2004)

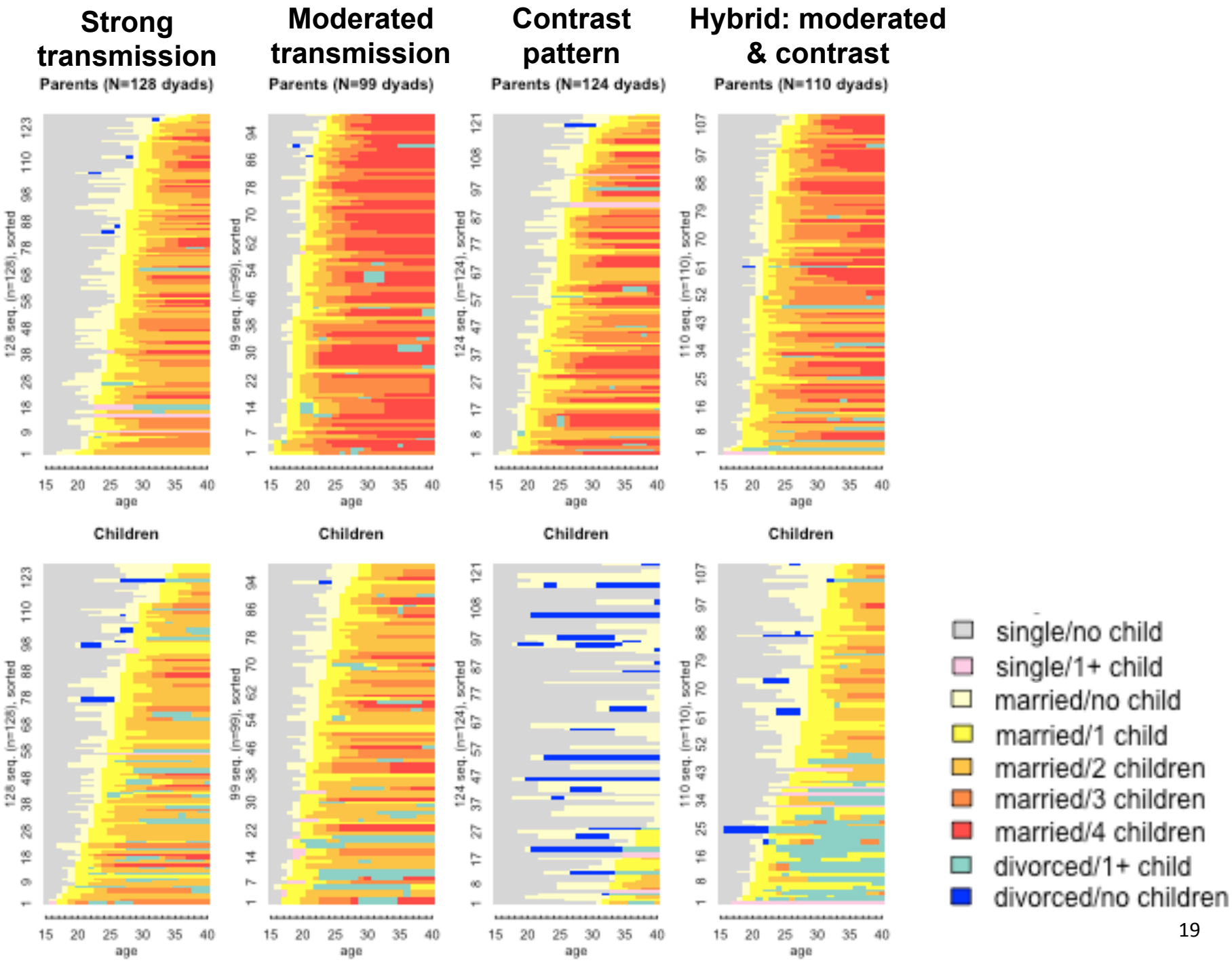
State	Code
Single no child (SNC)	1
Married no child (MNC)	2
Divorced no child (DNC)	3
Single 1 child (SC)	4
Divorced 1 child (DC)	5
Married 1 child (M1C)	6
Married 2 child (M2C)	7
Married 3 child (M3C)	8
Married 4 child (M4C)	9

Theoretical substitution cost matrix

	SNC 1	MNC 2	DNC 3	S1C 4	D1C 5	M1C 6	M2C 7	M3C 8	M4C 9
SNC 1	0	1	2	3	4	5	6	7	8
MNC 2	1	0	1	2	3	4	5	6	7
DNC 3	2	1	0	1	2	3	4	5	6
S1C 4	3	2	1	0	1	2	3	4	5
D1C 5	4	3	2	1	0	1	2	3	4
M1C 6	5	4	3	2	1	0	1	2	3
M2C 7	6	5	4	3	2	1	0	1	2
M3C 8	7	6	5	4	3	2	1	0	1
M4C 9	8	7	6	5	4	3	2	1	0

Research question I: do we find these intergenerational patterns of family formation?

- ✧ Run multichannel sequence analysis to generate pairwise sequence distance matrix.
- ✧ Use sequence distance matrix in cluster analysis (Ward).
- ✧ Calinski/Harabazs (1974) and Duda-Hart (1973) cluster cut-off criteria suggest **4 clusters.**

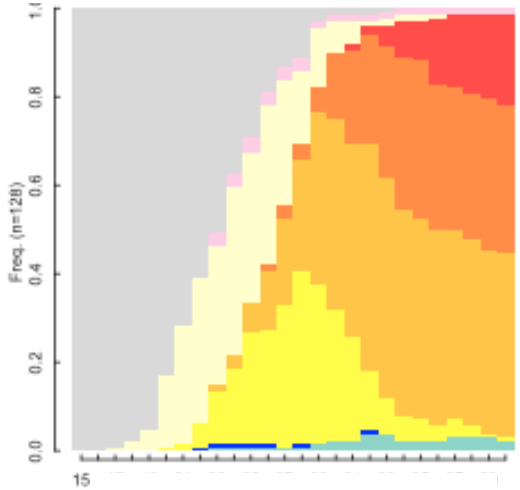

Strong transmission
Moderated transmission
Contrast pattern
Hybrid: moderated & contrast
Parents (N=128 dyads)
Parents (N=99 dyads)
Parents (N=124 dyads)
Parents (N=110 dyads)
128 seq. (n=128), sorted
99 seq. (n=99), sorted
124 seq. (n=124), sorted
110 seq. (n=110), sorted
age
Children
single/no child
single/1+ child
married/no child
married/1 child
married/2 children
married/3 children
married/4 children
divorced/1+ child
divorced/no children

Mean within and between generation sequence distances

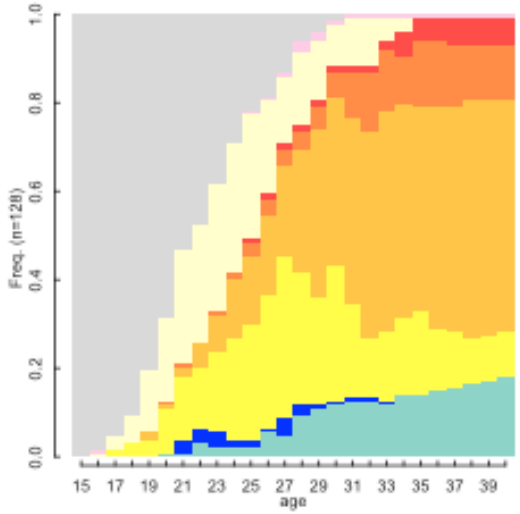
Cluster	Total	Within parent gen.	Within child gen.	**Between parent-child**
Total sample N=461 dyads	104.82	78.51	104.58	**119.00**
"Strong transmission"	66.58	55.68	74.87	**68.84**
"Moderated transmission"	71.39	47.51	68.53	**85.73**
"Contrast Pattern"	120.97	76.64	42.02	**183.24**
"Moderated & contrast"	84.44	55.95	64.45	**111.27**

Strong transmission: same process - same pace

Parents (N=128 dyads)



Children



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- married/no child
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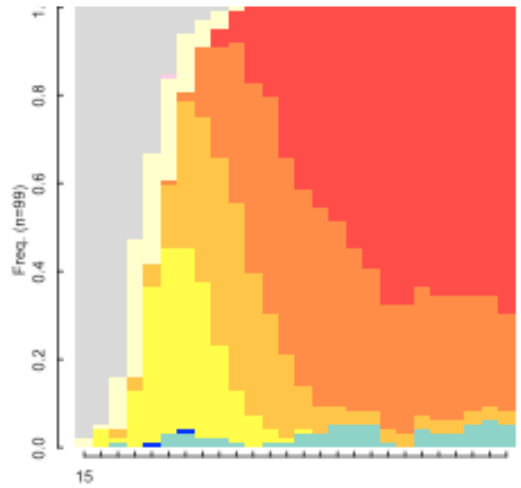
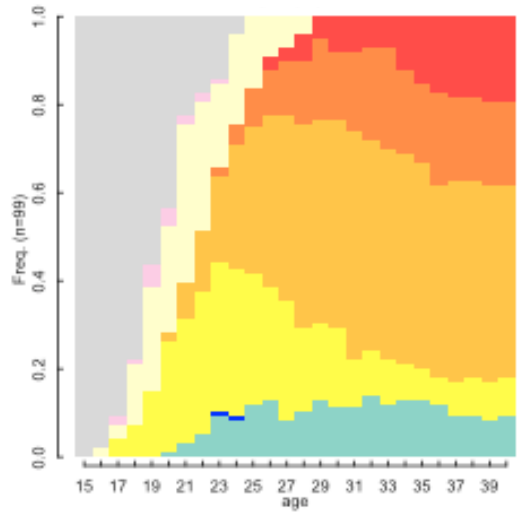
- divorced/1+ child
- divorced/no children

Moderated transmission: same process - different pace

Parents (N=99 dyads)

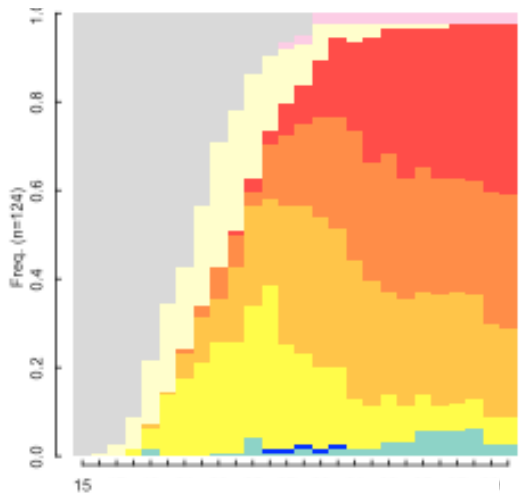


Children

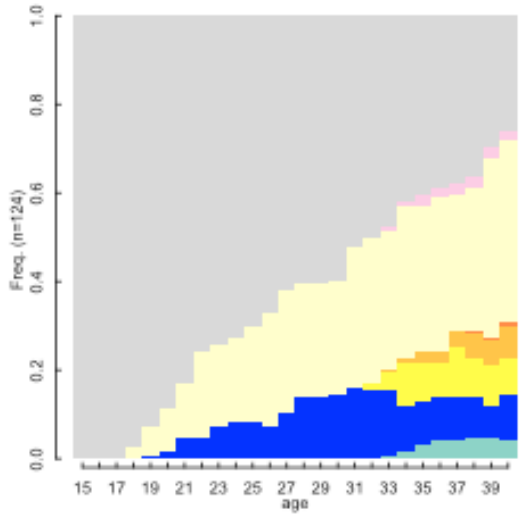


Contrast pattern: different process

Parents (N=124 dyads)



Children



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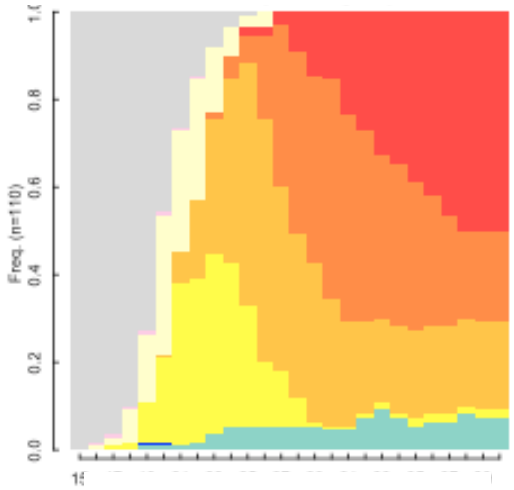
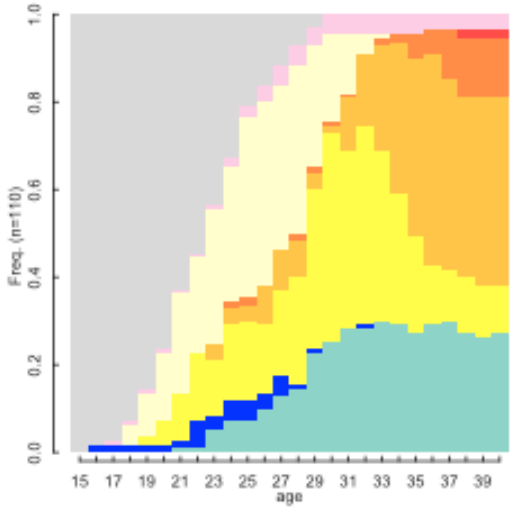
- divorced/1+ child
- divorced/no children

Hybrid: moderated transmission & contrast pattern

Parents (N=110 dyads)



Children



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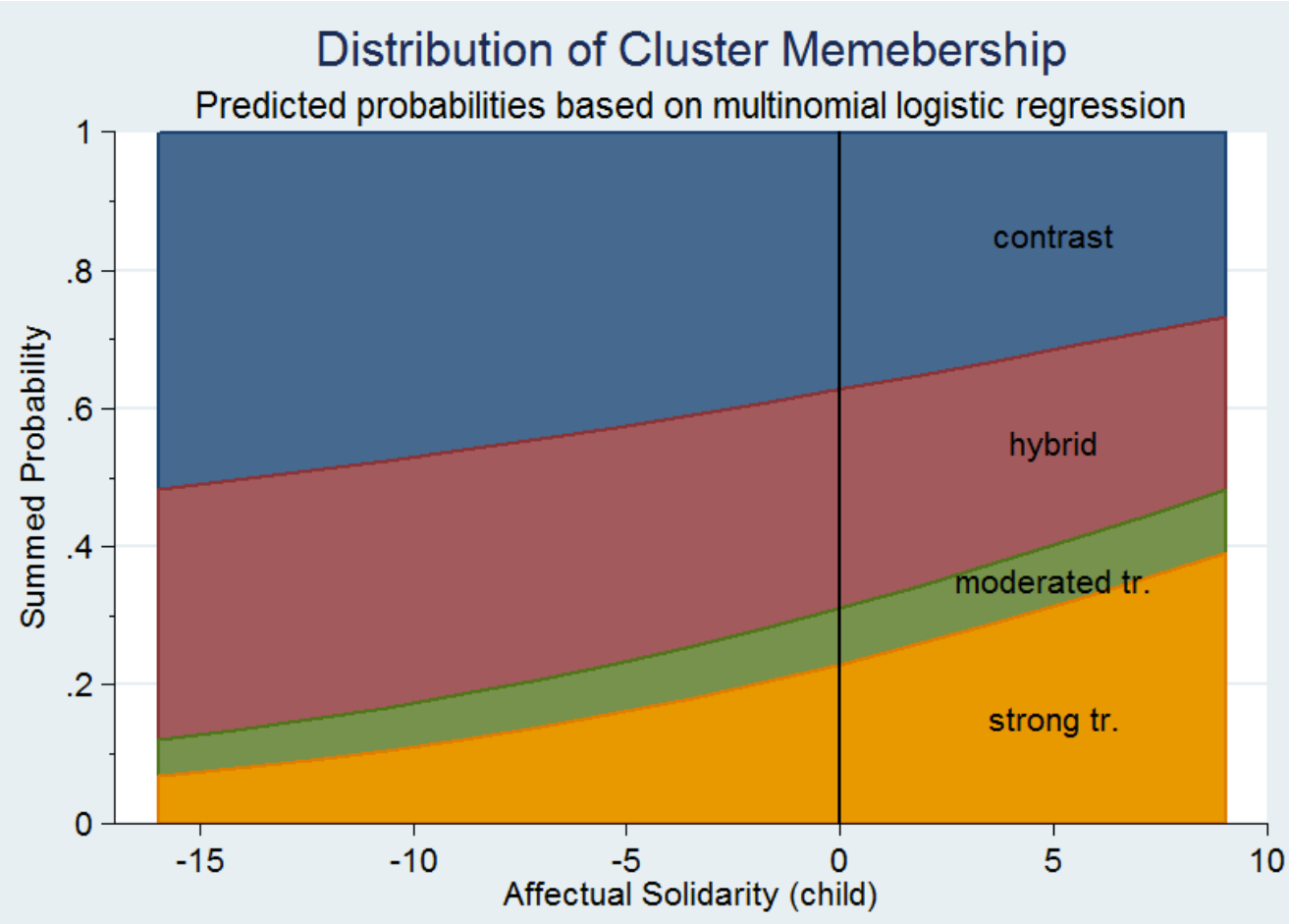
Research question II: determinants of intergenerational patterns & parent-child distance

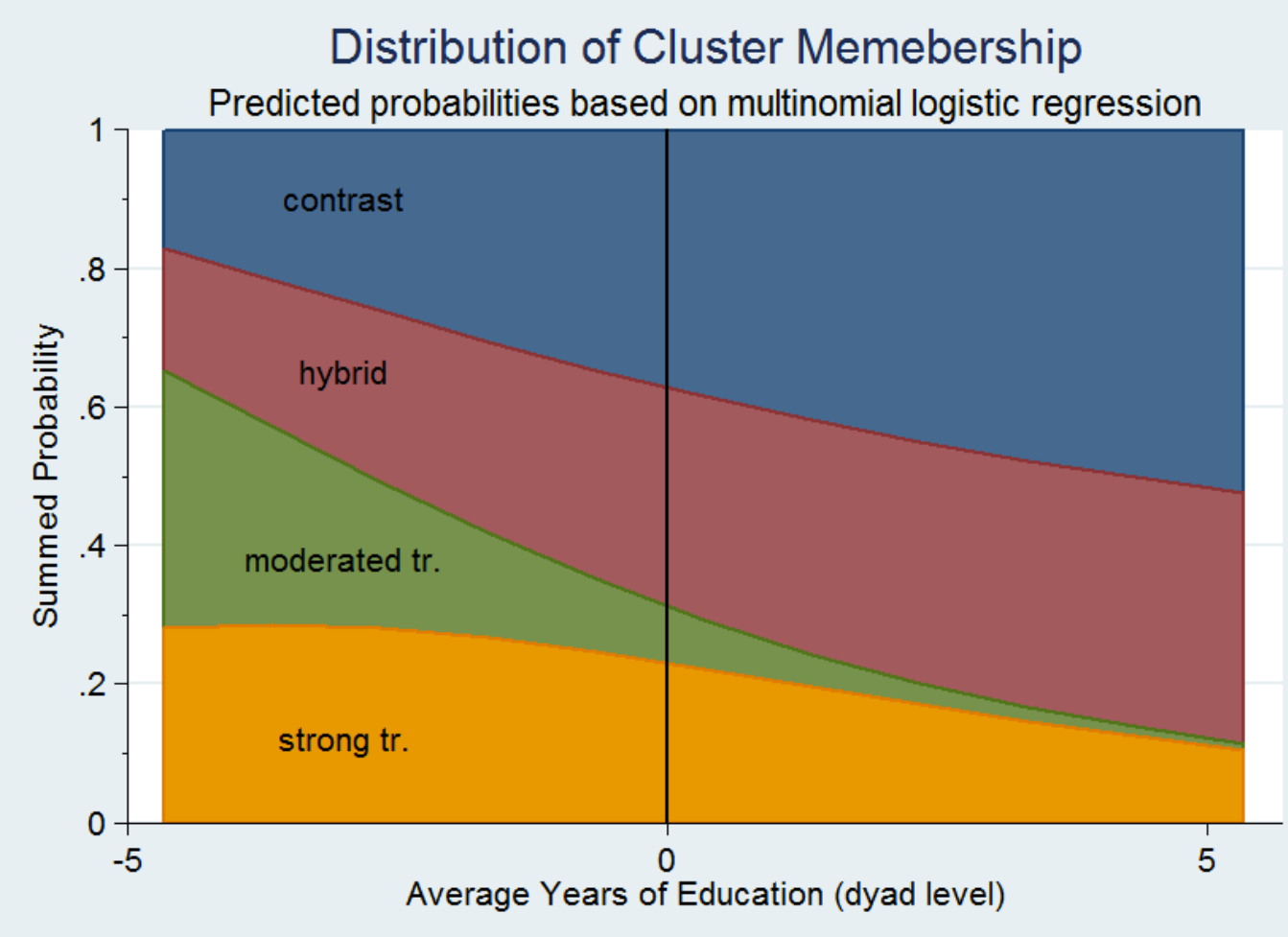
- Multinomial logit on cluster membership
- Dyadic regression on distance between parent and child sequence in each dyad

Affectual solidarity of child increases probability of strong transmission (multinomial logit)



Controlling for dyad gender, dyad age difference, education, birth order

High education (dyad level) increases probability of contrast and hybrid pattern



Controlling for dyad gender, dyad age difference, affectual solidarity, birth order

Dyadic regression on parent and child dissimilarity

	Model 1	Model 2
Gender Constellation (Ref.: Mother-Daughter)		
Father-Son	4.430	2.832
Mother-Son	**8.397***	7.363
Father-Daughter	-2.649	-4.005
Birth order (Ref.: first born)		
Second born	**7.904****	**9.076****
Third born	**24.26*****	**25.83*****
Fourth+ born	**38.03****	**44.34****
Parent's age at birth	**-2.104*****	**-2.246*****
Years of education – child	**1.391***	**2.566*****
Years of education – parent	1.048	**1.270***
Affectual solidarity (reported by child)		**-25.76*****
Constant	**64.82*****	**69.22*****
Number of dyads	461	391
Adjusted R-squared	0.090	0.135

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Summary

- Support for three intergenerational patterns of family formation (+ hybrid):
  - Strong transmission
  - Moderated transmission (delay, decline)
  - Contrast

- Patterns of moderated transmission and contrast are drivers of social change in family formation → highly educated parents and children are more likely to experience them.

- Family internal dynamics/psychological characteristics are important for intergenerational transmission → affectual solidarity of child increases probability of strong transmission.