Personal network changes in ecological transitions

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The data

- Migrants in Catalonia (Barcelona,Vic,Girona).
  - We had about 300 personal networks (2004-2005) ...
  - Cluster analysis → Sample of 90 individuals for the **second wave** ...
  - We have 56 structured interviews so far (1,5 - 2 years later on average) ...
  - In this case we are focusing in **Argentineans** (N=22).

Types of dynamic personal network research

- Feld et. al. 2007.

Level of analysis	**Focus of analysis**	
	Persistence of ties	*Change in content of relationships*
Ego	Type 1	Type 2
Network	Type 3 (size)	Type 4

- Our approach would be “Type 5”: changes both in composition and structure.

Persistence of ties with alters across time (Type 1)

- Our analysis was based on **900 alters** (20 respondents).
- **53% of these alters were again nominated in the second wave of interviews** (*N* = 473), whereas 47% of the nominations was not repeated (*N* = 427).
- As the first column (Model 1) shows, **none of the ego characteristics** (age, sex, marital status, and years of residence in Spain) predicted the persistence of a tie over time.
- **Relational characteristics appeared to be better predictors of the persistence of ties** (Model 2): frequency of contact, closeness, time of knowing, the relation between ego and alter (i.e., whether alter is a family member of ego or not) and whether alter is Spanish or not. Family members were more stable members than non-kin.
- Finally, **alters who were originally Spanish were more stable members** of the networks than alters who either lived in the country of origin or who were fellow migrants.

	Model 1	Model 2
Characteristics ego		
Constant	0.315 (0.706)	-1.550 (.591)
Age	-0.005 (0.019)	
Sex	-0.396 (0.238)	
Never married	-0.212 (0.283)	
Years of residence	0.053 (0.098)	0.208 (0.121)
Characteristics alter or relation ego-alter		
Frequency of contact		0.341 (0.053)*
Closeness		0.519 (0.082)*
Time alter and ego know each other		0.074 (0.035)*
Same sex		0.098 (0.156)
Alter is a family member		0.815 (0.229)*
Alter is Spanish		1.511 (0.619)*
Interaction Spanish * years of residence		-0.406 (0.154)*

Table 1. Regression coefficients and standard errors (between brackets) of the binary multilevel regression model predicting persistence of ties (*N* = 900).

Differences between dissolved and new ties (Type 2)

- 425 were broken in wave 2, and 465 were new ties.
- **Are the new ties qualitatively better than the old ones?**
- Table 2a shows that the alters whom the respondents did not nominate again in wave 2 were somewhat **less close** and somewhat **less frequently contacted than the newly nominated alters in wave 2**.
- Furthermore, Table 2b shows that new relations were somewhat **more often family members** than relations that were broken.

	Dissolved ties *N* = 425**		**New ties** *N* = 465**		***t***	***df***	***p***
	M	*SD*	*M*	*SD*			
Frequency of contact	2.4	1.8	2.9	1.9	3.698	888	**< .001**
Closeness	2.8	1.1	3.2	1.1	-5.320	888	**< .001**
Time alter and ego know each other	7.5	9.0	6.9	9.8	.881	888	n.s.

Table 2a. Differences between dissolved and new ties: numerical variables.

	Percentage of dissolved ties N = 425**	Percentage of new ties N = 465**	χ^2	*df*	*p*
Alter is Spanish	*	*	*	*	*
Alter lives in Spain	*	*	*	*	*
Alter is a family member	**12%**	**18%**	**5.828**	**1**	**< .05**

Table 2b. Differences between dissolved and new ties: categorical variables.

	Change in frequency of contact	**Change in closeness**
Characteristics ego		
Constant	-.081 (.599)	1.015 (.570)
Age	.034 (.015)*	-.020 (.015)
Sex	.146 (.192)	.122 (.187)
Never married	.094 (.217)	-.531 (.217)*
Years of residence	-.070 (.081)	.015 (.078)
Characteristics alter or relation ego-alter		
Time alter and ego know each other	-.056 (.025)*	-.005 (.017)
Same sex	.152 (.135)	-.008 (.089)
Alter is a family member	-.270 (.165)	.085 (.109)
Alter is Spanish	.564 (.499)	.061 (.331)
Interaction Spanish * years of residence	-.129 (.126)	-.020 (.084)

* $p < .05$

Table 3. Regression coefficients and standard errors (between brackets) of the multilevel regression model predicting changes in frequency of contact and closeness in stable ties (N = 473).

Changes in overall network characteristics across time (Type 4)

- The **network stability** was on average **53%** (SD = 13.6), and varied between 29% and 76% among respondents.
- Overall, the network characteristics of the 22 respondents **hardly changed over time** (see Table 4).
- The only characteristics that differed significantly between the first and the second wave was **average closeness and the betweenness centrality of the networks**, both of which increased slightly over the years (for closeness: Mt1 = 2.1; Mt2 = 2.4; t = -2.755, df = 21, $p < .05$; for betweenness centrality: Mt1 = 22.8; Mt2 = 32.2; t = -2.278, df = 19, $p < .05$).

Variable	Time 1		Time 2		*r*	*t*
	M	*SD*	*M*	*SD*		
% Spanish	27.5	14.9	31.4	17.1	.77*	-1.674
% living in Spain	59.4	21.4	61.9	17.0	.72*	- 0.773
Average closeness	2.1	0.3	2.3	0.3	.37	- 2.755*
Average frequency of contact	2.9	0.8	3.0	0.7	.59*	- 0.519
% family	22.0	12.6	24.6	9.1	.66*	-1.246
Density	0.19	0.11	0.17	0.06	.59*	0.851
Betweenness	22.8	12.3	32.2	15.7	.06	- 2.278*

Table 4. Means and standard deviations of the compositional variables of the personal networks at t1 and t2 (N = 22), correlations between the two waves, and differences between the two waves.

Persistence of ties between alters across time (Type 5)

- We are applying SIENA to three selected cases combined with qualitative information from in-depth interviews about reasons for change...
- ...Next ECRP meeting ☺ ...

Questions …

- First quantitative analysis suggest that important changes in the number of actives contacts and/or changes in ties (from 30-70%) are compatible with overall stability in network composition characteristics.
- But qualitative data suggest that a lot of things changed in a single year …
- Let's see later.

Thanks!