

# MULTIPLEX DYNAMIC SOCIAL NETWORKS – INTERDEPENDENCY OF POSITIVE & NEGATIVE TIES IN ADOLESCENCE

## INTRODUCTION / BACKGROUND

- Different kinds of relation may interact:  
**Network A affects Network B**  
**Network B affects Network A**
- Ambiguous results for the interaction of positive and negative ties.
- Hardly any research on friendship AND disliking in adolescence.

## RESEARCH QUESTION

(How) do positive and negative relations among adolescents affect each other?

## DATA

- Class room networks (~3,000 students)
- Data collection 2003/04
- 14 schools in NL, 126 classes
- Different educational levels, regions, school sizes & types
- First class of secondary school (age 12-13 yrs.)
- Longitudinal: four measurements within one academic year
- Positive tie:** “best friends in class”
- Negative tie:** “dislike s.o. in class”

## SIENA ANALYSES & META ANALYSIS

### POSITIVE TIE AS DEPENDENT

	expected effect	estimate	sd
++T	+	<b>0.24*</b>	<b>0.05</b>
--T	+	-0.03	0.0
-+T	-	-0.02	0.0
+T	-	<b>-0.18*</b>	<b>0.0</b>

### NEGATIVE TIE AS DEPENDENT

	expected effect	estimate	sd
--T	-	<b>0.11*</b>	<b>0.05</b>
++T	-	<b>-0.18*</b>	<b>0.06</b>
+T	+	<b>0.24*</b>	<b>0.07</b>
-+T	+	<b>0.29*</b>	<b>0.12</b>

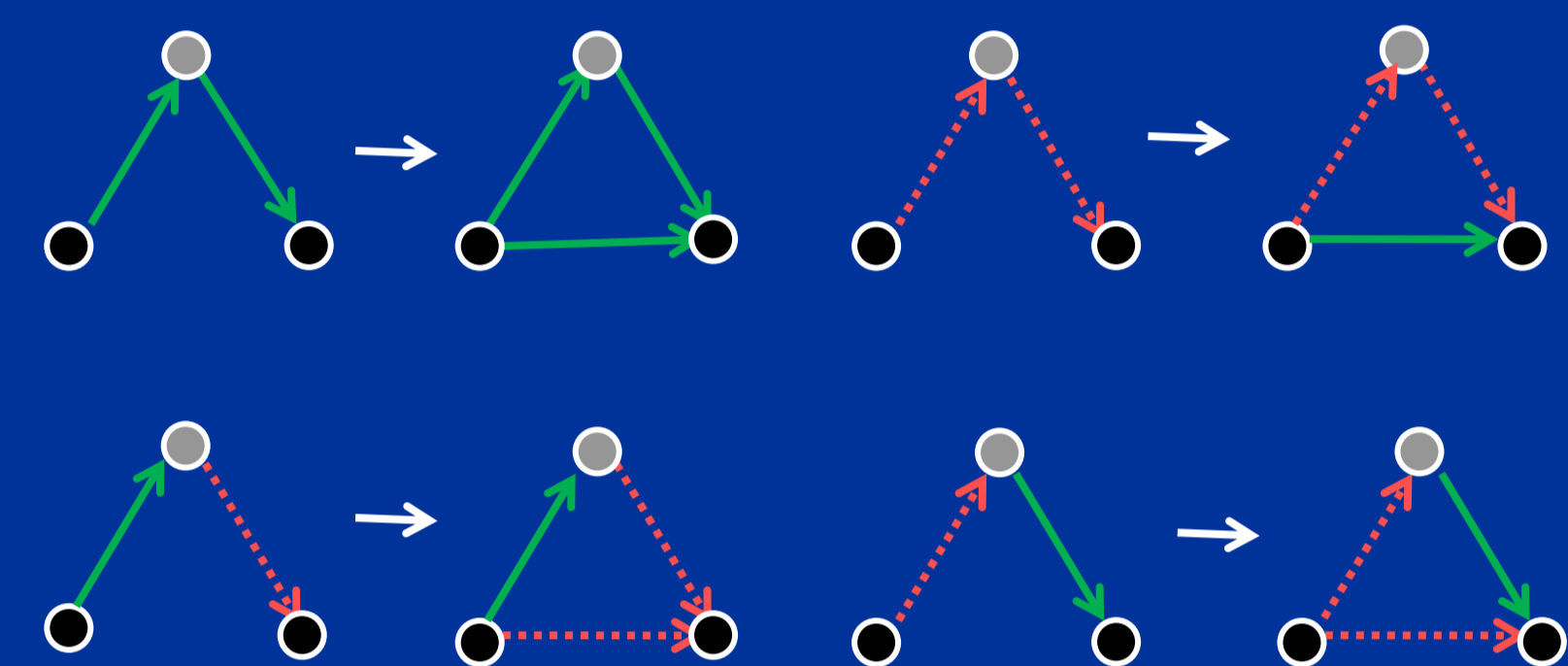
controlled for reciprocity, same gender

## THEORY

Balance theory (Heider 1946, Cartwright & Harary 1956):  
Unbalanced relations put strain on people, stress reduction through changing of ties.

## HYPOTHESES (TRANSITIVE TRIADS)

Balanced triads are more likely than unbalanced triads.



## DESCRIPTIVE RESULTS

### TRIAD CENSUS

++T+	89.158	++T-	6.089
+-T-	20.228	+-T+	8.037
--T-	18.612	--T+	8.445
--T+	8.824	--T-	9.530

### STABILITY IN %

++T+	42.1	++T-	8.1
+-T-	23.1	+-T+	7.4
--T-	19.6	--T+	11.9
--T+	14.5	--T-	13.3

## SUMMARY & DISCUSSION

- Positive and negative ties seem to be interdependent.
- Descriptive and preliminary SIENA results confirm balance theory partly.
- Inclusion of more (structural) effects, e.g., homogeneity, necessary.
- Further research needed for the identification of specific mechanisms (other triad constellations).