



KISSING IS CONTAGIOUS!

A simple diffusion model of kissing behavior of 12 year olds

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introduction and hypotheses

RESEARCH QUESTIONS

- Is kissing affected by social influence?
- Are boys and girls equally susceptible?
- Is it the opinion or the actual behavior that facilitates social influence?
- Does the gender of the peers play a role in this process?

THEORETICAL BACKGROUND

- Social Influence Theory
- Social Learning Theory
- Opportunity Theory
- Status Characteristics Theory

- H₁: The more friends start to kiss, the more likely a pupil starts to kiss ✓
- H₂: The influence of friends is bigger than the influence of other classmates ✓
- H₃: The more same-sex friends a pupil has, the less likely s/he starts to kiss over time (opportunity) ✓
- H₄: The influence of same-sex friends is bigger than the influence of opposite sex friends (influence) ✗
- H₅: The actual kissing behavior of friends and other classmates is more influential than their attitudes towards it ✓
- H₆: Girls are more susceptible to be influenced in their kissing behavior than boys ✗

data and methods

DATA

- Netherlands; 2003/2004
- 126 classes in 14 schools; different educational tracks
- 12 year olds; first graders in secondary school

METHODS

- Dependent Variable: conditional probability of kissing at time point t, given no kissing at time point t-1
→ hazard rate of kissing $\lambda(t) = \Pr(t-1 \leq T \leq t | T \geq t-1)$
- Discrete Time Event History Analysis
→ $\lambda(t) = \lambda_0(t) * \exp(\alpha_0 + \alpha_1 * X_1 + \beta_2 * X(t)_2 + \dots)$
→ baseline hazard rate $\lambda_0(t)$
→ time-constant covariate α_1 , e.g. 'female'
→ time-dependent covariate β_2 , e.g. 'N friends kissing t-1'

results

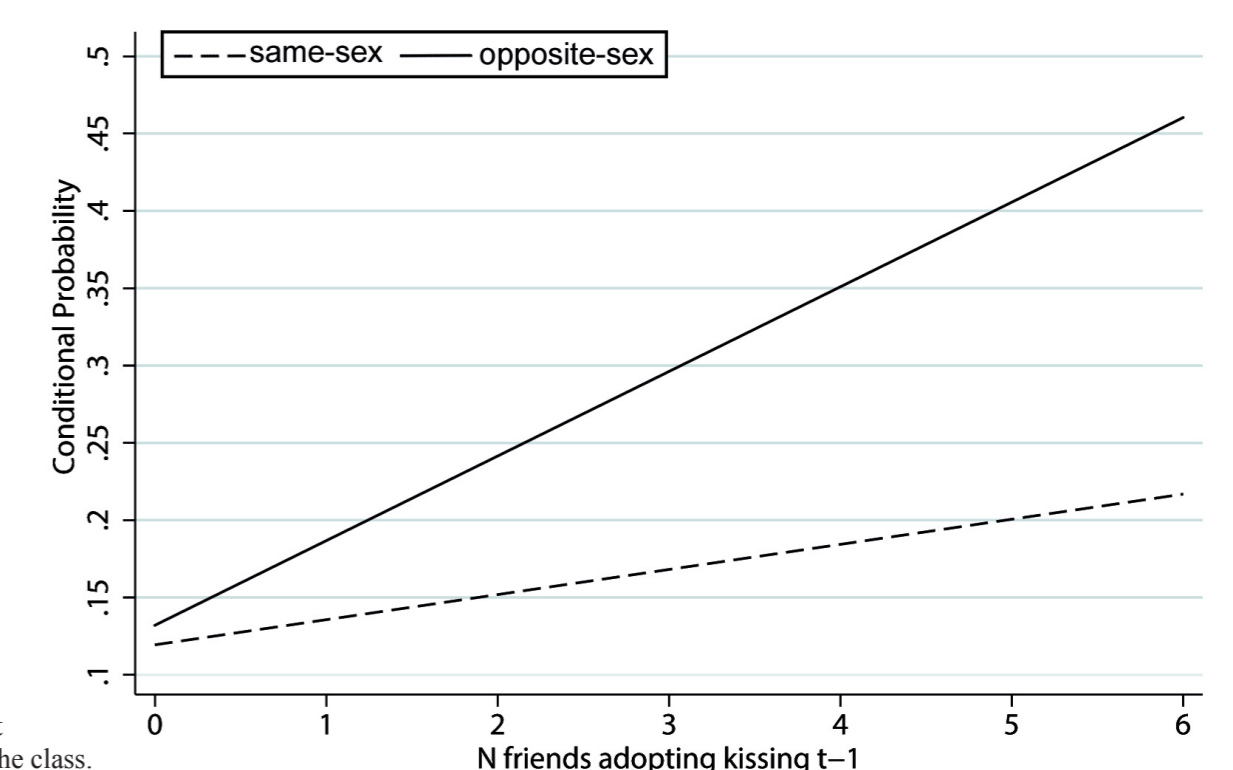
DV: hazard rate of kissing at time point t	(diffusion)	(opinion)	(gender ego)	(gender peer)
(01) Female	-0.036***	-0.037***	-0.059**	-0.037***
(02) N friends (indegree)	0.003	0.003	0.003	0.003
(03) N opposite-sex friends	(B) 0.017**	0.017**	0.017**	0.012†
(04) N opposite-sex classmates	-0.007***	-0.007***	-0.007***	-0.006***
(05) N friends kissing t-1	(A) 0.019***	0.019***	0.019**	
(06) N classmates kissing t-1	0.001***	0.001***	0.000***	
(07) N friends with positive opinion t-1		(D) 0.010		
(08) N classmates with positive opinion t-1		-0.000*		
(09) Female (1) * N friends kissing (5)			(E) 0.000	
(10) Female (1) * N classmates kissing (6)			0.000	
(11) N same-sex friends kissing t-1				(C) 0.016***
(12) N opposite-sex friends kissing t-1				0.055***
(13) N same-sex classmates kissing t-1				0.001***
(14) N opposite-sex classmates kissing t-1				-0.000
(15) t-1	-0.073***	-0.074***	-0.073***	-0.070***
(16) Constant	0.335***	0.348***	0.346***	0.321***
(17) Residual Variance Class	0.001***	0.001***	0.001***	0.001***
(18) Residual Variance Ego	0.122***	0.122***	0.122***	0.121***
N	4511	4511	4511	4511
AIC	3368.505	3367.721	3370.911	3364.252
LR test [†] : $\chi^2(2)$	46.65***	4.78†	1.59	8.25*

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; † LR test: (diffusion) model tested against model without (05) and (06), others models tested against (diffusion) model; also controlled for: BIG 5; centralization of the class.

Results: (A) is in line with H₁ and H₂, (B) is in line with H₃, (C) is not in line with H₄, (D) is in line with H₅ and (E) is not in line with H₆.

Interpretation example of the 'gender peer' model:

Conditional on the number of friends that adopted kissing at time point t-1, an average girl exhibits the following hazard rates to adopt kissing herself:



conclusion

SOCIAL INFLUENCE

- Friends positively influence kissing
- Opposite-sex friends have a stronger influence than same-sex friends
- In contrast; classmates barely influence adoption of adoption of kissing
- Not opinion about kissing, but the displayed behavior of friends affects ego's own kissing behavior. This is the same for boys and girls in class
- Boys and girls are equally susceptible to social influence

OPPORTUNITY

- Number of opposite-sex friends positively affects kissing behavior
- Opposite-sex friends that adopt kissing have a strong positive effect positive effect on kissing behavior

FUTURE RESEARCH

- Find a better way to disentangle social influence and opportunity!
- Better data necessary: who kisses whom?
- What about adoption of smoking? Do we find the same diffusion process?

remarks welcome: