

GOSSIP NETWORKS, AND THE EFFECTS OF GOSSIP ON SOCIAL NETWORKS

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About myself

- BA Sociology, University of Granada (2014)
- MA European Interdisciplinary Studies, College of Europe (2015)
- Trainee at the Center for Sociology Research, Madrid (2016)
- MSc Social Research, University of Leicester (2017)
 - Assistant Psychology and Economics
- PhD Sociology, University of Groningen (2017-now)

About my research group

- **SCOOP (Sustainable Cooperation)**

- *“a research and training centre dedicated to the interdisciplinary study of sustainable cooperation as a key feature of resilient societies”.*
- University of Groningen, University of Utrecht, Radboud University Nijmegen, VU Amsterdam & Erasmus University Rotterdam
- Sociology, Social Psychology, Philosophy, and History
- More info: <https://www.scoop-program.org/>

What does gossip/reputation have to do with cooperation?

- **Gossip/reputation, an effective low-cost form of social control:**
 - It dissuades self-serving behaviours within groups
 - Leimar & Hammerstein, 2001; Beersma & Van Kleef, 2011; Feinberg, Willer & Schultz, 2014; Giardini & Vilone, 2016; Wu, Balliet & Van Lange, 2016a, b, c; Milinski, 2019.
- **Different mechanisms:**
 - Fear of losing one's own reputation/social standing → prosocial
 - The information itself:
 - Prosocial behaviours will be rewarded (indirect reciprocity)
 - Selfish behaviours will lead to exclusion, which avoids a 'tragedy of commons'

Definitions (1): Reputation

- ‘Information about the quality, traits, competences, abilities, or likely behaviour of some person’
 - The personal *image* that ego holds/builds of alter is based on this information
 - Several sources:
 - Direct experience
 - Observation of alter’s behaviour with third parties
 - Word-of-mouth (second-hand information)
 - Baum et al. (2018), *Clear judgments based on unclear evidence*
 - Ego does not possess his reputation as an attribute [*image-score*]

Definitions (2): Gossip

- Often defined in functionalist terms: a non-physical aggression, a protest against a deviant behaviour, etc.
- ‘The exchange of information about the doing of others, in the absence of these others’
 - Analytically speaking, 3 persons, in 3 different roles:
 - **Sender** (gossiper or initiator),
 - **Recipient** (receiver or gossip-partner),
 - **Target** (object or victim)
 - Sender transmits to recipient reputation about target.
 - The information can be positive, negative, or both.

Back to the interplay gossip-cooperation

- **Gossip transmits information that people (recipients) may well use to adjust their behaviour (to targets).**
 - And yet, for gossip to foster prosocial behaviours, need that somebody (presumably the recipient) does something to target
 - In the lab, recipients adjust their behaviour to target:
 - Indirect reciprocity: having good reputation pays off in the form of partner-selection or trust (Sommerfeld et al., 2007; Sylwester & Roberts, 2013).
 - Recipients of negative gossip ostracise targets (Feinberg et al., 2014), or refuse helping them (Molleman, Broek & Egas, 2013).
 - Are these findings valid outside the lab? In real groups?

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- **RQ: Do individuals use second-hand information to build/modify their friendship networks in the workplace?**
 - Data about employees in 3 units of a Dutch childcare organisation.
 - Panel data: 2 waves (Mar 2008, Sep-Oct 2008)
 - Middle-size units, $N \approx 40, 55, 40$, respectively (composition change)
 - Type of information:
 - Socio-demographics (sex, age)
 - Work-related (tenure, working hours, team structure)
 - Relational data (quality of relationship, communication frequency)
 - Gossip data in wave 1 (**who** gossiped **to whom**, **about whom**, and the **valence** of the information; as reported by the receiver)

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- Does the reputation that recipient (ego) hears about target (alter) in wave 1, help predict recipient's friendship with target in wave 2?
 - SAOM to predict recipients' friendships in wave 2, given:
 - The state of friendships in wave 1: **network self-organisation processes** → reciprocity, closure, preferential attachment (Robins, 2015).
 - **Homophily**: age, tenure (McPherson et al., 2001).
 - Extremely homogeneous population in gender and ethnicity
 - **Organisational foci**: same team, contact frequency (Dahlander & McFarland, 2013).
 - The type of **reputation** that ego heard about alter

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- A caveat (or gift) of real data: additional complexity.
 - Recipients could hear positive, negative, or both forms of reputation about a certain target: ***incongruent gossip***.
 - Some recipients heard (positive or negative) gossip about target from a single sender, some did it from ***multiple senders (amplification)***.
 - Some recipients were very ‘popular’ in terms of receiving gossip: they ***heard about many different targets***.
Hypothetically, this can decrease the effect of gossip on each specific target (harder to stand out).

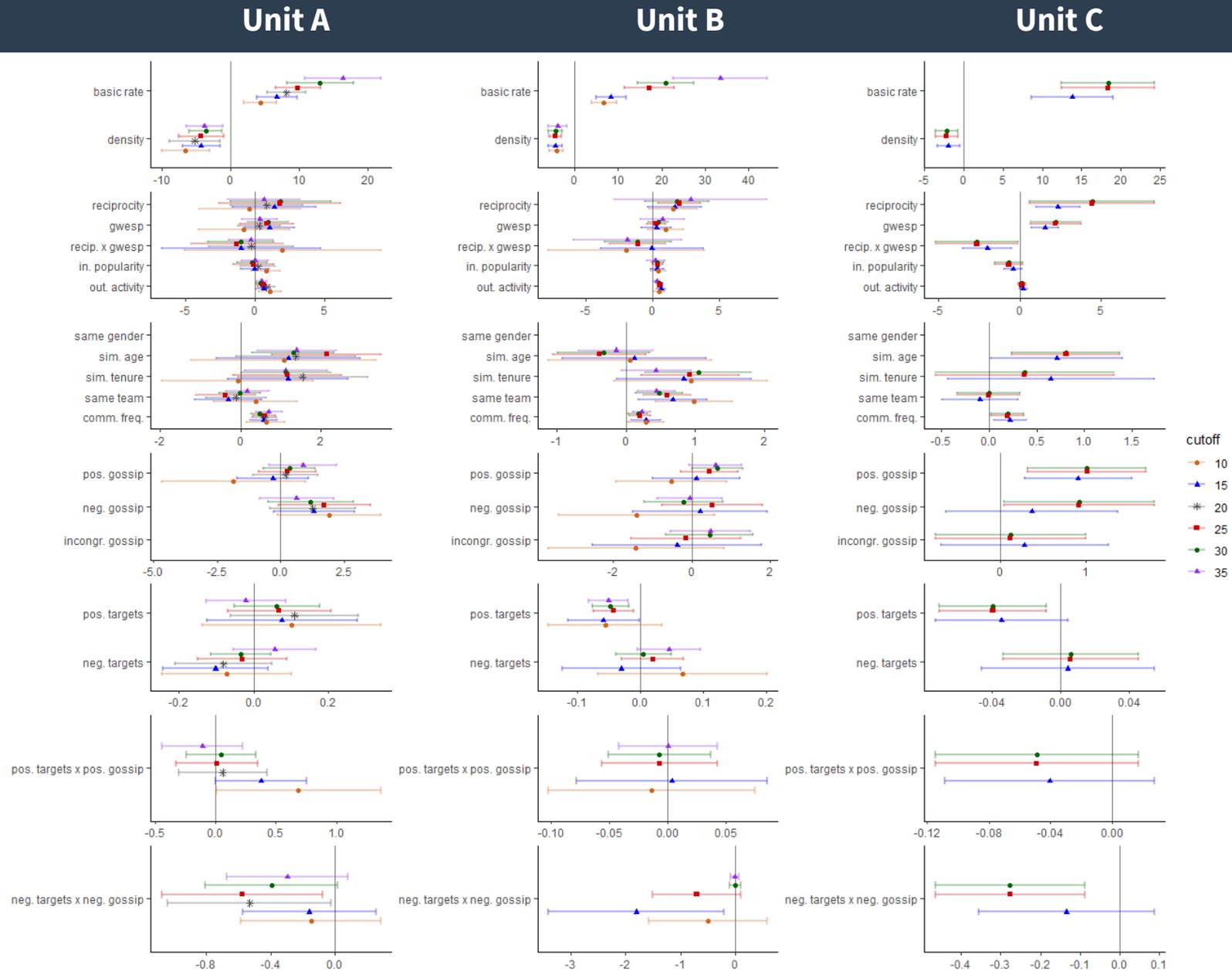
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- To handle this, different measures of the gossip data:
 - **Positive gossip**: i heard (only) positive reputation about j .
 - **Negative gossip**: i heard (only) negative reputation about j .
 - **Incongruent gossip**: i heard positive and negative reputation about j (from different senders).
 - **Recipient's popularity in the positive gossip network**: number of different targets that recipient heard positively about.
 - **Recipient's popularity in the negative gossip network**: number of different targets that recipient heard negatively about.

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- Hypotheses:
 - If i heard **positive gossip** about j , expected positive effect.
 - If i heard **negative gossip** about j , expected negative effect.
 - If i heard **incongruent gossip** about j , expected negative effect (primacy of the negative; Rozin & Rozyman, 2001).
 - The **popularity of recipient in the positive gossip network** shall reduce the effect of positive gossip: the interaction between hearing **positive gossip** about j , and this popularity of i , is expected to be negative.
 - The **popularity of recipient in the negative gossip network** shall reduce the effect of negative gossip: the interaction between hearing **negative gossip** about j , and this popularity of i , is expected to be positive.

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- **Results**
 - Positive gossip has a positive effect (albeit only in Unit C)
 - Negative gossip has no effect (if anything, positive in Unit C)
- **How about multiple-senders reinforcement for negative gossip?**
 - Conjecture: for negative gossip to dissuade/break relations, perhaps need of multiple senders sharing a similar impression? (Hess & Hagen, 2006; Centola & Macy, 2007; Sommefeld, Krambeck & Milinski, 2008).
 - I divided both positive and negative gossip into ‘simple’ and ‘amplified’

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In all three units, the amount of simple and amplified gossip were very similar

Table 4. Descriptive statistics of gossip networks.

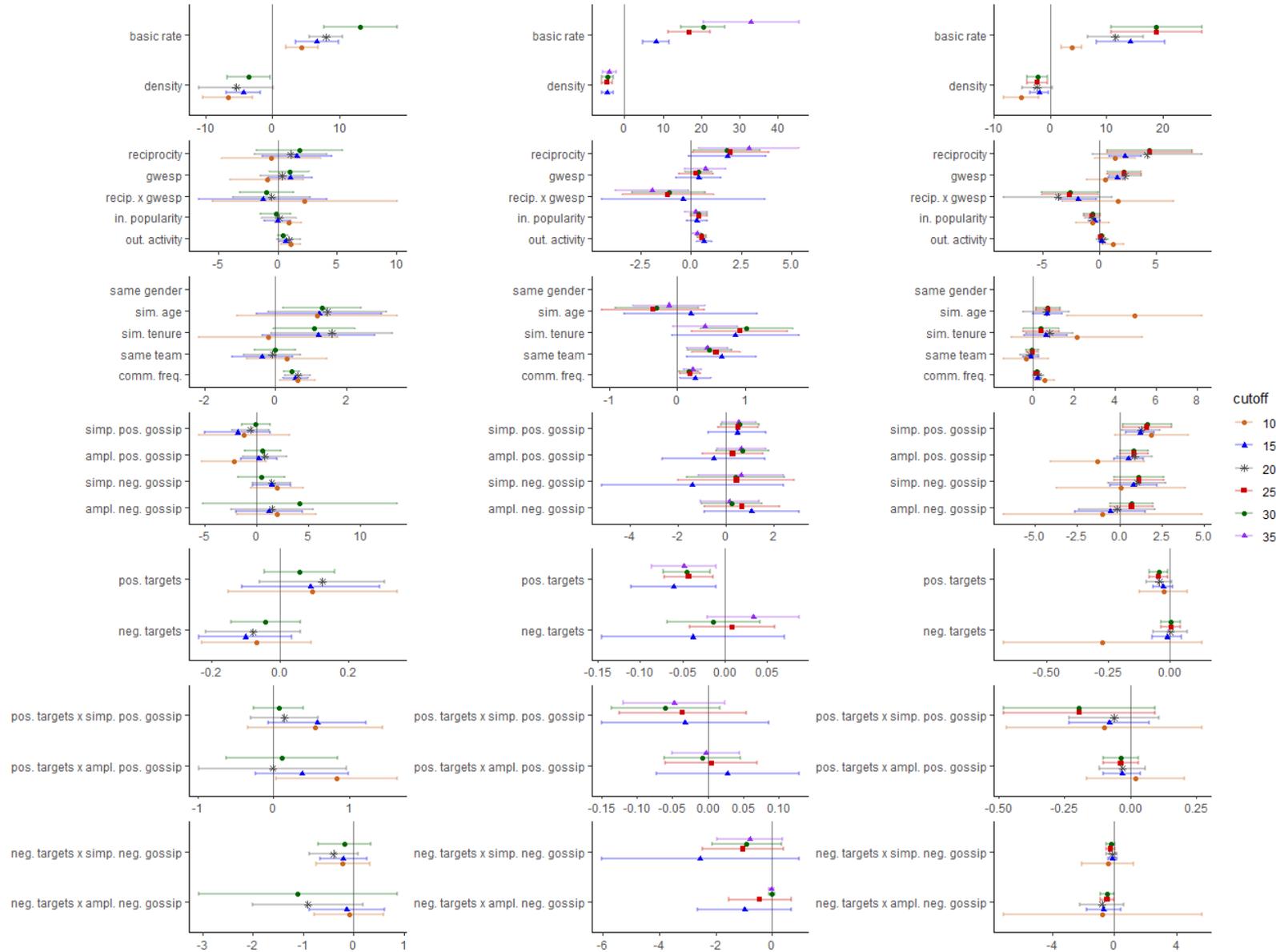
	Unit A	Unit B	Unit C
Positive gossip	58	129	133
Simple pos. gossip (%)	34 (.59)	64 (.50)	54 (.41)
Amplified pos. gossip (%)	24 (.41)	65 (.50)	79 (.59)
Negative gossip	83	78	75
Simple neg. gossip (%)	41 (.49)	48 (.62)	40 (.53)
Amplified neg. gossip (%)	42 (.51)	30 (.38)	35 (.47)
Incongruent gossip	6	25	36
Mean number of positive targets (SD)	2.13 (2.54)	4.05 (8.15)	5.63 (6.91)
Mean number of negative targets (SD)	2.97 (3.75)	2.71 (4.46)	3.70 (4.32)

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Unit A

Unit B

Unit C



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- **Results**

- Both (simple and amplified) positive gossip have a positive effect (in Unit C)
- Neither simple nor amplified negative gossip has any effect.

- **Conclusion**

- Positive gossip [often downplayed in the literature] seems more important for friendships than negative gossip (although weak evidence, 1 out of 3 units).
- Apparently, friendships are independent of negative gossip.

- **Limitations**

- No distinction creation/maintenance (Dahlander & McFarland, 2013; Van Rijsewijk et al., 2019).
- No information about the other two sources of reputation: direct experience and observation of alter's behaviour to third parties.
- No control for the relationship between recipient and sender (does recipient perceive sender as a reliable source? (Cone et al., 2019)).

Reflections on paper 1

- Is it that neg. reputation has no effect on friendship?, or is it that it could not have it (because it did not reach existing friendships)?
 - Few cases of recipients hearing neg. reputation about friends.

Table 5. Change observed in friendships by type of gossip obtained.

		Type of gossip obtained				Total
		Positive (amplified)	Negative (amplified)	Both	None	
Unit A	Ties created	6 (4)	5 (2)	0	15	26
	Ties broken	2 (1)	0 (0)	0	12	14
	Stable ties	7 (4)	2 (2)	0	16	25
	Absence of tie	18 (6)	27 (10)	2	277	324
Unit B	Ties created	4 (2)	1 (1)	0	34	39
	Ties broken	11 (9)	2 (0)	0	11	24
	Stable ties	13 (11)	2 (1)	3	20	38
	Absence of tie	58 (26)	30 (16)	11	727	826
Unit C	Ties created	8 (4)	4 (0)	2	47	61
	Ties broken	6 (4)	1 (1)	1	18	26
	Stable ties	19 (10)	0 (0)	4	27	50
	Absence of tie	60 (37)	42 (21)	17	487	606

Reflections on paper 1

- Senders seemed very selective when sharing negative reputation, seldom addressing as a target one of their recipients' friends.
 - If this captures a general pattern (see Burt's (2001, 2008) 'etiquette filters'), to seize the effect of negative gossip on friendships, we might require:
 - A far larger sample.
 - Groups with less history together.
- If anything, it seems an unrealistic assumption of previous research on gossip and cooperation in groups, that (negative) reputation spreads without some 'constraints'!

Recap

- I argued that for gossip to promote prosocial behaviours in groups, recipients must use the information.
 - Results of paper 1 provides only little support for this!
- For the recipient to adjust her relation with the target, the information must be ‘informative’ in the first place.
 - Data used for paper 1 suggests that, for negative gossip, this might not be the case.
 - *Need to further explore the pattern of gossip spread in groups!*

Towards paper 2

- **Within a group, how do senders choose their targets (those about whom they share negative reputation)?**
 - In evolutionary terms, humans primarily gossip about those they perceive as adversaries or a threat (Hess & Hagen, 2019).
 - Thus, the impression that sender has of target shall predict gossip.
 - Also, sender-target structural equivalence may predict gossip.
 - Also in evolutionary terms, gossip can be used for social bonding purposes (Dunbar, 2004). For this, ‘hurting’ the target is ancillary, whilst pleasing the recipient is key.
 - In Burt’s (2001; 2008) account: *gossip is not about information, but about sociability*. This is why most gossip is ‘echo’ (share redundant information).
 - Thus the impression that recipient (rather than sender) has of target shall be a better predictor of gossip.

Towards paper 2

RECENS dataset

- 43 high school classrooms, 4 waves
- Multiple relational measurements.
- Contrary to the data in paper 1, *gossip* here is a dyadic measure asked as “about whom you said bad things to your friends”
- **Goal: Can we better predict sender-target gossip ties in high school based on:**
 - sender’s impression of target?
 - the impression that sender’s friends (allegedly recipients) have?
 - can we try to disentangle these two effects above?

Towards paper 2

- WORK IN PROGRESS
- First steps here in Norrköping:
 - **Predicting gossip cross-sectionally or longitudinally?**
 - In RECENS, gossip seems a volatile behaviour over time (average Jaccard index = 7-8% from one wave to the next)
 - *Cross-sectional approach: gossip as an event (rather than a state)*
 - **Data cleansing for cross-sectional analysis:**
 - Exclusion of classrooms with more than 20% missing tie
 - Exclusion of classrooms with less than 1% density gossip.
 - 20 classrooms in wave 1 ($N_{m1} = 646$).
 - 19 classrooms in wave 2 ($N_{m2} = 596$).
 - 21 classrooms in wave 3 ($N_{m2} = 611$).

Towards paper 2

- **WORK IN PROGRESS**
- **How to measure sender's/recipient's impression of target?**
 - Friendship?, dislike?, admiration?, despise?
 - QAPs using these four predictors and gossip as the outcome showed large overlap between gossip and dislike
- **Likely controls (what else may explain gossip, given that this is a volatile behaviour, probably capturing recent events?)**
 - Target belonging to a stigmatised group (e.g., Roma minority)
 - Norm violations:
 - the target is a nerd,
 - promiscuity (especially for girls),
 - alcohol/tobacco users
 - Recent events

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For materials:

<https://github.com/joseluisena>