Study of social norms using social network approach

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Abstract

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JEL Classification:

1 Introduction

There are the wide range of research on social norms that uses laboratory experiments to study them. For example, social proximity is essential for norm compliance. If person observes that little number of people do not comply with the norm, he or she usually became to stop comply with the norm, but if the person observe the behaviour of proximate peers, the contagious effect of little number of norm violators is much less than in the first case (Bicchieri et al., 2022). But this experiment exploits synthetic social proximity that was modelled in the lab that has little external validity. This problem suggests using real social networks of people to study questions like this. Kashima et al. (2013) using snowball sampling approach have found that people's beliefs on how other people behave (empirical expectations) are formed by what their acquaintances do (experiential route) and not by what their acquaintances say about others behaviour (conceptual route).

In the current research, we are aimed to study formation of the *normative expectations* (beliefs about how other people consider they *ought to* behave). What route of norm acquisition does contribute more: experiential or conceptual? We are going to study this topic by implementing the elicitation of normative expectation procedure to the Kashima et al. (2013) research design.

2 Hypotheses

Hypothesis 1. *Normative expectations are affected by personal normative beliefs of the neighbour agents*

Hypothesis 2. *Normative expectations are affected by normative expectations (expectations about other's normative beliefs) of the neighbour agents*

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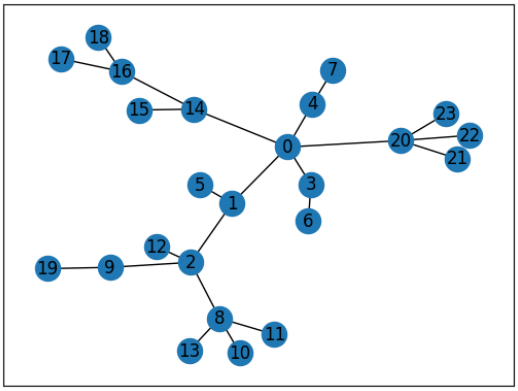
Figure (1) Network data that was gathered during pilot experiment



3 Methodology

3.1 Procedure

The experiment was conducted on the June 2024, online using the snowball sampling approach as in the Kashima et al. (2013). The researcher has shared the link to the chat bot in Telegram (that used to identify a person) that, in turn, redirects people, who agreed to participate in the experiment, to the web application programmed using oTree (Chen et al., 2016). After a person have participated in the experiment he or she was asked to invite 2 friends using referral link in order to obtain a reward that participant is entitled to (50 RUB – participation fee + 200 RUB reward in Coordination game).

3.2 Experimental Design

As in the Kashima et al. (2013) in the survey we elicit participants' community engagement, empirical expectations about community engagement, identification with the community and the attitude towards nature (as we measure engagement in community activities towards nature).

The novelty of the current research that in addition we have elicited personal normative beliefs and the normative expectations. Like in the Bicchieri and Chavez (2010), first, we have asked participants whether people *have to* engage in community. Second, we ask people to guess how previous participants of the experiment have answered this question. If participant's answer matches modal answer (as in the Coordination game Krupka and Weber (2013)) of the previous participants he or she got additional reward – 200 RUB.

3.3 Empirical strategy

Data were analyzed using autologistic actor attribute models (ALAAM) as in the (Kashima et al., 2013).

Models were estimated using Stivala et al. (2024) Python implementation of the model.

4 Results of the Pilot Experiment

Table (1) Parameter estimates of the autologistic actor attribute models (ALAAM)

	Normative expectations (1=ought to engage)	Engagement
Density	-1.646	-3.831
	(2.095)	(2.748)
Activity	-0.095	-0.824
	(1.419)	(2.051)
Contagion	-0.151	-0.078
	(1.038)	(1.117)
Ego's engagement	0.615	
	(0.610)	
Alter's engagement	0.102	
	(0.404)	
Ego's normative expectations		0.952
		(0.698)
Alter's normative expectations		0.341
		(0.570)
Nodes	24	24
Edges	23	23

Standard errors are in the parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix A Survey

1st page

Participants have to answer the following questions on the 5-point Likert scale:

1. I always try to protect this city and its environment from any harm.
2. I always work energetically to improve this city and its environment as much as possible.
3. The residents of this city invest a lot of energy in working together - as a city community - to improve the city and its environment.
4. The residents of this city try very hard to work together - as a city community - to protect the city and its environment.
5. I feel a strong connection or attachment to this city.
6. I strongly feel indebted to the city.
7. I will continue to live in the city for the foreseeable future.
8. I feel a strong connection or attachment to the environment.

9. I believe that city residents should put a lot of energy into working together—as a community—to improve the city and its environment.

10. I believe that city residents should try very hard to work together - as a community - to protect the city and its environment.

2nd page

Now you need to guess how the previous participants in the experiment answered the last two questions. At the end of the experiment, one of two statements will be randomly selected. You will receive an additional 200 rubles if your answer matches the answer that participants chose most often.

- Previous participants, as well as you, have noted how much they agree with the following statement: "I believe that city residents should put a lot of energy into working together—as a community—to improve the city and its environment." Choose the answer option that you think previous participants in the experiment chose most often.

- Previous participants, as well as you, have noted how much they agree with the following statement: "I believe that city residents should try very hard to work together—as a community—to protect the city and its environment." Choose the answer option that you think previous participants in the experiment chose most often.

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