



# “Trust me, I’m your neighbour” How to improve epidemic risk containment through community trust

Silvia Felletti<sup>1</sup>

Received: 3 July 2020 / Accepted: 7 October 2020 / Published online: 19 October 2020  
© Springer-Verlag GmbH Germany, part of Springer Nature 2020

## Abstract

The COVID-19 crisis, while still in its first phase where a cure or vaccine are not available, has made societal safety highly depending on the commitment of individual citizens. Governments and policy-makers must make a priority over issuing public communication which can involve population and maximize their compliance. Our ability to encourage appropriate behaviour in citizens can be enhanced by regarding community safety as a *public good* or a *social dilemma*, and applying insights from behavioural studies on public good scenarios in the planning of public risk communication and policies. This brief communication will report some insights from experiments on cooperation for public goods where the stake is the avoidance of a potential loss instead of a gain, discussing the main motives of individual contribution. Implications for the containment of risk from the COVID-19 epidemic will be discussed.

**Keywords** COVID-19 · Social dilemma · Public goods game · Trust · Cooperation · Reputation

## 1 Introduction

The situation created by the spreading of COVID-19 is a first in human history, with roughly a half of the world’s population subjected to isolation measures, which are to date the only practicable way to limit the spreading in absence of a cure or vaccine. Thus, the efficacy of the containment measures relies almost entirely on the citizens’ willingness to cooperate with institutions and with other members of society.

For people to be actively committed, they first need to be *aware* of the risk, but risk communication could be useless or even harmful if it is not provided in a way that limits the likelihood of misconception and misbehaviour.

---

✉ Silvia Felletti  
silvia.felletti@istc.cnr.it

<sup>1</sup> Institute of Cognitive Sciences and Technologies, National Research Council of Italy (ISTC-CNR), Rome, Italy

Information should be primarily clear and easy to understand, in order to avoid the negative effects of a scarce risk literacy (e.g. a scarce ability to understand data in form of frequencies or percentages, or displayed by means of graphs, Cokely et al. 2012). Also, it should be research-informed and designed in a way to minimize the emergency of biases and errors that affect even experts' risk perception (Kahneman et al. 1982). A good strategy to avoid biases or even harness systematic and predictable reasoning errors is using *nudges* that modify the context or "frame" of the decision to help people make better decisions for their own and the whole society's sake (Thaler and Sunstein 2008; Viale 2019).

Even when correctly informed, citizens may not be interested in being involved in the process of risk management: a good public risk communication should also be able to engage population, increase their sense of community and their feelings of personal responsibility.

## 2 Resilience as a public good: peer trust

The problem of involving society in risk mitigation can best be addressed by regarding resilience as a *public good* or a *social dilemma*, in which individual and collective goals are in conflict (Dawes 1980): everybody benefits from a safer environment, but preventive measures, such as wearing masks and social distancing, always represent a cost.

In this framework, contribution is not motivated by a benefit or gain, but rather by safety from a future loss, that is both uncertain and distant in time. The temptation to refrain from cooperation under such circumstances is thus unsurprising, both by the part of defectors, who follow personal interest (free-riders), and by that of potential cooperators, who defect in fear that their contribution would be pointless in the face of a general defection.

Research on social dilemmas has identified many incentives for cooperation, such as the ability to punish defection (Fehr and Gächter 2002), reward cooperation (Van Lange et al. 2014), or signal free riders to other members (Gintis et al. 2001). One of the most effective incentives for cooperation in social dilemmas is *trust*, especially when there is a high conflict between individual and collective interests (Balliet and Van Lange 2013). Trust is a sentiment closely tied to risk, having been defined as «the intention to accept vulnerability based upon positive expectations on the intentions or behaviour of another» (Rousseau et al. 1998, p. 395): the condition of having a goal or something at stake is an essential element of trust (Castelfranchi and Falcone 2010). Trust can therefore be a good antidote to the fear of betrayal or disappointment, ensuring group members that others will reciprocate their commitment (Yamagishi and Sato 1986; De Cremer and Stouten 2003).

A threshold public good game (PGG) has been used to examine cooperative behaviour in a climate change scenario, where individual contributions built up to a common pool that was then invested in measures to counteract global warming (Milinski et al. 2006, 2008). The authors found that personal investments increased when they were made publicly, as an effect of reputational concerns, but also that fair-sharers would stop cooperating if they knew others were not contributing.

To test the effect of trust in collective risk situations, Felletti and Paglieri (2019) used a threshold PGG with natural disaster scenarios where participants played with an AI partner whose trustworthiness and cooperativeness were manipulated. Their first experiment found a significant increment of contributions with trustworthy partners, even when the minimum target had already been reached and contributing was economically irrational. Conversely, players refrained from cooperation when faced with defectors, likely as a form of costly retaliation for unfair behaviour.

However, benefits of cooperation go beyond the increment of the common pool, as it also serves the aim of improving one's reputation as a cooperator in the eyes of others, while defection can act as a costly punishment (as it can lead both partners to a loss). In fact, "irrational" behaviour of unconditional cooperators was only observed in treatments where the game was reiterated with the same partner, and reciprocity could be expected. The introduction of a new anonymity treatment dramatically changed the investment pattern: here, subjects behaved with perfect rationality (and selfishness), free-riding on cooperative partners and contributing with defecting partners.

These results, coming from environmental and natural disaster risks, can likely be applied to any situation that requires cooperation in the face of a shared risk, with individual contributions being: reducing the use of cars, using barriers for flooding, or respecting physical distancing.

Evidence from such experiments tells us that, when a public good is at stake, cooperation is dependent on the common awareness that everybody (or a substantial part) is contributing, which in turn is fuelled by trust. Also, that anonymity can be detrimental for obtaining a public good (Rockenbach and Milinski 2006), thus identifiability and reciprocation should always be made possible.

### 3 Implications for epidemic risk management

Behavioural studies on social dilemmas show that when cooperating for a collective goal, we are concerned about whether to trust others as well as about our trustworthiness in their eyes, to be sure they will "deserve" and reciprocate our effort. Also, we seem to be moved by personal interest more than by fairness or equity.

These insights can be used to shape public risk communication, that must hinge upon the motivations that are most likely to move people towards cooperation, possibly making use of nudge strategies. The following are some examples of effective and ineffective messages.

Appealing to fairness, by encouraging people to stay home because it is a rule to be obeyed or because it helps the most vulnerable, can have limited results, particularly when contributions are not always evident to others. Instead, focusing the message on the loss that is likely to befall the individual if he/she fails to contribute, may be a more effective solution.

Another strategy is to inspire a sense of community by addressing the population as a whole and emphasizing the shared nature of the risk. This is what politicians and the media do when they refer to the epidemic as a "war" we are in all together, and also what the Italian population seems to be spontaneously doing, by exposing national flags and reassuring messages out their windows and balconies. Facing hard challenges

such as fighting a lethal epidemic can have itself a positive effect on social cooperation. When repeated interaction to obtain a shared benefit occurs, the need to develop a positive reputation for the future leads to the reinforcement of *social capital*, a valuable resource of implicit, shared norms such as goodwill, reciprocity and trust, that in turn enhances cooperation (Fukuyama 2001).

Finally, providing the information that most people are already contributing, and highlighting how the individual is expected to behave by the other members, can trigger the strong human tendency to align to social norms, thus increasing the willingness to adopt pro-social and cooperative behaviour (Bicchieri and Xiao 2009). Likewise, framing the data on public compliance to the stay-home decree in a positive way, instead of showing images of people crowding the streets during a lock-down, is a good way to avoid breakdowns of trust between citizens and consequential dispiriting and defection.

## References

- Balliet D, Van Lange PA (2013) Trust, conflict, and cooperation: a meta-analysis. *Psychol Bull* 139(5):1090
- Bicchieri C, Xiao E (2009) Do the right thing: but only if others do so. *J Behav Decis Mak* 22(2):191–208
- Castelfranchi C, Falcone R (2010) Trust theory: a socio-cognitive and computational model, vol 18. Wiley, Hoboken
- Cokely ET, Galesic M, Schulz E, Ghazal S, Garcia-Retamero R (2012) Measuring risk literacy: the Berlin numeracy test. *Judgment and Decision making*
- Dawes RM (1980) Social dilemmas. *Annu Rev Psychol* 31(1):169–193
- De Cremer D, Stouten J (2003) When do people find cooperation most justified? The effect of trust and self-other merging in social dilemmas. *Soc Just Res* 16(1):41–52
- Fehr E, Gächter S (2002) Altruistic punishment in humans. *Nature* 415(6868):137–140
- Felletti S, Paglieri F (2019) Trust your peers! How trust among citizens can foster collective risk prevention. *Int J Dis Risk Red* 36:101082
- Fukuyama F (2001) Social capital, civil society and development. *Third World Q* 22(1):7–20
- Gintis H, Smith EA, Bowles S (2001) Costly signaling and cooperation. *J Theor Biol* 213(1):103–119
- Kahneman D, Slovic SP, Slovic P, Tversky A (eds) (1982) *Judgment under uncertainty: heuristics and biases*. Cambridge University Press, Cambridge
- Rockenbach B, Milinski M (2006) The efficient interaction of indirect reciprocity and costly punishment. *Nature* 444(7120):718–723
- Milinski M, Semmann D, Krambeck HJ, Marotzke J (2006) Stabilizing the Earth's climate is not a losing game: Supporting evidence from public goods experiments. *Proc Natl Acad Sci* 103(11):3994–3998
- Milinski M, Sommerfeld RD, Krambeck HJ, Reed FA, Marotzke J (2008) The collective-risk social dilemma and the prevention of simulated dangerous climate change. *Proc Natl Acad Sci* 105(7):2291–2294
- Rousseau DM, Sitkin SB, Burt RS, Camerer C (1998) Not so different after all: a cross-discipline view of trust. *Acad Manag Rev* 23(3):393–404
- Thaler RH, Sunstein CR (2008) *Nudge: improving decisions about health, wealth, and happiness*. Yale University Press
- Van Lange PA, Rockenbach B, Yamagishi T (eds) (2014) *Reward and punishment in social dilemmas*. Oxford University Press, Oxford
- Viale R (2019) Architecture of the mind and libertarian paternalism: is the reversibility of system 1 nudges likely to happen? *Mind Soc* 18(2):143–166
- Yamagishi T, Sato K (1986) Motivational bases of the public goods problem. *J Pers Soc Psychol* 50(1):67

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.