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## 3.2 Segregation and clustering of preferences erode socially beneficial coordination

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Different types and manifestations of polarization have increased in many Western democracies over the last decades. These many shapes can manifest in patterns of divergence of beliefs, preferences, and behaviors within those societies. Though there is intuition that disagreement is harmful, homogeneity is far from a perfect setup. So, is polarization bad? Bad for what?

In this paper, we ask whether polarization can be harmful to individuals' ability to coordinate in outcomes that are favorable for everyone. We develop a model and a collection of experiments with real people to understand if, when different types of polarization are present, individuals do worse in solving a dilemma. The dilemma is simple: to different degrees, everyone agrees that it is better to act in a certain way if most others also do so, but acting that way when most others don't is very costly. So, it is a balance between how much you expect others to go for the good solution or the non-risky alternative. An example could be investing in a particular social technology and its infrastructure. If a single individual invests in it, it cannot benefit from interactions with others, paying the costs without any benefits. Maybe you are considering changing to a safer communication platform: if others don't, you won't get any benefit, and you have paid some cost for using the new technology. The adoption of electric vehicles can be another example. If an individual is the only one buying electric, there won't be charging stations, so they pay a high cost. Of course, these examples have interesting nuances that are not captured by the stylized dilemma, making them even harder to solve, including disagreement on which alternative is best. Our dilemma takes the extreme situation in which individuals agree on the best course of action, but to different extents, and check whether polarisation can be harmful even in that case.

We examine the impacts of different manifestations of polarization. The first is the heterogeneity of preferences, which captures differential perceived benefits of the good option. The second is the segregation of the social network, which we take as a consequence of affective polarization in some other set of issues and can create a bottleneck in information flows about others' preferences, as individuals base their decisions on their contacts. Finally, we look at the interaction between the two: the heterogeneous preferences can be evenly distributed in the population or clustered in the local network, either reflecting or systematically departing from the views of the whole population.

We show that the diversity of opinions alone is, in fact, catalytic of social change—by triggering cascades of trust that others will enable one's best outcomes. However, segregation hampers coordination, mainly when local networks distort the distribution of valuations.

The results shed light on the nefarious impacts of different manifestations of polarization in individuals' ability to reach solutions that improve everyone's wellbeing. In particular, it highlights that difficulty coordinating may not come from a disagreement in the optimal course of action but from a misalignment between local and global intents, which feeds in itself, but which can potentially feedback into other spheres deepening the impact and consequences of polarization.

Since polarization affects even individual and collective welfare-promoting societal processes, providing the exemplary information flows can be an intervention strategy more relevant than convincing people of the benefits of a specific action.

### Read the full article here C (https://doi.org/10.1073/pnas.2102153118)

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