

The impact of SARS-CoV-2 pandemic on individual mobility: a survey-based empirical investigation.

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While the SARS-CoV-2 pandemic has been hopefully a unique experience, its consequences might be non-contingent and deploy their effects in years to come. Further, the health emergency has shown the fragilities of the European cohesion process, whose hard-fought achievements risk to vanish overnight, in the wake of unexpected exogenous shocks: from the suspension of Schengen to the vaccination policy, nationalist thrusts are hindering international cooperation and solidarity, which represent two core values of the European Union. The question is, therefore, how resilient the progress made so far in terms of union and cohesion is.

Paradoxically, the transversal aspect common to a *Europe of separate nations* is represented precisely by its citizens, with their shared needs, fears and desires which seemingly unite Europeans more than governments do: indeed, there is less difference between European citizens in their behaviours and perceptions than there is in the policies of their governments.

In spite of numerous claims of active participation, so far unification and cohesion-building have been mainly a top-down process. However, it is never too late to start building the *next* European Union starting from its citizens: a bottom-up process of value unification having its roots in values and beliefs, building on institutional processes so that the overcoming of particularism is real and resilient to crises.

Transport, which is the core of our study, represents a key issue for unification and cohesion, and represents a striking example of how the SARS-CoV-2 pandemic bears the potential of exerting long lasting effects on behavioural patterns (and even value orientation) of European citizens.

Mobility choices represent, *per se*, a complex and multi-faceted phenomenon which is the outcome of a process where different interacting variables play a role. These variables range from attitudes and intentions (stemming from rational cognitive processes) to habits (automatic responses to familiar situations) or even to values and beliefs (considering, for instance, sustainability-oriented worldviews): in the framework of given contextual conditions and alternatives available, individuals typically have different options to choose from, and make their decisions based on the salience of each of these antecedents.

The pandemic changed the scenario, with new variables such as social distancing assuming unprecedented relevance and entering the equation with a key role capable of disrupting deeply rooted habits and modifying individual perceptions and priorities when it comes to mobility, both with reference to short-range daily commutes and to long-range, international and cross border trips.

On the one hand, it represented an unprecedented case of habit disruption, where commuters and travellers at large have been forced to change long established habits, given travel restrictions and the need to reconsider mobility trajectories. Consistently with the Habit Discontinuity Hypothesis¹, the contingent situation also opened up so-called windows of opportunity for behavioural change, where individuals are forced to consider new alternatives of action.

On the other hand, an aware elaboration of the pros and cons of different modal choices has been heavily affected by the previously mentioned need to take into consideration the consequences of social interaction, such as that typically entailed by public transportation systems.

New questions arise, as different pillars of sustainability that traditionally pointed to the same direction entail now a trade-off: environmental arguments advocating the use public transport over private vehicles might be at bitter odds with social aspects such as distancing insofar the use of private cars, by limiting social interactions, could be effective in hindering the spreading of the virus.

But even once the pandemic is over, which will be its lasting effects on our perceptions, attitudes and actual behaviors? What could be done in order to restore public confidence in transport systems?

Our study is performed in the framework of the Interreg Italy-Croatia MIMOSA (Maritime and Multimodal Sustainable passenger transport solutions and services) project, and is based on a survey aimed at collecting data on mobility behaviors and antecedents, with a specific focus on the impacts of the SARS-CoV-2 pandemic. More in detail, we investigate i) the behavioural determinants of modal choice, building on the robust

¹ Verplanken, B., Walker, I., Davis, A., & Jurasek, M. (2008). Context change and travel mode choice: Combining the habit discontinuity and self-activation hypotheses. *Journal of Environmental Psychology*, 28(2), 121-127.

literature on individual behaviors in the domain of mobility (intentions, habits and values)²; ii) the effects of the pandemic on individual perceptions, like for instance safety perceptions with reference to different modal alternatives; iii) the behavioral changes triggered, which are affected by the change in perceptions but hindered by situational constraints such as the availability of viable alternatives. Further, a specific section of the survey is dedicated to the role that social distancing (along with more traditional attributes of public transport such as punctuality or comfort) play in orienting the behaviors of travelers.

Preliminary results confirm speculations about the role that social distancing is likely to play in the (near) future, heavily affecting individual perceptions and shaping new attitudes. The attitude-behavior gap, connected to the lack of alternatives preventing travelers from shifting transport mode, mitigates to some extent the effects of such changes. What clearly emerges is that operators in the mobility sector are bound to face a new scenario. Since playing by the old rules of the game would lead to misconceptions about the behavioral drivers of demand (and, consequently, to ineffective public policies in the field of transport and mobility), gaining better understandings on individual perceptions and attitudes represents a *conditio sine qua non* to drive a smooth transition to more sustainable mobility paradigms, increasing at once cohesion within the European Union.

² For a review, see:

Hoffmann, C., Abraham, C., White, M. P., Ball, S., & Skippon, S. M. (2017). What cognitive mechanisms predict travel mode choice? A systematic review with meta-analysis. *Transport reviews*, 37(5), 631-652.

Lanzini, P., & Khan, S. A. (2017). Shedding light on the psychological and behavioral determinants of travel mode choice: A meta-analysis. *Transportation research part F: traffic psychology and behaviour*, 48, 13-27.