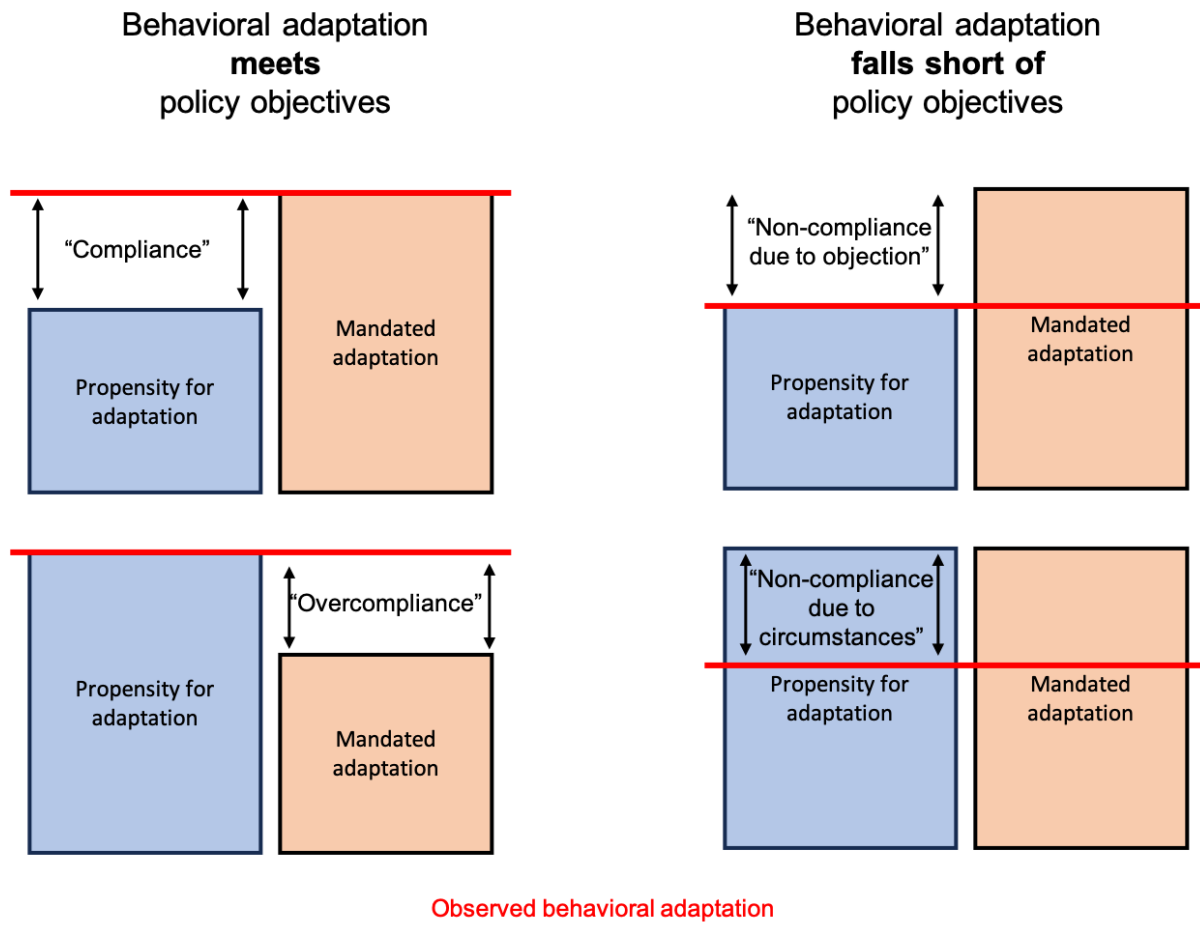


Supplementary Information 4: Confluence of Autonomous and Policy-Induced Adaptation

The concept of confluence, in our article, refers to the idea that autonomous and policy-induced adaptation may overlap or diverge to a varying extent. To illustrate this, we present four simplified cases in S4 Fig 1, juxtaposing an individual propensity for behavioral adaptation (to mitigate risk for one's health) with a "mandated adaptation", i.e., behavior change required by NPIs. First, consider the two cases on the left side, where the behavioral adaptation conforms to the policy objectives. In the top left case, this is the result of a low(er) propensity to self-protect combined with "compliant" behavior, which may be due to altruistic or prosocial motivations [1, 2], the fear of penalty [3] or social deviance. In the bottom left case, a strong individual propensity for adaptation exceeds what is required by NPIs, resulting in a form of "overcompliance" or use of preventive behaviors beyond the mandated [e.g., 4, 5]. Second, we consider cases where behavioral adaptation falls short of policy objectives. Here, as well, different plausible explanations exist. In the top right example, non-compliance results from a low(er) individual propensity for adaptation combined with an objection to the current set of rules. And even in cases where individual propensity to adapt is high (bottom right), circumstances may prevent individuals from complying with NPIs, for example due to their occupation, housing or sanitary conditions [6-9].



S4 Fig 1. Alternative explanations for observed behavioral adaptations. In each of the four examples, the red line represents an empirically observable behavior (e.g., number of physical contacts), while the boxes indicate individual propensity for behavioral adaptation (blue) and an assumed mandated level of adaptation (orange). Note that behaviors may fall within a spectrum between the depicted cases, for instance if observed behavioral adaptation exceeds individual propensity to adapt but falls short of mandates. Also note that there may be cases of inadvertent non-compliance or overcompliance, for instance when individuals are unsure about the current set of “rules”.

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