Three main psychological factors helped determine whether people responded to first-wave Covid restrictions with deference or defiance.

In the early months of the pandemic, governments around the world were in a tricky position. Health and safety protocols for combatting Covid were quickly taking shape as the scientific community learned more about the virus. Yet despite the gravity of the situation, compliance with Covid restrictions was often inconsistent. Occasionally, the frustration of policymakers burst to the surface. For instance, videos of Italian mayors upbraiding lockdown violators trended across the globe. To save lives, it seems governments must first win the hearts and minds of their citizens. That would entail familiarity with the complex psychological factors that determine compliance during a pandemic.

It is essential to understand how these factors – and more – interact not just in one place, but across countries and continents. To achieve specific relevance to the Covid-19 pandemic, research into these factors would also have to proceed briskly, go deep and capture an unusually detailed snapshot. Using the burgeoning open science paradigm, a consortium of researchers including myself, led by Yuki Yamada and Andreas Lieberoth, were able to perform such a study within an accelerated timeframe. The results were recently published online in Nature: Scientific Data and Royal Society Open Science.

Global survey

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During the early months of the Covid-19 pandemic, we carried out the COVIDiSTRESS Global Survey consisting of two parts. The first gathered demographic, personality and behavioural data; it included questions about stress levels, loneliness and compliance with government directives regarding Covid-19. The second concentrated on sources of stress and where people turned for stress relief. The survey was translated into 46 languages and was published online for any interested researchers to distribute and contribute to the dataset. The final dataset comprises responses from 173,429 participants representing 48 countries.

Comparing cross-country compliance data, we found no geographical patterns. Instead, we saw a mixed group of psychological predictors which varied widely between nations, keyed to local culture and circumstances.

Psychological factors

There is robust evidence that stress is a potent suppressor of compliance. With cortisol flooding our system, our decision-making ability is often diminished, making us apt to do what feels good in the moment as opposed to what is optimal situationally. In the case of Covid, that might mean removing our mask indoors if we feel we will not get caught or planning an illicit, overcrowded get-
Concern is a factor that often accompanies stress. Indeed, our survey found that people who were very concerned about Covid also tended to be very stressed. It is worth pausing for a moment to distinguish the two. In our survey, stress denotes emotional agitation caused by Covid, which could pertain to either the pandemic or its knock-on effects (e.g. economic fear, domestic disruption). Concern reflects the extent to which respondents took Covid itself seriously early on, when few could foresee how deadly and persistent the virus would turn out to be. Our research posits that stress, in and of itself, tends to reduce health-related compliance; concern increases it. Combined, the two may have a muddled effect or even cancel one another out.

We also looked at two factors that could potentially moderate stress: trust in government and social support from a close-knitted community.

**Geographical differences**

The interaction of stress and concern appeared responsible for some interesting results in our study. For example, Western European nations reported the highest levels of stress and the lowest levels of trust in the government in our entire survey. Yet these two factors, viewed in isolation, did not translate into a clear-cut difference in Covid-19 compliance between Western Europe and the rest of the world. We deemed that the countervailing role of concern was largely responsible for this.

In addition, contrary to our initial assumption, trust in government did not always increase compliance. This is because a trusting populace would interpret less stringent government measures as a reassuring sign, reducing its level of concern in a directly proportional manner. Governments whose response was more tentative therefore dampened their citizenry’s concern, which left individuals vulnerable to the compliance-inhibiting effects of stress.

There could also be a chicken-and-egg element to the trust-severity-concern relationship, in which governments responded to elevated levels of public concern with policies of corresponding severity. Either way, the takeaway for policymakers is that concern aids compliance. Without it, people may overreact to the rollback of mitigation measures – as we are now seeing in some parts of the world, particularly at large-scale events.

Another interesting and surprising finding: Respondents who reported high levels of both stress and of social support were less likely to follow Covid-19 restrictions. A compelling reason could be that in times of stress, people with a strong support network relied upon the often-questionable advice of friends and family rather than official guidelines. Additionally, more cohesive communities could be better breeding grounds for organised protests against Covid restrictions that were perceived to encroach upon individual freedoms.

As a corollary, people with weak social support and high stress were more compliant. A probable cause would be that they especially feared falling sick with no one to look after them. More research in this area is needed to derive more thorough findings.

**Research and policy implications**

What stands out from the COVIDiSTRESS Global Survey is that there are no universal solutions. Policymakers should tailor their approaches to the target populace, keeping in mind the three main variables: stress, concern and trust in government. These variables are not static but are susceptible to changes in conditions and evolution over time.

Further discoveries about the psychology of Covid compliance could be gained through further open science endeavours – perhaps incorporating variables beyond the scope of our study (e.g. specific coping strategies and psychological recovery) and employing apposite comparisons such as between infected and uninfected populations.

Our full dataset is available on the [Open Science Framework](http://knowldege.insead.edu) if researchers would like an in-depth look at our analysis and experimental measures.

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