

POINT OF VIEW ON MANDATORY VACCINATION: WEIGHTING THE PROS AND CONS

Vera Hoorens, on behalf of Expert Group Psychology & Corona
January 2022

The vaccination campaign has been very successful in Belgium, with the vast majority of adults being vaccinated and getting a booster vaccine nowadays. Many adults voluntarily choose to be vaccinated and the personal endorsement of this decision indeed appears a robust predictor of vaccination acceptance (Schmitz et al., 2021). According to WHO (<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines>), vaccination will remain a major leverage in tackling the COVID pandemic. Identifying steps to ensure maximal vaccination therefore stays a global priority. The question arises as to what a next step following already high vaccination compliancy may involve: should a vaccination pass be introduced or is it more desirable to move towards mandatory vaccination in specific subgroups or the entire population? In this expert opinion various psychological advantages and disadvantages of mandatory vaccination are being discussed. We describe psychological processes of relevance to mandatory vaccination while acknowledging that these are not the only relevant considerations to be taken into account. We do not plead for a one-sidedly psychological perspective vis-à-vis obligatory vaccination as ethical, sociological, political, and medical factors also play a role. The current contribution contains a list of arguments in favor and against vaccination that need to be considered against the background of a larger debate amongst citizens, policymakers, and diverse societal stakeholders and academic disciplines.

What are the *psychological* advantages of a generalized mandatory vaccination?

- *Social cohesion*: Mandatory vaccination will help reduce the currently growing **discord** and split in society between vaccinated and non-vaccinated persons (see [report 38](#) from the motivation barometer). It will also help to avoid discontent or even anger among people who (or whose loved ones) need non-COVID-19-related medical care but who cannot get it due to priority being given to COVID-19-patients as well as among those people whose businesses are in danger due to COVID-19 physical distancing measures (cf. Borkowska & Laurence, 2020). More generally, a general obligation will reassure vaccinated individuals that they have made the right choice earlier on, and that they will not have to continue the vaccination process alone to compensate the unvaccinated people (e.g., taking endless booster doses). If all citizens are obliged to get vaccinated, that may convey the message in a transparent and clear way to the general public that everything is being done to curb the outbreak and that a **collective effort** is required from the entire population.
- *Elimination of stigma*: It will help to alleviate the **social stigma** that is increasingly associated with severe COVID-19 (Bagcchi, 2020; Villa et al., 2020) and enhance public support for investments in health care for COVID-19 patients. The social stigma associated with severe COVID-19 disease stems from the free choice to get vaccinated, which enhances the perception of **personal responsibility** for a COVID-19 infection (see Penner et al., 2018). Both stigma and the attribution of personal responsibility undermine support for people in need in various situations, including health issues (Lewis & Sznitman, 2017). Moreover, a stigma associated with an

infectious disease may lead people to avoid getting tested, to hide symptoms, and to neglect treatment opportunities, which result in greater spread of the disease and potentially harmful health consequences.

- *Reduction of relative deprivation:* A generalized mandatory vaccination will avoid or eliminate the feeling of **relative deprivation**, which emerges when subgroups are singled out for mandatory vaccination (e.g., health care workers). The potential resistance against mandatory vaccination in a subgroup of health care workers may at least partially be driven by the perception of unequal treatment (cf. Gur-Arie et al., 2021). This feeling of relative deprivation may be aggravated by the experience of having to carry the societal burden stemming from choices of others who, in contrast to them, were free to refuse vaccination and have fallen seriously ill as a consequence of their refusal. Relative deprivation is known to provoke anger and frustration (Smith et al., 2012) and, under some circumstances, to entail even revolt (Power et al., 2020), thus harming social cohesion in the society.
- *Motivation:* Although voluntary motivation was found to be a strong predictor of vaccination across time (Schmitz et al., 2021), there are reasons to expect that mandatory vaccination may have some motivating impact among non-vaccinated persons through a variety of mechanisms:
 - First, it allows people who have once publicly committed to refuse vaccination and who now regret this to get vaccinated without experiencing tension between their attitudes and their behaviour (**cognitive dissonance**) and without losing face. Feeling or appearing inconsistent is highly unpleasant or even aversive (Cooper, 2019; Harmon-Jones, 2000), and people actively strive to avoid that. A public commitment at a given time to non-vaccination may thus act as a serious barrier, which mandatory vaccination frees people from this barrier (“I had no choice, I was obliged to do it”) without experiencing cognitive dissonance.
 - Second, mandatory vaccination will support people who wish to get vaccinated but are under **social pressure** from people in their immediate surroundings to refuse it. By removing the element of personal choice, it will allow them to get vaccinated without provoking a conflict within their community.
 - Third, making vaccination obligatory will turn vaccination into the **‘default’ option**, which has a psychological advantage over other – non-default options - in choice situations. The advantage of default options has been demonstrated in other health-related contexts, such as organ donation (Davidai et al., 2012), and many other contexts (Everett et al., 2015; Jachimowicz et al., 2019).
 - Fourth, once a behavior becomes mandatory, people tend to attach a heightened **moral value** to it, which motivates people to take action. In some cases, laws derive more effectiveness from the attitude change that they entail than from sanctioning breaches (Bilz & Nadler, 2014).
- *Avoiding regret:* An obligation limits **anticipated regret** at getting vaccinated. Anticipated regret is an emotional state that plays a significant impeding role in health and safety decisions (Brewer, 2016; Koch, 2014). Applied to the context of vaccination, people may refuse vaccination out of fear that they will regret it in case of adverse side-effects (cf. anticipated regret of parents concerning vaccination for their children, Hamama-Raz et al., 2016; Ziarnowski et al., 2009). If they are obliged to get vaccinated, they can be reassured that they are not solely responsible for the side effects.

What are the *psychological* disadvantages of a generalized mandatory vaccination?

- *Problems with trust:* The introduction of mandatory vaccination may entail a **loss of trust in authorities**, especially among opponents of vaccination who will stress that vaccination has always been presented as optional. Yet, trust in authority figures among unvaccinated individuals is already very low at this point (see [report 37](#) from the motivation barometer). However, the negative effect of a change of policy on trust in authorities may be mitigated by clear communication about the reasons for this change (see further).
- *Reactance:* Mandatory vaccination may backfire among individuals who were already unwilling to get vaccinated, thereby causing **psychological reactance**, but not necessarily among individuals who have always supported vaccination. There is some evidence from research in Germany and the US that rendering vaccination mandatory hardens resistance to vaccination among those individuals who already oppose it (Sprengholz et al., 2021). In the same study, people whose opposition against vaccination hardened in the face of a potential obligation also became more negative towards vaccination against another disease (chickenpox) and towards adherence to behavioral precautions. There is also some experimental evidence that introducing compulsory vaccination against one disease may reduce the uptake of voluntary vaccination against other diseases among individuals who were initially reluctant or unwilling to get vaccinated (Betsch & Böhm, 2016). These adverse effects were not observed among people who support vaccination (Albarracin et al., 2021).
- *Undermining of internalization:* Among people who are still ambivalent towards vaccination, the obligation to get vaccinated might undermine their feeling that the decision is their own (internalization of the value of vaccination). When people experience strong external pressures towards a given action (e.g., get vaccinated), they may not develop the feeling that they personally support it. That may in turn inhibit similar but non-mandatory actions (e.g., getting non-mandatory vaccinations, adhering to public health recommendations). However, the evidence for this effect is mixed (e.g., Peters & Vollmer, 2014) and the research about it is typically about effects of rewards rather than of an obligation. Importantly, it occurs only if people attribute their own actions to the external pressure. That does not necessarily happen (Vansteenkiste et al., 2018), and may be avoided through careful communication. Solid rationales provided in an empathic way may enhance the **perceived legitimacy** of the mandatory vaccination and thus encourage people to endorse them or take them in, as may appreciative communication that exudes that vaccination is not being taken for granted even if it is mandatory.

Is it possible to achieve equally high (or perhaps even higher) vaccination levels with information campaigns that encourage voluntary vaccination at this point?

It is unlikely that people who have not yet been convinced to voluntarily get vaccinated will change their mind in the future. There are several reasons to be pessimistic about that.

- *Polarization:* Once people have formed a firm opinion, arguments that contradict that opinion generally harden rather than soften their stance, even if these are based on robust scientific evidence (Rekker, 2021). Thus, people who have decided for themselves that vaccination is unnecessary and perhaps even harmful will only hold that view to a more extreme degree when they continue to receive arguments pro-vaccination.

- *Risk perception*: It is extremely hard for people to understand all the benefits of vaccination.
 - People generally **underestimate** their personal risk of infection and the risks of loved ones, and they particularly misperceive the extent to which their own behavior endangers other people. This occurs for many diseases, including COVID-19, and also in Belgium (e.g., Asimakopoulou et al., 2020; Hoorens et al., 2022). Thus, even if they support a general recommendation to get vaccinated, they may believe that adhering to these recommendations is more important for others than it is for them. Unvaccinated persons systematically perceive their risks for (serious) infection to be lower than vaccinated persons (see [report 35](#) of the motivation barometer).
 - Grasping the benefits of vaccination requires a level of statistical sophistication that many people do not have. A certain proportion of vaccinated people does get infected and does land in hospital (and ICUs). People who do not understand that this proportion is smaller than the proportion of non-vaccinated people landing in hospital/ICUs may feel that vaccination does not work. In fact, they may even feel that vaccination is counterproductive because from a given vaccination level on, the majority of people with severe COVID-19 is bound to be vaccinated.

Summarizing viewpoint

This overview indicates that from a psychological perspective, there are benefits and costs associated with making vaccination compulsory. The question whether the balance leans more towards or away from mandatory vaccination from a psychological perspective deserves a careful estimation of the role of these different factors. The following issues need to be taken into account:

- 1) These psychological arguments need to be complemented with other considerations (e.g., virological, sociological, ethical), which can overrule, strengthen or complement psychological considerations.
- 2) The various psychological dynamics may apply to different degrees to different subgroups in society, both among vaccinated and unvaccinated individuals.
- 3) In the optimal case, the weight assigned to these different arguments is evidence-based.
- 4) The role of these different dynamics may shift over time as a function of changing circumstances (e.g., perceived effectiveness of vaccine and illness-inducing character of variants may impact on the legitimacy and internalization of the obligation).

Given the available theoretical frameworks and psychological research today, we carefully conclude, after a qualitative assessment of the current situation in January 2022, that the balance leans more towards mandatory vaccination. Whatever the political choices, if mandatory vaccination would be introduced, a **careful communication** needs being developed to avoid that disadvantages emerge and to maximize the advantages pointed out above. The following issues need to be considered.

- If vaccination becomes mandatory, the communication must clearly explain the **objectives** in terms of collective and individual health. Based on scientific studies, concrete and correct information is required such that people do understand how vaccination reduces the likelihood of infection and illness. This may help the population

understand that mandatory vaccination is the next **legitimate step** in handling this crisis. Of course, scientific findings may be hard to understand and there is no evidence that people who are strongly against vaccination will be convinced by scientific arguments. However, such arguments may help people respond to antivax arguments. It is in any case greatly important to ensure that only robust findings are being presented. There is little to gain with correct scientific information in communication at this stage, but a lot to lose with incorrect information.

- As clear communication requires **clear decision-making**, it needs to be clarified what is meant by 'mandatory vaccination': Does it involve the first and second dose, periodical booster vaccine and from which age on does it apply?
- To maximize **ease of compliance**, it may be useful to render it possible that primary health care workers can administer the vaccine at the occasion of routine consultations. An additional advantage of that would be that it would also allow people to get vaccinated without that being publicly known in their immediate surroundings, which may be helpful in the case of social pressures against vaccination.
- To preserve trust in authority figures, it is critical to make clear to the public that stability in the message (trust that the message will always be identical) needs being differentiated from **stability of the authorities' purposes and intentions** (trust that authorities will continue to strive for the right and safe approach during a volatile crisis). Stated differently, it is important to explain that continuously changing circumstances require continuous policy adaptations, and that being a good, trustworthy government includes giving citizens the guarantee that those adaptations will be carried through if and when they are needed. Of course, everything must be done to strike a balance between adaptation and being clear and consistent.

References

- Albarracin, D., Jung, H., Song, W., Tan, A., & Fishman, J. (2021). Rather than inducing psychological reactance, requiring vaccination strengthens intentions to vaccinate in US populations. *Scientific reports*, *11*, article 20796.
- Asimakopoulou, K., Hoorens, V., Speed, E., Coulson, N. S., Antoniszczak, D., Collyer, F., ... & Scambler, S. (2020). Comparative optimism about infection and recovery from COVID-19; Implications for adherence with lockdown advice. *Health Expectations*, *23*(6), 1502-1511.
- Bagchi, S. (2020). Stigma during the COVID-19 pandemic. *The Lancet Infectious Diseases*, *20*(7), 782.
- Betsch, C., & Böhm, R. (2016). Detrimental effects of introducing partial compulsory vaccination: experimental evidence. *The European Journal of Public Health*, *26*(3), 378-381.
- Bilz, K., & Nadler, J. (2014). Law, moral attitudes, and behavioral change. In E. Zamir & D. Teichman (Eds.), *The Oxford handbook of behavioral economics and the law* (pp. 241–267). Oxford University Press.
- Borkowska, M., & Laurence, J. (2021). Coming together or coming apart? Changes in social cohesion during the Covid-19 pandemic in England. *European Societies*, *23*(sup1), S618-S636.
- Brewer, N. T., DeFrank, J. T., & Gilkey, M. B. (2016). Anticipated regret and health behavior: A meta-analysis. *Health Psychology*, *35*(11), 1264–1275.
- Cooper, J. (2019). Cognitive dissonance: Where we've been and where we're going. *International Review of Social Psychology*, *32*(1), article 7.
- Davidai, S., Gilovich, T., & Ross, L. D. (2012). The meaning of default options for potential organ donors. *Proceedings of the National Academy of Sciences*, *109*(38), 15201-15205.
- Everett, J. A., Caviola, L., Kahane, G., Savulescu, J., & Faber, N. S. (2015). Doing good by doing nothing? The role of social norms in explaining default effects in altruistic contexts. *European Journal of Social Psychology*, *45*(2), 230-241.
- Gur-Arie, R., Jamrozik, E., & Kingori, P. (2021). No jab, no job? Ethical issues in mandatory COVID-19 vaccination of healthcare personnel. *BMJ Global Health*, *6*(2), e004877.
- Hamama-Raz, Y., Ginossar-David, E., & Ben-Ezra, M. (2016). Parental regret regarding children's vaccines—The correlation between anticipated regret, altruism, coping strategies and attitudes toward vaccines. *Israel Journal of Health Policy Research*, *5*, article 55.
- Harmon-Jones, E. (2000). Cognitive dissonance and experienced negative affect: Evidence that dissonance increases experienced negative affect even in the absence of aversive consequences. *Personality and Social Psychology Bulletin*, *26*(12), 1490-1501.
- Hoorens, V., Scambler, S., Deschrijver, E., Coulson, N.S., Speed, E., Coulson, N., & Asimakopoulou, K., (2022). Comparative optimism, self-superiority, egocentric impact perception and stance towards health information sources: A COVID-19 Study. Manuscript under invited revision.
- Jachimowicz, J. M., Duncan, S., Weber, E. U., & Johnson, E. J. (2019). When and why defaults influence decisions: A meta-analysis of default effects. *Behavioural Public Policy*, *3*(2), 159-186.
- Koch, E. J. (2014). How does anticipated regret influence health and safety decisions? A literature review. *Basic and Applied Social Psychology*, *36*(5), 397-412.

- Lewis, N., & Sznitman, S. R. (2017). You brought it on yourself: The joint effects of message type, stigma, and responsibility attribution on attitudes toward medical cannabis. *Journal of Communication, 67*(2), 181-202.
- Penner, L. A., Phelan, S. M., Earnshaw, V., Albrecht, T. L., & Dovidio, J. F. (2018). Patient stigma, medical interactions, and health care disparities: A selective review. In B. Major, J. F. Dovidio, & B. G. Link (Eds.), *The Oxford handbook of stigma, discrimination, and health* (pp. 183–201). Oxford University Press.
- Peters, K. P., & Vollmer, T. R. (2014). Evaluations of the overjustification effect. *Journal of Behavioral Education, 23*(2), 201-220.
- Power, S. A., Madsen, T., & Morton, T. A. (2020). Relative deprivation and revolt: current and future directions. *Current Opinion in Psychology, 35*, 119-124.
- Rekker, R. (2021). The nature and origins of political polarization over science. *Public Understanding of Science, 30*(4), 352-368.
- Schmitz, M., Luminet, O., Klein, O., Morbée, S., Van den Bergh, O., Van Oost, P., ... & Vansteenkiste, M. (2021). Predicting vaccine uptake during COVID-19 crisis: A motivational approach. *Vaccine*
- Smith, H. J., Pettigrew, T. F., Pippin, G. M., & Bialosiewicz, S. (2012). Relative deprivation: A theoretical and meta-analytic review. *Personality and Social Psychology Review, 16*(3), 203-232.
- Sprengholz, P., Betsch, C., & Böhm, R. (2021). Reactance revisited: Consequences of mandatory and scarce vaccination in the case of COVID-19. *Applied Psychology: Health and Well-Being*. <https://doi.org/10.1111/aphw.12285>
- Vansteenkiste, M., Aelterman, N., De Muynck, G. J., Haerens, L., Patall, E., & Reeve, J. (2018). Fostering personal meaning and self-relevance: A self-determination theory perspective on internalization. *The Journal of Experimental Education, 86*(1), 30-49.
- Villa, S., Jaramillo, E., Mangioni, D., Bandera, A., Gori, A., & Raviglione, M. C. (2020). Stigma at the time of the COVID-19 pandemic. *Clinical Microbiology and Infection, 26*(11), 1450-1452.
- Ziarnowski, K. L., Brewer, N. T., & Weber, B. (2009). Present choices, future outcomes: anticipated regret and HPV vaccination. *Preventive Medicine, 48*(5), 411-414.