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On the voluntariness of public health apps: a European case study on digital contact tracing

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ABSTRACT

As evidenced during the COVID-19 pandemic, there is a growing reliance on smartphone apps such as digital contact tracing apps and vaccination passports to respond to and mitigate public health threats. In light of the European Commission's guidance, Member States typically offer such apps on a voluntary, 'opt-in' basis. In this paper, we question the extent to which the individual choice to use these apps – and similar future technologies – is indeed a voluntary one. By explicating ethical and legal considerations governing the choice situations surrounding the use of smartphone apps, specifically those related to the negative consequences that declining the use of these apps may have (e.g. loss of opportunities, social exclusion, stigma), we argue that the projected downsides of refusal may in effect limit the liberty to decline for certain subpopulations. To mitigate these concerns, we recommend three categories of approaches that may be employed by governments to safeguard voluntariness.

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KEYWORDS Voluntariness; digital contact tracing; smartphone apps; liberty; stigmatisation

1. Introduction

The introduction of compulsory digital vaccination passports in the context of the COVID-19 pandemic has generated significant controversy and push-back, both in politics and in society at large. At the heart of the debate are questions about how to balance public health considerations with freedom and voluntariness: are governments justified in denying individuals access to facilities and establishments if they are unwilling to show that they are vaccinated against (or recently tested for) the SARS-CoV-2 virus? Opponents of such passports argue that one's vaccination history is private information,

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that disclosing such information is the prerogative of the individual, and that the freedom restrictions resulting from a denial to have (and to use) such passports put undue pressure on individuals to nevertheless divulge this information. Moreover, and perhaps more importantly, it is argued that the freedom restrictions put undue pressure on individuals to get vaccinated.

Implicit in this line of reasoning is the assumption that having, and showing, vaccination passports voluntarily would resolve many of these issues. It would allow individuals to determine for themselves whether to be vaccinated, and whether to disclose this decision to others. In this paper, we question whether voluntariness of app use would indeed lead to this outcome. We argue that making apps voluntary creates a significant risk of generating, maintaining, or exacerbating social inequalities. We demonstrate this through a case study of digital contact tracing apps, which were explicitly offered on an ‘opt-in’, or voluntary, basis.

Digital contact tracing apps assist with contact tracing by running as a background process and continuously approximating and keeping track of who has been in close contact with whom through mobile positioning data (GPS) or Bluetooth technology. Contact tracing – the prompt and systematic identification and isolation of individuals who have been exposed to a virus – is a key instrument in infectious disease control, including in the COVID-19 pandemic. Unfortunately, contact tracing is a painstaking and error-prone process requiring trained personnel.¹ Given the magnitude of the pandemic and the speed of the viral spread,² contact tracing operations had to be scaled up significantly, which presented a tremendous practical challenge.³ Many countries in the European Union (EU) and elsewhere have developed smartphone apps to support the process.

Like vaccination passports, the use of contact tracing apps has been controversial. Opponents argue that these apps risk infringing people’s privacy, especially when they persistently collect, store, and analyse location data (GPS) to track people’s movement (cf. Bulgaria’s ‘VirusSafe’ app). There are also significant concerns about storing data on central servers, where it is unclear who will have access to the data (now or in the future) and

¹Ashley L. Greiner, Kristina M. Angelo, Andrea M. McCollum, Kelsey Mirkovic, Ray Arthur and Frederick J. Angulo, ‘Addressing Contact Tracing Challenges—Critical to Halting Ebola Virus Disease Transmission’ (2015) 41 *International Journal of Infectious Diseases* 53–55.

²Cf. Luca Ferretti, Chris Wymant, Michelle Kendall, Lele Zhao, Lucie Abeler-Dörner, Michael Parker, David Bonsall and Christophe Fraser, ‘Quantifying SARS-CoV-2 Transmission Suggests Epidemic Control with digital contact tracing’ (2020) 368(6491) *Science*.

³In the Netherlands, for example, the Dutch Health Services (GGDs) were overwhelmed by the sheer number of contacts that had to be traced per individual. <https://nos.nl/artikel/2343851-ggd-gewezen-op-tekortkoming-contactonderzoek-maar-wilde-uitstralen-er-klaar-voor-te-zijn.html> (last visited on 1st September 2022).

for what purposes these data may be used.⁴ Moreover, unlike home quarantine apps for people who must temporarily go into self-isolation (cf. Poland's 'Kwarantanna domowa' app), these apps would have to be enabled for an unforeseen period of time and for the majority of the population.⁵

The EU and its Member States have taken these concerns seriously, as evidenced by efforts made by various Member States, in collaboration with tech giants Google and Apple, to develop 'privacy-preserving contact tracing apps' that incorporate various privacy-related safeguards.⁶ For example, privacy-preserving apps, including Italy's 'Immun' app, use randomised and frequently changing Bluetooth identifiers (*rolling proximity identifiers*) that are decoupled from a person's identity; only use servers to exchange these identifiers to determine if someone has been in contact with an infected individual (no other data are stored centrally); and only do so with a person's consent. This approach, which is in line with the principle of data minimisation, has become the standard in most Member States.

The Commission has attempted to streamline the way these apps operate across the EU to ensure both data protection (under the General Data Protection Regulation (GDPR))⁷ and interoperability.⁸ Notwithstanding these technical safeguards, the European Commission recognises the inherently invasive nature of these apps, and accordingly recommended that they be offered to the public on a voluntary basis.⁹ As a result, in all Member States where digital contact tracing has been deployed, EU residents are explicitly asked to consent to the use of contact tracing apps,¹⁰ the use of which is formally voluntary.

Our aim is to critically reflect on how voluntary the resulting choice situations truly are. More specifically, we will examine the extent to which individuals are at liberty to decline the use of voluntary contact tracing apps and

⁴This phenomenon is known as 'mission creep'; see Wendy K. Mariner, 'Mission Creep: Public Health Surveillance and Medical Privacy' (2007) 87(2) *Boston University Law Review* 347–395.

⁵For digital contact tracing to be most effective, these apps must be enabled most of the time. Our analysis with respect to voluntariness holds regardless of whether people's use of the app is continuous or not. However, people will experience the freedom to turn the app off differently, regardless of the formal requirements (or lack thereof), and this is the problem we want to bring to the fore.

⁶For the announcement of the Apple and Google partnership in this domain, visit <https://covid19.apple.com/contacttracing> (last accessed 1st September 2022).

⁷Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), OJ L119, 4.5.2016, 1–88.

⁸See the eHealth Network Guidelines to the EU Member States and the European Commission on Interoperability specifications for cross-border transmission chains between approved apps. https://ec.europa.eu/health/sites/health/files/ehealth/docs/mobileapps_interoperabilitydetailedelements_en.pdf (last visited September 1st 2022).

⁹Communication from the Commission Guidance on Apps supporting the fight against COVID 19 pandemic in relation to data protection 2020/C 124 I/01.

¹⁰Notably, compulsory app use was considered in a number of Member States, including Slovenia and Portugal.

similar future smartphone technologies that are endorsed, but not mandated, by governments and aim to contribute to public health.¹¹ In doing so, we distinguish between situations in which the decision to decline results in restrictions on liberties of the individual, and situations in which the decision to decline results in non-inclusiveness through more subtle processes of social exclusion and stigmatisation. Despite these outcomes being distinct, we will show that these two types of scenarios both result in outcomes that may be excessively costly for some (groups of) individuals, to the point where voluntariness is undermined because declining the use of contact tracing apps is no longer a viable option.¹² We argue that such pressure can undermine voluntariness and that this kind of pressure will likely disproportionately affect certain subpopulations. This suggests that even governments that are committed to voluntary app use may be putting users in situations where refusal is not a real option.¹³ The paper concludes with recommendations for what governments can and arguably should do to promote truly voluntary choice contexts for all.¹⁴

2. The notion of voluntariness

Before turning to potential obstacles to voluntary choice, consider the notion of voluntariness itself. Voluntariness typically refers to a person's ability to perform an intentional action or to make a meaningful decision, free from

¹¹In this paper, we focus primarily on situations in which people may not be in a position to decline. However, as we will draw attention to in the discussion, there are equally troubling issues with people unable to consent.

¹²This is especially pertinent in public health contexts. Even without explicit promotion, the very fact that certain options are offered by the state at all, may make people experience them as obligatory (cf. Roger Brownsword and Jeff Wale, 'Testing Times Ahead: Non-Invasive Prenatal Testing and the Kind of Community We Want to Be' (2018) 81(4) MLR 646–672). By means of illustration, consider that in an evaluation study of the Dutch contact tracing app 'CoronaMelder', 21.1% of participants reported feeling that they were obliged to use the app, even though the state was offering the app to the public on a voluntary basis (see Wolfgang Ebbers, Lotty Hooft, Nynke van der Laan and Esther Metting, 'Evaluation CoronaMelder: An Overview after 9 Months' (2021) https://coronamelder.nl/media/Evaluatie_CoronaMelder_na_9_maanden_english.pdf (last visited 10th October 2022)).

¹³Notice that the point is not that all choice options should always be neutral, in the sense of being equally appealing or equally viable. Rather, the point is that sometimes the options are skewed to such an extent that the choice can no longer reasonably be considered a real choice at all.

¹⁴This paper does not engage with the related, though separate, debate as to whether individuals can, or should be, legally required to use contact tracing apps in the context of infectious disease control. For discussion on this topic, see Renate Klar and Dirk Lanzerath, 'The Ethics of COVID-19 tracking apps—challenges and voluntariness' (2020) 16(3–4) *Research Ethics* 1–9. Likewise, we do not engage with the question whether the consequences we highlight about loss of liberty or stigmatisation in relation to voluntary app use may be justified in light of the potential benefits that digital contact tracing may have. For while it is evident that a pandemic may require trade-offs between public health and individual liberty (cf. Robert Ranisch and others, 'Digital Contact Tracing and Exposure Notification: Ethical Guidance for Trustworthy Pandemic Management' (2021) 23(3) *Ethics and Information Technology* 285–294), our more modest purpose here is to first bring these consequences to the fore, so as to enable an open debate about whether these consequences can be justified.

coercion, deception, or undue inducement.¹⁵ As such, it presupposes both the presence of certain capabilities needed for decision making, and the absence of factors limiting one's freedom to decide.¹⁶ The first presupposition speaks to capabilities of the individual (e.g. having the capacity for practical reasoning; having sufficient epistemic grasp on what the situation requires¹⁷), the second to the circumstances the individual finds oneself in. Though we will focus primarily on the latter, viz. the possibility of external, situational factors undermining voluntary choice, the first presupposition requires at least a brief discussion.

In relation to contact tracing apps, as well as other future public health technologies, it is not self-evident that all individuals possess, *inter alia*, the capabilities needed to comprehend and appropriately weigh all the information related to the decision about using such apps.¹⁸ Similarly, not everyone may possess the capabilities to appropriately assess the trustworthiness of the provided information. Indeed, it could well be that for some (groups of) individuals, there is a significant and systematic discrepancy between the capabilities presupposed by the State when offering public health apps such as digital contact tracing apps on a voluntary basis and the capabilities that these citizens actually have.¹⁹ We cannot fully do justice to this issue here, but it is important to flag this as a potential impeding factor on the effectiveness of one of the strategies we will propose for promoting voluntariness. For our main argument, however, it is sufficient to stipulate that voluntariness minimally requires a form of agency where decisions can be made out of one's own volition.²⁰

The second presupposition concerns external factors that limit freedom of choice. In legal contexts, this aspect of voluntariness is typically understood in terms of external restrictions of freedom, specifically through manipulation and coercion. As Applebaum and colleagues write, 'for legal purposes, a decision is presumed to be voluntary if no evidence exists that someone else has unduly influenced it or coerced the person deciding'.²¹ Similarly, in the literature on voluntariness in informed consent, there is a strong emphasis

¹⁵See, e.g. Robert M. Nelson and others, 'The Concept of Voluntary Consent' (2011) 11(8) *The American Journal of Bioethics* 6–16; Paul Applebaum, Charles W. Lidz and Robert Klitzman, 'Voluntariness of Consent to Research: A Conceptual Model' (2009) 39(1) *Hastings Center Report* 30–39.

¹⁶Note that these limiting factors should not necessarily be thought of as restricted to external factors. They may potentially also include factors internal to the person, such as tendencies stemming from addiction, so strong that they significantly compromise free choice. For discussion, see Nelson (n. 15).

¹⁷Cf. Amartya Sen, *Commodities and Capabilities* (Amsterdam: North-Holland, 1985).

¹⁸Cf. Klar and Lanzerath (n. 14).

¹⁹A phenomenon that may be construed as an 'autonomy gap'; cf. Joel H. Anderson, 'Vulnerability, Autonomy Gaps and Social Exclusion' in *Vulnerability, Autonomy, and Applied Ethics*, ed. Christine Straehle (New York: Routledge, 2016) 49–68.

²⁰Whether this should be called 'agency', 'autonomous agency', or 'self-governing agency' depends on one's theoretical framework; we will leave this open here.

²¹Applebaum and others (n. 15), p. 32.

on the absence of another party actively deceiving, manipulating, or coercing the individual to give consent.²²

Key to these characterisations is that there is a standard outside of the agent by which to judge the extent to which freedom is restricted: if freedom is restricted substantially, i.e. beyond a certain threshold, voluntariness is undermined.²³ As such, it is not about *perceived* or *subjective* restrictions; someone who is deceived or manipulated may feel like their action or decision was made freely, when it in fact was not. Similarly, someone may feel that their freedom to decide is restricted when, from an external perspective, it is in fact not. This is especially relevant in the context of individuals' choices to contribute to public health, where a strong sense of civic responsibility could be perceived by the individual as a constraint on voluntary choice. We submit that such internal motivations – a strong sense of moral obligation – typically do not constrain voluntariness.²⁴ However, as we will argue, the more these internalised obligations are shared within a society, and the more people expect one another to act upon them and respond negatively to others who fail to do so, the more risk there is of voluntariness being undermined.

Voluntariness is thus strongly linked to freedom, but scholars such as Olsaretti quite rightly warn not to conflate voluntariness with freedom, or with autonomy.²⁵ In her view,

a choice is voluntary if and only if it is not forced, and it is forced if and only if it is made only or primarily because the alternative to it is unacceptable, where the standard for the acceptability of options is an objective standard of well-being, and unacceptable options are those which, by that standard, fall below a certain threshold.²⁶

The question of voluntariness is thus transformed from a question about whether someone strictly 'cannot do otherwise', in the sense of not having any open alternatives to pursue, to a question about what can be expected of an individual in choice situations where there are no decent or acceptable or adequate alternatives.²⁷

²²See, e.g. K. H. Satyanarayana Rao, 'Informed Consent: An Ethical Obligation or Legal Compulsion?' (2008) 1(1) *Journal of Cutaneous and Aesthetic Surgery* 33–35; Peter B. Terry, 'Informed Consent in Clinical Medicine' (2007) 131(2) *Chest* 563–568; Onora O'Neill, 'Some Limits of Informed Consent' (2003) 29 (1) *Journal of Medical Ethics* 4–7.

²³The notion of substantial restrictions is derived from Nelson et al.'s notion of 'substantial noncontrol' (n 15). These authors also rightly note that different theories may designate different thresholds on the continuum of control versus noncontrol for what counts as 'substantial'.

²⁴This is different from claiming that there are no internal influences that may undermine voluntariness. When people suffer from mental illness, dementia, or brain damage, for example, certain internal influences may certainly render particular actions involuntary. Our point here is another, namely that, under normal circumstances, voluntariness is not limited by one's convictions.

²⁵Serena Olsaretti, 'Voluntariness, Coercion, Self-Ownership' in: David Schmidtz and Carmen E. Pavel (eds), *The Oxford Handbook of Freedom* (New York: Oxford University Press, 2018) 439–455.

²⁶*Ibid.*, 444.

²⁷Cf. Joseph Raz, *The Morality of Freedom* (Oxford: Clarendon Press, 1986).

Sometimes, circumstances are such that individuals can reasonably be said to have no ‘real choice in the matter’, even though they possess the capabilities for free choice and are technically free to do otherwise. This points to what Brownsword has identified as a gap between normative and practical optionality with regards to the use of new technologies.²⁸ The idea is that there may be situations where, despite there being a ‘normative liberty’ for using (or declining to use) a technology, there is no ‘practical liberty’ ‘to do these things in the sense that these acts are a real option’.²⁹ For individuals in those kinds of situations, it seems apt to take their decision to have been made involuntarily, and we will analyse these situations as such in this paper.³⁰ In what follows, we aim to contribute to the existing literature by applying this thinking to the domain of public health and provide examples of how the choice to use a public health app such as a contact tracing app can be rendered involuntary if the alternative is unacceptable by some standard outside of the agent, even though the agent technically has the freedom to choose the alternative. For the first set of examples, we turn to restrictions on personal liberty.

3. Risking restrictions on personal freedoms

The effectiveness of contact tracing apps depends on their usage by a critical mass of people.³¹ This makes it tempting for governmental bodies concerned with public health to promote, recommend, or nudge towards app use.³² In the Netherlands, for example, the Ministry of Health, Welfare and Sport explicitly asked their suppliers in an email to ask their employees to download the Dutch ‘CoronaMelder’ contact tracing app. This was later considered an impermissible form of pressure

²⁸Roger Brownsword, ‘Law, Liberty and Technology’ in Roger Brownsword, Eloise Scottford and Karen Yeung (eds), *The Oxford Handbook of Law, Regulation and Technology* (Oxford: Oxford University Press, 2017) 41–68.

²⁹*Ibid.*, 42.

³⁰Ultimately, though, little hangs on the use of this terminology. For even if it were conceded that all use of contact tracing apps were voluntary unless individuals were strictly coerced (e.g. through physical force by an employer), the central point we wish to make remains, namely that making the use of contact tracing apps voluntary, without any further safeguards, may lead to (further) inequalities in society, given that certain (groups of) individuals may have much more difficulties to choose one of the two choice options than others. In the end, it is this decline in liberty for certain subpopulations that is problematic.

³¹Some have argued that in order for digital contact tracing apps to be effective, a sufficiently large sub-population must agree to use them. For example, Robert Hinch and others (https://cdn.theconversation.com/static_files/files/1009/Report_-_Effective_App_Configurations.pdf; last visited 10th October 2022) suggested that an uptake by 56% of the population (or 80% of all smartphone users) would have been needed to suppress the COVID-19 pandemic. At the same time, their simulations predicted that partial uptake by as little as 10% of the population would already have significant effects in slowing down the virus.

³²Cf. Josephine A. W. van Zeven and Bart A. Kamphorst, ‘Tracking and Nudging through Smartphone Apps: Public Health and Decisional Privacy in a European Health Union’ (2020) 11(4) *European Journal of Risk Regulation* 831–840.

to conform by members of the Dutch Parliament despite being phrased as a request.³³

Besides direct pressure from governmental bodies, individuals may be pressured to use the app in many other ways. Consider the following scenarios:

- (1) A public transport company requires travellers to have the app installed and enabled in order to use inner-city public transport.
- (2) A factory owner requires all personnel who cannot work from home to use the app.
- (3) A residential care home requires having the app enabled before visiting.
- (4) A local tennis club makes the use of the app a prerequisite for being allowed on the grounds.
- (5) A restaurant denies diners entry unless they can show that they have the app enabled.
- (6) A friend demands the use of the app for entry to her birthday party.

These scenarios can be thought of as occupying different places on a continuum of public to private interference with individual liberty, ranging from public transport regulations to social norms at home. Putting aside questions of *de facto* legal permissibility in the various Member States, each scenario showcases a different context in which the use of a contact tracing app may be required in practice, even when the app is offered by the State to the general public on a voluntary basis.

The freedom differentiations in these scenarios are not inherently illegitimate or unjust. Parties requiring the use of the app in scenarios 1–6, especially private parties, have the liberty to make certain demands of the people they employ, offer services to, or invite into their home.³⁴ Consider analogous situations in which tennis clubs may require members to use an online website or app to make court reservations, or the way in which store owners are at liberty to deny service to people who do not wear face masks.

The question remains, however, whether such differentiations place disproportionate limitations on vulnerable groups, that are not protected, or recognised, under non-discrimination laws. This is the key point these scenarios aim to illustrate, namely that certain (groups of) individuals – e.g. those who rely on public transportation to get to work – can face severe pressure to consent to using the app, to the point where declining is not a viable option and voluntariness of their choice is undermined. It could be objected here that voluntariness is preserved in these situations because the affected

³³<https://nos.nl/artikel/2347479-ministerie-erkent-mail-over-corona-app-had-niet-zo-gemoeten.html> (last visited on 1st September 2022).

³⁴These decisions typically take place within a broader set of parameters such as non-discrimination laws and human rights laws.

individuals are technically at liberty to decline to use the apps: they could seek alternative transportation, request alternative employment within their organisation, refrain from entering the care home, play darts instead of tennis, dine at a neighbouring restaurant or skip the birthday party. But such an objection would miss the mark. As noted, voluntariness is not only affected by manipulation or coercion; it can also be undermined when, by some objective standard, there are no acceptable alternative options available.

This is illustrated most clearly in the first few scenarios, where the consequences of declining to use the app can be practically unfeasible. For example, for people who rely on public transportation to travel to work, and people whose employers do not offer alternative employment, refusal means salary cuts or even loss of employment. In these cases, where there simply is no decent alternative to consenting, it would be apt to speak of 'no choice' situations.³⁵

Such 'no choice' situations are not restricted to cases in the public domain. Moving down the public-private continuum to the private sphere of scenarios 5 and 6, we can find similar situations. In the case of being denied access to a restaurant, it may be that there are similar establishments in the vicinity that do allow access without app use, and this may impact the assessment of voluntariness. But the availability of other restaurants may not be the only relevant consideration; the other restaurants may not be real alternatives due to the nature of the event taking place in the first restaurant and the (im)possibility to replicate that in another venue. Likewise, in scenario 6, the assessment of whether skipping a friend's birthday is merely undesirable or unacceptable depends on situational details: is the person objectively in need of social interaction due to prolonged isolation related to the pandemic? Or are there other health or social factors that make the consequences of declining the use of the app particularly harsh, or indeed unacceptable?

These types of situations raise the question of whether, and to what extent, governments should protect people from these types of situations. Arguably, governments have different duties in scenarios that play out in the public sphere (e.g. public transportation, employment relations) versus the private sphere, specifically people's homes.³⁶ Before we turn to these questions, however, we survey one more type of situation in which voluntariness may be undermined.

³⁵ Alan Wertheimer, *Coercion* (Princeton: Princeton University Press, 1987).

³⁶ On the distinction between public and private spheres, see e.g. Alan Freeman and Elizabeth Mensch, 'The Public-Private Distinction in American Law and Life' (1987) 36 *Buffalo Law Review* 237–258; Christine Chinkin 'A Critique of the Public/Private Dimension' (1999) 10(2) *European Journal of International Law* 387–395; Gerald Turkel, 'The Public/Private Distinction: Approaches to the Critique of Legal Ideology' (1988) 22 *Law & Society Review* 801–828.

4. Risking social exclusion and stigmatisation

In the first set of scenarios, various parties made strict demands on individuals by explicitly requiring the use of a voluntary State-provided contact tracing app. Such direct demands could, under certain circumstances, render the voluntariness stipulation by the State moot.³⁷ However, there are also more subtle ways in which individuals' liberty to decline the use of such apps may be restricted.³⁸ Consider the following scenarios:

- (7) A friend decides not to invite individuals to her birthday party who she knows refuse the use of a contact tracing app.
- (8) A restaurant offers discounts and/or better seating to people who have offered proof of having enabled the app.
- (9) A factory owner prefers hiring on-call workers who are known to have a contact tracing app enabled over those who are known or suspected not to use the app.

In each of these scenarios, there are no explicit demands made, but assuming it is common knowledge that these practices are happening, there will nevertheless be pressure on individuals to conform. Fear of missing out on a birthday party (scenario 7) might convince someone to install the app, and seeing others benefit from perks (scenario 8) might play a part in another person's decision to consent to app usage.

Notice that this kind of pressure is not automatically unethical. After all, it can find support on moral grounds: a concern for the health of one's fellow citizens. European countries have health care systems that presuppose and impose solidarity if it comes to weighing collective and individual rights, and solidarity is often seen as an important factor of societal welfare. Though the role of collective interests may vary between Member States, solidarity is a shared fundamental value in the European Union. Against this backdrop, it may be legitimate and desirable if the appeal that national and local governments make on cooperation of all citizens do result in individuals feeling that they ought to play their part in combatting the pandemic by downloading and using the app. Similarly, it may be legitimate and desirable if governmental appeals to solidarity result in social encouragement among peers.

At the same time, there is the possibility of substantial *undue* pressure to conform, leading to social exclusion or stigmatisation. For instance, it may be argued that when declining app use leads to being systematically ostracised by one's social environment, it is no longer an acceptable option for anyone,

³⁷Cf. Marjolein Lanzing, 'Contact Tracing Apps: An Ethical Roadmap' (2021) 23 *Ethics and Information Technology* 87–90.

³⁸In this context, see also Klar and Lanzerath (n. 14), especially p. 5.

even if missing out on a single birthday invitation would be. Likewise, depending on the degree of flexibility that a factory worker has in accepting certain shifts (e.g. due to childcare responsibilities, transportation possibilities, work of partner), a factory owner's preference (scenario 9) can lead to a pressure to accept app use that one cannot be expected to withstand. To reiterate, the point is not that individuals in these scenarios strictly cannot do otherwise: they are not coerced to use the app, and they are thus, strictly speaking, free to decline. In practice, however, the negative consequences of opting out can be such that declining can no longer be considered a real option.

Finally, if the decision to decline leads to stigmatisation, i.e. if having declined is seen by the social community as a deeply discrediting attribute, to the extent that the person is reduced 'from a whole and usual person to a tainted, discounted one',³⁹ the option to decline may be deemed unacceptable. If restaurant holders not only offer discounts and other benefits to people who have the app enabled, but treat customers without the app with disdain or suspicion, this stigmatisation may create undue pressure to conform. Here, again, the exact assessment will depend on the standards against which to base judgment. It would have to be fixed exactly when behaviour qualifies as stigmatisation, and even then, there is the further question of whether (a degree of) stigmatisation can be permissible. In the context of smoking cessation, for example, it has been argued that health-related stigmatisation can be permissible in the context of public health promotion.⁴⁰ Similarly, a degree of stigmatisation could be considered warranted in the context of app use during a global pandemic if such app use would contribute to the promotion of public health. However, given the far-reaching consequences of stigma on the individual (e.g. experiencing status loss, discrimination⁴¹), this issue warrants further debate that goes beyond the scope of this paper.

³⁹Erving Goffman, *Stigma: Notes on the Management of Spoiled identity* (New York, NY: Prentice Hall, 1963), p. 3.

⁴⁰Ronald Bayer, 'Stigma and the Ethics of Public Health: Not Can We but Should We' (2008) 67(3) *Social Science & Medicine* 463–472; Andrew Courtwright, 'Stigmatization and Public Health Ethics' (2013) 27 (2) *Bioethics* 74–80. For dissenting opinions on this subject, see, e.g. Kirsten Bell, Amy Salmon, Michele Bowers, Jennifer Bell and Lucy McCullough, 'Smoking, Stigma and Tobacco "Denormalization": Further Reflections on the Use of Stigma as a Public Health Tool. A Commentary on *Social Science & Medicine's* Stigma, Prejudice, Discrimination and Health Special Issue (67: 3)' (2010) 70(6) *Social Science & Medicine* 795–799; Kristen E. Riley, Michael R. Ulrich, Heidi A. Hamann and Jamie S. Ostroff, 'Decreasing Smoking but Increasing Stigma? Anti-tobacco Campaigns, Public Health, and Cancer Care' (2017) 19(5) *AMA Journal of Ethics* 475–485.

⁴¹Cf. Bruce G. Link and Jo C. Phelan, 'Conceptualizing Stigma' (2001) 27(1) *Annual Review of Sociology* 363–385.

5. Further reflections on the case of digital contact tracing apps

In the preceding sections, we have examined how individuals may face various pressures to consent to using a contact tracing app, even if governments offer the app on a voluntary basis. We have argued that, at least sometimes, such pressures can undermine voluntariness of choice by making the option of declining unacceptable by a reasonable person standard. This raises the question, we noted, of whether governments have positive duties to ensure voluntary choice situations for all. Before we turn to this question, we make three additional observations.

First, what we have hinted at but have not made explicit until now, is that loss of voluntariness due to external forces is a particularly pressing issue because the individuals for whom the costs of refusal will be especially high will often be those who are already socio-economically worse off. If employers overtly or covertly exclude on-call workers without apps, they may have fewer possibilities to protest or resist, and the consequences will be severe. The same may apply for people in temporary jobs: if a contract must be renewed in the nearby future, employees will be reluctant to object to a strong appeal by their employer to use the app. As such, the concern is not just that the introduction of voluntary contact tracing apps – and similar future technologies – can introduce inequalities into society; they can also exacerbate existing inequalities.

Second, what is also relevant here, is that for employees in unstable (on-call) jobs, actually using the app might come with substantial risks as well. The contact tracing function may require one to self-quarantine if one has been in close contact with a positively tested individual. Many of such jobs exists in contexts where the risk of exposure is relatively high, and where working from home while isolating is not possible. This risk of loss of income or employment means that both the cost of refusing to install and the cost of installing are potentially high. In such a situation, voluntariness may only be possible if governments have taken care of a strong socio-economic safety net that prevents loss of income for their most vulnerable citizens.

Third, one could raise similar concerns about not having the possibility to consent, rather than decline. People may not have access to the technology needed for using a contact tracing app, or have the digital skills needed for installing and enabling smartphone apps.⁴² For example, the United Kingdom's NHS Covid-19 app could only be installed on smartphones purchased in 2015 or later, thereby excluding many smartphone users who were using older smartphones and could not afford a newer model. Also, certain

⁴²According to the European Commission, 80 million Europeans never use the Internet because 'they don't have a computer or it is too expensive (...) or they find it too difficult', see European Commission, 'Digital Inclusion for a Better Society', European Commission- Digital Single Market, 19 June 2019.

individuals, including vulnerable elderly, may not have the knowhow to effectively use a smartphone.⁴³ These people face the opposite problem of what we discussed before – in that they *de facto* have no choice but to decline the use of a contact tracing app. Nevertheless, they may still experience (social) backlash as their reason for non-use will not necessarily be clear to others. Such backlash, which could include not being invited by friends (scenario 7) or not being hired (scenario 9), would also be an indirect consequence of the State's choice for voluntary app usage.⁴⁴

This leads to the question whether States have a positive duty to ensure that people have the means to participate in contact tracing app usage if they want to. Should States insist on making their apps as widely available as possible – various platforms, older hardware – even if that means that the app's performance will be degraded? Should they offer cheap Bluetooth-enabled devices that function as alternatives to the smartphone app?

There are no easy answers to these practical questions, but they highlight our more fundamental point, namely that declaring something as voluntary does not automatically entail a voluntary choice, or a voluntary choice for all. As we have shown in relation to the introduction of contact tracing apps in the context of the COVID-19 pandemic, the presumption that each individual is (roughly) equally at liberty to decline, often does not hold true. As such, States may need to revisit the question whether it would be fairer to make the use of certain apps mandatory, or at least work to install additional safeguards. What kind of safeguards could be instated is the subject of the next section.

6. Conclusion and recommendations

Our case study of digital contact tracing apps suggests that when such apps are offered on a voluntary, 'opt-in' basis, there is a risk that some people's liberty to decline will effectively be heavily curtailed, even though they formally still have the option to decline. We contend that such issues, which are illustrative of a gap between normative and practical optionality,⁴⁵ are not restricted to digital contact tracing alone but are likely to arise in

⁴³Alan Wiig, 'The Empty Rethoric of the Smart City: From Digital Inclusion to Economic Promotion in Philadelphia' (2016) 37 (4) *Urban Geography* 535–553.

⁴⁴Of course, these individuals would face similar problems if app use were made mandatory. In that regard, the question of whether States have positive duties to ensure that people have the means to participate in app usage can be said to arise with the introduction of the technology itself, more so than with the act of declaring app use voluntary. However, in the case of a mandatory app, a positive duty may be seen to arise more clearly or quickly than in a situation where the app is linked primarily to private actors as compared to the state, i.e. in the second scenario, the state is assuming a positive obligation to manage a relationship between private actors and/or minimize potentially negative effects of the actions of one private party on another private party, as contrasted with negative effects on a private party due to actions of a public actor (the state).

⁴⁵Brownsword (n. 28).

relation to other public health apps as well,⁴⁶ especially those whose use can be considered to promote a sense of social safety and security (thus including apps that can be used as evidence for having recently been tested or vaccinated).

Thus far, guidance on the use of public health apps, formal and informal, has focused on negative obligations of states to prevent excessive infringements of privacy and autonomy. For example, the European Commission's *Communication Guidance on Apps supporting the fight against COVID 19 pandemic in relation to data protection* recognises that a mandatory app may be involve a 'high degree of intrusiveness' and that safeguards would be hard to put in place.⁴⁷ The Commission therefore recommends the use of voluntary apps. Relatedly, the application of the EU's General Data Protection Regulation (GDPR) is to remain fully applicable, as well as the ePrivacy Directive.⁴⁸ While the Commission's guidance is not legally binding, its interpretation of the limits of app use under the current EU legal framework is informative. Moreover, the Commission recognises that there may be negative consequences for individuals who decline the use of voluntary apps: 'the installation of the app on their device should be voluntary and without any negative consequences for the individual who decides not to download/use the app'.⁴⁹

As such, the Commission seems to acknowledge that voluntariness can be undermined if people are denied certain privileges or are treated differently as a consequence of their decision to decline. This implies an obligation – if not formally legal, then at least moral and persuasive – on governments to refrain from requiring their own employees to use the app, and from asking other organisations or companies to require it of their employees. Arguably they should also refrain from requiring the use of the app to enter public areas.

However, despite this broad formulation stating that refusal should be without *any* negative consequences for the individual, and advising the adoption of 'specific safeguards',⁵⁰ the Commission does not specify concurrent positive duties for Member States to prevent negative consequences. The

⁴⁶For a categorization of public health apps used in relation to the COVID-19 pandemic, see Manal Almalki and Anna Giannicchi, 'Health Apps for Combating COVID-19: Descriptive Review and Taxonomy' (2021) 9(3) *JMIR mHealth and uHealth* e24322.

⁴⁷(2020/C 124 I/01): see, [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020XC0417\(08\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020XC0417(08)&from=EN).

⁴⁸Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (OJ L 119, 4.5.2016, p. 1). (5) Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications) (OJ L 201, 31.7.2002, p. 37).

⁴⁹(n 47), para 3.2.

⁵⁰(n 47), para 3.3.

European Court of Human Rights has held that states have a positive duty to protect individual privacy in horizontal relationships (i.e. between private parties).⁵¹ However, the scenarios posited in this article do not relate exclusively to privacy or data use, but to broader questions of voluntary choice. Should Member States create regulations governing the way in which private parties may interact with the technology used by public health apps such as contact tracing apps? Should they actively run campaigns warning against social exclusion and stigmatisation? Should they oblige public and/or private bodies to provide hardware or software to those without access?

We recommend that Member States that seek to ensure voluntary app use scaffold this commitment using an interplay of three categories of approaches, viz. direct regulation, implementing flanking policies, and information disclosure. We briefly discuss each approach in turn.

First, it is crucial for governments to formally self-impose limits on what they can ask of people, including civil servants. These regulations should extend to all governmental subcontractors and organisations with a public mandate. Moreover, governments should set clear criteria concerning where and how private companies may promote the app. To the extent that it is deemed permissible for certain high-risk groups of workers to be exempt from the voluntariness condition, i.e. that they must use the app, this should be formally regulated as well. Governments should also create accessible procedures for complaints, to which citizens can appeal when they consider that the expectation of using the app in a specific context is undermining their voluntary choice. This regulatory approach should offer safeguards against the most apparent violations of voluntariness, including coercion and manipulation, but also the more obvious scenarios we sketched in which people are left with no acceptable alternative (e.g. ‘comply or lose your job’). In this regard, the regulation governing the use of the Dutch ‘CoronaMelder’ app is a noteworthy example, as it contains a clause that explicitly forbids making the use of the app or information about the app a condition for access to facilities, services and even participation in interpersonal contact, on penalty of a fine or up to six months of jail time.⁵² In general, the European Commission could play a guiding role here by assessing the advantages and disadvantages of various policy options and making recommendations, or a more steering role by drafting legislation.

Second, governments can develop and implement flanking policies to mitigate some of the worries we have discussed about exacerbating existing

⁵¹ See *Köpke v Germany* App no 420/08 (5 October 2010).

⁵² Art 6d(8) and art 67a(1), of ‘Tijdelijke bepalingen in verband met de inzet van een notificatieapplicatie bij de bestrijding van de epidemie van covid-19 en waarborgen ter voorkoming van misbruik daarvan (Tijdelijke wet notificatieapplicatie Covid-19)’, 35 538, available on https://www.eerstekamer.nl/behandeling/20200903/gewijzigd_voorstel_van_wet (last accessed 1st September 2022).

inequalities. For example, during a pandemic, governments can strengthen the position of employees, either by creating extra protections against dismissal, or by offering government-provided financial assistance should they be laid off (e.g. receive unemployment benefits). Such policies will also help them to resist pressure from their employers to use apps. Of course, if such regulations are already in place, and there is a strong safety net ensuring the rights of employees, then there is also more leeway for governments to allow corporations to promote app use, which may have economic benefits. On the other hand, the more technologies of these kinds will be offered by governments in response to calamities (e.g. apps for home quarantining; health care monitoring, digital test or vaccine passports, etc.), the more appropriate it may become to engage with fundamental societal questions about offering such wide-scale protections. An outstanding challenge in considering these future responses and related protections is the continued fragmentation of the different policy areas that they relate to among the national and EU level. For example, some elements of labour law are still national, while others are heavily influenced by EU policy and law due to their effects on the internal market and the free movement of people within the EU.⁵³

Third, and finally, there is the matter of information disclosure and ensuring that citizens have equal access to the relevant information needed to make an informed decision about the use of public health apps. Governments who are committed to voluntariness in relation to public health apps have a duty regarding transparency about the aims and (privacy-related) risks of such apps and to make sure that information is accessible and understandable for all users, regardless of background, occupational status, education level or socio-economic environment. This duty extends to ensuring that individuals who lack digital skills or the command of technical jargon also have access to relevant information – including what may be demanded of them by employers, restaurant owners, etc. – via other information channels. This duty also entails doing field studies to find out if information campaigns are adequately reaching their target audiences, and administering frequent surveys on a representational sample of the population to check if people are experiencing social backlash from their decision to consent or decline the use of a voluntary app. Depending on these findings, governments can take further action, for example by running targeted campaigns against social backlash, by setting up educational programmes to inform about the harms of stigmatisation, or by funding (large-scale) coaching sessions to improve people's resilience. Specific

⁵³ See generally, Stefano Giubboni, 'The Rise and Fall of EU Labour Law' (2018) 24(1) *European Law Journal* 7–20; as well as Alan Bogg, Cathryn Costello and A. C. L. Davies, *Research Handbook on EU Labour Law* (Cheltenham, UK: Edward Elgar Publishing Limited, 2016).

obligations will differ depending on the factual circumstances, but especially in situations where the circumstances are subject to rapid and continuous change, as during the COVID-19 pandemic, it is crucial for governments to remain vigilant and respond adequately to new conditions affecting (sub-populations of) society.

To conclude, the scenarios we have surveyed in the case study of digital contact tracing apps suggest at least that stipulated voluntariness is not automatically the ‘end-all solution’ it can be made out to be, simultaneously protecting individual autonomy and privacy. Voluntariness is often a good point of departure when it comes to introducing new government-owned instruments, but as we have argued, stipulating voluntariness brings with it certain positive obligations for governments to ensure that all members of society are equally positioned to choose between different options.

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