# The COVID-19 Wellbeing Study: Perceived coercion and psychological wellbeing during the COVID-19 pandemic

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*Thesis declaration form*

I confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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## *Overview*

The focus of this thesis is on applying and testing the constructs of perceived coercion, perceived pressures and procedural justice within the context of the COVID-19 lockdowns. This thesis is divided into three sections. Part One details the findings of a scoping review exploring what is known about perceived coercion, perceived pressures and procedural justice and the attitudes of the general population towards COVID-19 lockdowns imposed by governments worldwide. Part Two consists of an empirical chapter describing an online survey conducted in the UK adult general population during the UK 2020-2021 COVID-19 lockdowns that examines the prevalence and relationship between the aforementioned constructs, psychological wellbeing and coping mechanisms. The purpose of Parts One and Two is to inform our global understanding and current national policy on the factors that contribute to greater perceived coercion, with a view to preparing for the possibility of future epidemics or pandemics. Finally, Part Three comprises a series of reflections on the experience of conducting the research and learning points that may be useful to other researchers too.

# *Impact Statement*

*Understanding perceived coercion arising from lockdown*

Perceived coercion, a psychological construct that describes the extent to which an individual believes they have choice, autonomy and control over their mental health admission, has previously been linked to poorer treatment outcomes, greater dissatisfaction with mental health services and disengagement from mental health services and treatment. But what happens when this construct is applied to lockdown, a public health restriction that also restricts an individual's freedom of movement?

The answer comes from a study led by researchers at University College London, who first conducted both a scoping review examining perceived coercion in relation to worldwide lockdowns and generated research, over three national lockdowns, to examine the applicability of this construct to individuals' experiences across the UK. The latter, spanning two online surveys, asked 2,006 individuals aged 18 years or older who experienced the UK 2020-2021 COVID-19 lockdowns, to respond to questions relating to perceived coercion, perceived pressures and procedural justice, and their psychological wellbeing.

The study indicated that whilst the general population overall did not perceive the first and subsequent lockdowns as highly coercive or pressured, they did view the later lockdowns as unfair and not implemented respectfully or out of concern for their perceived needs. Of note however, were the stark differences between the results of the first and subsequent lockdowns. Individuals who perceived the first lockdown as more coercive experienced less anxiety whilst those that viewed it as more procedurally just revealed lower depression scores. Furthermore, participants who adopted maladaptive forms of coping (i.e. avoidance) experienced greater depressive and anxious symptoms during the first lockdown. At second lockdown, however,

an increase in perceived coercion scores was predictive of both depression and anxiety whilst an increase in procedural justice scores predicted an increase in depressive symptomatology. Such findings suggest that, perhaps in an effort to manage anxiety relating to a new emerging illness, individuals may have drawn on maladaptive coping mechanisms that reinforced their anxiety and depressive symptoms. During subsequent lockdowns, as individuals became more familiar with the risk imposed by COVID-19 lockdown, continued restrictions on freedom of movement may have led to an increased sense of hopelessness and low mood.

*Creating and international collaboration*

This UCL-led research led the way to a larger international mixed-methods study, consisting of online surveys and asynchronous virtual focus groups, on perceived coercion arising from lockdown spanning eleven countries across the globe. For further information, please visit: http://thecovid19wellbeingstudy.org. Plans are in place for each national team and the wider international team to submit their findings for publication in peer-reviewed journals. Where possible, the findings will also be presented at national and international conferences.

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## *Acknowledgments*

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# Part 1: Literature Review

*Perceived coercion, perceived pressures and procedural justice arising from COVID-19 lockdown: a scoping review*

**ABSTRACT**

This aim of this scoping review is to broadly map what is known about perceived coercion, perceived pressures and procedural justice within the context of the governmental lockdowns imposed worldwide in response to the increased transmission of COVID-19, with a view to identifying gaps within the literature. Arksey & O'Malley's (2005) framework for conducting scoping reviews provided a skeleton for this review which consisted of five steps: 1) determining a research question; 2) defining search terms; 3) screening articles by title, abstract and full text; 4) extracting selected articles; 5) and reporting the results below. Searches were conducted using PubMed, Scopus, and Web of Science using the following search terms: (adherence OR acceptance OR agreement OR trust OR distrust OR compliance OR willing*) OR (perceived coerc* OR percept* coerc* OR pressure OR force OR influence OR control OR threat OR justice) AND (lockdown) AND (COVID OR SARS-CoV-2 OR COVID-19). The database search initially produced 41,628 articles to screen. A total of 40 articles were included in this review and the following five themes were identified from the studies: perceived acceptability and willingness to adhere to lockdown; perceived control during lockdown; perceived pressures arising from lockdown; perceived threat of sanction from others and the procedural (in)justice of lockdown. The review identified three major gaps in our knowledge pertaining to the absence of information regarding the specific individual characteristics, circumstances and experiences that increase the likelihood of perceived coercion and its related constructs. It also highlighted the absence of a standardised quantitative measure of perceived coercion, pressures and procedural justice that could be adopted by research teams worldwide and the absence of qualitative research that allowed participants to ascribe meaning to their experiences and to define what they found coercive, pressurising or unfair.

## INTRODUCTION

Perceived coercion, a term borrowed from the mental health literature in relation to mental health hospital admissions, describes the extent to which an individual believes they have choice, autonomy and control over their circumstances (Gardner et al., 1993a). Linked to perceived coercion, are the constructs of perceived pressures and procedural justice. The first of these constructs, perceived pressures, refers to whether an individual experienced inducements, threats or force at admission whilst procedural justice examines whether the individual felt listened to and treated with respect upon being admitted (Gardner et al., 1993a). Within a mental health hospital context, such perceptions are observed when individuals, feel excluded from the decision-making process prior to their admission, report that they were not given a voice, and express that the reasoning behind their admission was unjustified or unfair (Lidz et al., 1998). Understanding whether such perceptions are present is important as they have been linked to poorer treatment outcomes, poor therapeutic alliance (Sheehan & Burns, 2011; Theodoridou, Schlatter, Ajdacic, Rossler, & Jager, 2012), dissatisfaction with mental health services (Katsakou et al., 2010), diminished treatment adherence as an out-patient (Kaltiala-Heino, Laippala, & Salokangas, 1997) and disengagement from mental health services (Lidz et al., 1998).

In the context of mental health practice, professionals are ethically bound to review and reduce the use of restrictive practices (i.e. involuntary detention, seclusion) that may give rise to perceived or actual coercion, to ensure that any measures which threaten liberty or autonomy are lawful and continue to be morally justified. However, in 2020, in response to the escalating rates of transmission of COVID-19, many individuals experienced restrictions on freedom of movement (such as lockdown and quarantine) imposed by governments worldwide. Although the objective of restrictive measures such as lockdowns and involuntary detention is to prevent

harm, the ethical context from which these emerge differ. Under the auspices of the Mental Health Act (1983), detention may be justified to protect the individual and others from harm (Parliament of the United Kingdom, 1983). However, when managing a public health crisis, Mill's Harm Principle can be applied to restrict liberty for the protection of others from harm or in the best interest of the public (Mill, 1859). In the UK, such restrictions were enforced following the failure of testing and tracing in an effort to maintain NHS hospital capacity (Mahase, 2021). Although both types of restrictions are imposed unto an individual or group of individuals in relation to the presence of an illness, public health restrictive measures (i.e. lockdown) pertaining to COVID-19 present an additional ethical challenge as severity of symptoms can vary throughout the population with some experiencing asymptomatic transmission. Though we have an understanding of the impact of such restrictions within a mental health context, we do not yet know about the long-term implications of such restrictions on future adherence, engagement with public health messaging and authorities and longer-term psychological wellbeing in relation to a public health crisis such as the COVID-19 pandemic. It is also less clear whether there may be clinical and cultural contexts that may account for differences between individuals' and countries' responses to such restrictions. This is important as scientists have forewarned of the possibility of future epidemics that may require the use of similar or more severe restrictions (The Lancet Respiratory, 2022).

In light of the above, a scoping review was conducted to broadly map what is known about perceived coercion and the attitudes of the general population towards lockdowns imposed by governments worldwide in response to the spread of COVID-19. The purpose of this review is to inform our global understanding and current national policy on the factors that contribute to greater perceived coercion, with a view to comprehending how these may impact on psychological wellbeing and other affiliated factors.

## METHOD

The aim of this scoping review was twofold: 1) to map out what is known on perceived coercion and its components, in relation to the COVID-19 lockdown globally, and 2) to identify and emphasise gaps in knowledge within the topic which may motivate future research. Our primary questions were the following: 1) What is known, in the literature, about perceived coercion and its components in relation to the COVID-19 lockdown? 2) How did individuals across the world perceive the COVID-19 lockdown or stay-at-home restrictions in their individual countries? 3) What factors influence individuals' perceptions of coercion in relation to the COVID-19 lockdown?

Though debates on the use of coercion in preventing the propagation of infectious disease have taken place historically, the concept of perceived coercion has not formally been applied to the context of a pandemic before. Thus, a scoping review, rather than a systematic review, was deemed appropriate for synthesizing and widely mapping areas relating to this concept within the literature. By applying a scoping review methodology, a broad spectrum of studies with varying research methodologies were included, ranging from editorials to systematic reviews, inclusive of both qualitative and quantitative research designs. Arksey & O'Malley's framework for conducting scoping reviews provided a skeleton for this review (Arksey & O'Malley, 2005). Utilising this framework, the review began by determining a research question and search terms in order to locate appropriate studies from the literature. Selected studies were then reviewed, extracted, and reported within the results section below.

### *Search Strategy*

Searches were conducted using PubMed, Scopus, and Web of Science. Search terms were: (adherence OR acceptance OR agreement OR trust OR distrust OR compliance OR willing*)

OR (perceived coerc* OR percept* coerc* OR pressure OR force OR influence OR control OR threat OR justice) AND (lockdown) AND (COVID OR SARS-CoV-2 OR COVID-19). As perceived coercion has not previously been explored in relation to the COVID-19 pandemic or other pandemics, search terms pertaining to an aspect of perceived coercion (i.e. choice, influence, control), perceived pressures (ie. threat, force), or procedural justice were chosen. Terms such as adherence, acceptance, agreement and trust were also included as these informally indicated the presence and/or absence of coercion and pressures within the searched literature. Other search terms were also tested but excluded because of the limited relevance of the resulting studies. Articles were included if they pertained to COVID-19-related lockdowns and an aspect of perceived coercion (i.e. acceptance, agreement, trust, compliance or willingness) or a key component of the main measure of perceived coercion in healthcare settings (the MacArthur Admission Experience Survey; AES), which is also used (in modified form) in the empirical chapter (i.e. perceived pressures, coercion, force, influence, control, threat, justice) (Gardner et al., 1993a). Articles were excluded if they did not refer to the COVID-19 pandemic or lockdown (i.e. where individuals were legally mandated to stay at home), if they did not pertain to the general adult population or if they pertained to a population outside of the remit of our study (i.e. experiences of surgery patients during lockdown; the prevalence of asthma during the pandemic etc). Articles were also excluded if they did not examine an aspect of perceived coercion or a closely related concept.

All titles, abstracts, and full-text articles were screened by the author. Two further members of the research team (S.E. and S.K.K.) independently screened 12% of all titles and abstracts (n=5000) and remaining full texts to ensure that these met the inclusion criteria. Discussion regarding the included and excluded articles between the three researchers also took place to ensure that only relevant articles were included in the review.

*Data Extraction*

Extracted details included article authors, country in which the research was performed, year of publication, journal title, article type (e.g., editorial/commentary or research), sample population, study design, and key findings. For a copy of this, please see Table 2. Data were narratively synthesised according to their reported findings pertaining to perceived coercion, perceived pressures and procedural justice or affiliated constructs previously defined within the search term. Prevalent similarities or differences found across the literature were grouped into themes. Each theme was categorized by the doctoral candidate and reviewed by all authors. A description of these is presented below.

## RESULTS

The database search initially produced 41,628 articles to screen. Duplicates were identified and eliminated. After applying the inclusion and exclusion criteria at each stage of screening, 41, 377 articles were deemed ineligible. The remaining 251 articles were then full-text screened to assess whether these focused on as aspect of perceived coercion during the COVID-19 lockdown in the general population. A total of 40 articles were deemed eligible and included in the review. Please see Figure 1 below for a PRISMA flow chart diagram of the screening process.

**Figure 1:** *A PRISMA flow chart diagram of the scoping review screening process.*


*Types of literature*

The majority of articles originated from European countries (52.5%, n = 21). The remaining articles originated from Asia (20%, n = 8), the Americas (7.5%, n = 3), Australasia/Oceania (10%, n = 4), Africa (5%, n = 2) and the Middle East (2.5%, n = 1). One further study was conducted internationally and included data from 79 countries. Most articles reported novel findings from primary data (78%, n = 31). Of these, 90% were quantitative (n = 28), 6% were

qualitative (n = 2), and 33 % (n=1) mixed methods. Also included are five commentaries (13%), one systematic literature review (3%), one letter (3%), and one policy document (3%). Further information on the included articles, is outlined in Table 2.

*Identified themes*

Five themes were identified from the studies: perceived acceptability and willingness to adhere to lockdown; perceived control during lockdown; perceived pressures arising from lockdown; perceived threat of sanction from others and procedural (in)justice of lockdown, as presented below.

*Theme 1: Perceived acceptability and willingness to adhere to lockdown*

Studies examining individuals' willingness to comply with lockdown reported that most participants expressed an initial willingness to restrict their right to freedom of movement for the protection and health of others (Alkhaldi et al., 2021a; Lachowicz-Tabaczek & Kozlowska, 2021; Moser, 2021; Peretti-Watel et al., 2021). Such willingness decreased as individuals expressed frustration and anger over their continued restrictive circumstances and increased again when rates of COVID-19 and the perceived risk of contracting SARS-CoV-2 rose again (Bohler-Muller, Roberts, Gordon, & Davids, 2021). When presented with differing potential scenarios for lockdown, acceptance of restrictive measures was greatest for the strictest short-term lockdown scenario ( e.g. only being allowed to leave one's home with official consent and severe penalties for violations) and lowest for lengthier and less restrictive lockdown scenarios (e.g. where citizens could leave their home as necessary, with no potential severe sanctions (Gollwitzer, Platzer, Zwarg, & Goritz, 2021).

Willingness to follow restrictions, measured by the absence of oppositional attitudes to lockdown and compliance with such restrictions was positively correlated with beliefs that political leaders were competent and that such restrictions aimed to consolidate social solidarity (Bohler-Muller et al., 2021). Though opposition to lockdowns was generally low across studies, individuals who expressed scepticism regarding the funding received by their governments based in economically developing countries from international organisations and the use of tax-payer funded relief initiatives during the pandemic were more likely to resist lockdown restrictions (Jones, 2022; Kamin, Perger, Debevec, & Tivadar, 2021). Opposition to lockdown was also greater in those who reported higher COVID-19-related stress (e.g. feelings of intolerability, boredom, anger, fear and pessimism), lower perceived risk of infection, less clarity regarding restrictions and conspiracy beliefs (Kamin et al., 2021; Maftei & Holman, 2022a; Schnell, Spitzenstatter, & Krampe, 2021b). Furthermore, individuals with right-wing political leanings were less likely to comply with lockdown restrictions (Clinton, Cohen, Lapinski, & Trussler, 2021; Porteny et al., 2022).

Willingness to live with restrictions also differed according to the type of liberty curtailed. In one study, approximately half of participants stated that they were willing to concede their right to religious assembly and freedom to travel, whilst a third were willing to suspend the right to attend school or protest (Bohler-Muller et al., 2021). However, even temporary restrictions that impacted individuals' ability to go out and work and privacy were viewed as much less acceptable (Bohler-Muller et al., 2021). Socioeconomic characteristics were, in part, linked to perceptions regarding acceptability. Indeed, higher income predicted willingness to sacrifice a broad range of rights apart from the right to work (Alkhaldi et al., 2021a; Bohler-Muller et al., 2021; Peretti-Watel et al., 2021). Similarly, low-income participants were less in favour of lockdown, viewing it as coercive and disproportionate to the risk posed by the disease (Peretti-

Watel et al., 2021). Of note, nonetheless, are the inconsistent findings within the limited available studies in relation to the impact of other demographic factors on the perceived acceptability of lockdowns. For instance, in a South African sample, willingness to adhere to lockdown restrictions was lower in White adults and not linked to gender, level of education or age (Bohler-Muller et al., 2021). Other studies have noted, however, that women were either more (Maftei & Holman, 2022a) or less willing to adhere to lockdown restrictions (Jones, 2022). However, the latter might be determined by the traditional role of women in low-income societies ensuring the family obtains food and other essentials. Additionally, older age and higher education levels were linked to willingness to accept lockdown restrictions (Maftei & Holman, 2022a; Sobkow, Zaleskiewicz, Petrova, Garcia-Retamero, & Traczyk, 2020b).

*Theme 2: Perceived control during lockdown*

The included studies on perceived control focused on three main areas: 1) the extent to which individuals perceived themselves or others to be in control of their circumstances and their attitudes towards coercive control during lockdown; 2) the impact of perceived control on their psychological wellbeing; and 3) perceived control as a predictor of adherence to restrictions. In a qualitative study, some individuals spoke of not having control over their day-to-day lives whilst others reported feeling indifferent to, or accepting of restrictions (Kamin et al., 2021). Nonetheless, included studies highlighted a change in the extent to which people felt in control over their circumstances as lockdowns continued, with individuals' initial sense of tolerance for restrictions and personal perceived control decreasing, and a sense of intrusiveness by authorities increasing as lockdown continued (Bernacer, García-Manglano, Camina, & Güell, 2021).

The mental health impact of low perceived control was chronicled in two studies. One of these noted that low perceived control predicted depressive and anxious symptomatology in participants spanning 79 countries (van Mulukom, Muzzulini, Rutjens, van Lissa, & Farias, 2021a). Furthermore, feelings of entrapment arising during lockdown and the negative impact of these on individuals' mental health were noted in a prior systematic review (Lee & Park, 2021). One study noted that belief in conspiracy theories acted as a form of coping with distress and satisfied a need for greater control (Constantinou, Gloster, & Karekla, 2021).

Both greater perceived control and greater internal locus of control, accompanied by fear of contracting COVID-19 or perceived risk of COVID-19, acted as determinants of adherence to lockdown in some of the included studies (Ceylan & Hayran, 2021; Frounfelker et al., 2021b; Hills & Eraso, 2021; Lo Presti, Mattavelli, Canessa, & Gianelli, 2022; Sobkow et al., 2020b). One further study concluded that *external* locus of control was predictive of adherence to lockdown restrictions (Schnell et al., 2021b). Those who did not feel they had the decision-making power to leave their house were less likely to adhere to restrictions (Hills & Eraso, 2021). For some of those who lived alone, 'bending' the rules by creating unsanctioned bubbles or meeting outside with others during lockdown was done to counteract isolation (Kamin et al., 2021). There is some disagreement within the included studies as to whether perceived behavioural control predicted adherence to lockdown, with some studies linking it to intent to adhere to restrictions (Sumaedi et al., 2021; Trifiletti, Shamloo, Faccini, & Zaka, 2021a) and others to non-compliance (Farias & Pilati, 2021).

*Theme 3: Perceived pressures arising from lockdown*

Perceived pressure from friends and family was highlighted as an influential factor in how individuals viewed and responded to lockdown regulations. Those close to family members

who held favourable views regarding lockdown were positively influenced to comply with regulations to protect themselves, their families and vulnerable others (Marinthe, Brown, Jaubert, & Chekroun, 2022). Conversely, those whose family members did not adhere to lockdown regulations felt lower perceived pressure to follow such regulations themselves (Wright, Paul, Steptoe, & Fancourt, 2022). Pressures to 'belong' or conform to a group identity were also indicative of individuals' attitudes to lockdown, with lower perceptions of normative pressure from friends being predictive of non-compliance (Hills & Eraso, 2021; Magnus, 2021; Marinthe et al., 2022; Wright et al., 2022). Individuals who conveyed fears of losing touch with friends and relatives if they followed restrictions when their friends and relatives were opposed to lockdown regulations (Smith et al., 2020).

Societal norms were also found to play a role in individuals' perceptions regarding the lockdown. In two qualitative studies examining attitudes to movement control/stay-at-home orders in Malaysia and Indonesia, participants reported that collectivistic societal norms pressured them to comply with restrictions and to feel that respecting such regulations was every citizen's duty or responsibility (Sumaedi et al., 2021; Tay, Abdullah, Chelladorai, Low, & Tong, 2021). A sense of social responsibility and civic duty was not exclusive to collectivist cultures and was also noted in Australia and some European countries (Murphy, Williamson, Sargeant, & McCarthy, 2020; Trifiletti et al., 2021a; Wright et al., 2022). Individuals who linked the spread of COVID-19 to insufficient compliance with restrictive measures tended to favour greater social control (Roblain et al., 2022). Yet, where members of the general public and the government were seen to not obey those restrictions, individuals too felt less pressured and inclined to do so (Wright et al., 2022).

*Theme 4: Perceived threat from others*

Three studies examined how the general population responds to perceiving a threat from others in relation to lockdowns, with inconsistent findings. Two of these studies indicated that individuals were less likely to respond to commands to stay home if these were perceived as a threatening to their autonomy (Krpan & Dolan, 2022; Lo Presti, Mattavelli, Canessa, & Gianelli, 2021). Another study suggests that individuals who perceive a threat of imprisonment or heavy penalty would be more likely to stay at home due to potentially feeling shame associated with such punishments, in addition to fear of financial risk (Aoki, 2021). Both findings suggest that restrictive strategies and their messaging should ideally be tailored to different people. For instance, in Japan, these should either "promote respect for authority" in those who exhibit greater harm-avoidance or provide clearer information on the risks of COVID-19 to those with greater psychological entitlement and less trust in authorities, as threats and sanctions may lead to less compliant outcomes.

*Theme 5: Procedural Justice of lockdown*

There is disagreement within the literature as to the ethical justification and fairness of lockdown (Farina & Lavazza, 2020). According to a policy framework by Zadey, Dharmadhikari & Mukuntharaj (2021), where the extent of harm that a potential pathogen poses is unknown, decision-making and guidelines regarding restrictions of human rights must be clearly communicated, equitable and reciprocal. Such decision-making must uphold the use of the least restrictive means and, as more information unfolds, decisions must be guided by the principles of preventing harm, justifiability and proportionality (Zadey, Dharmadhikari, & Mukuntharaj, 2021). Other authors, however, focused on such restrictions being justified in light of the risk and fear of negative outcomes for others, particularly in the absence of a vaccine (Cameron et al., 2021; Kamin et al., 2021; Moser, 2021). Nonetheless, examples of

discriminative implementation of lockdown and unfair burdens to some of the general population were observed across the globe. For instance, the implementation of lockdown was unequal in India, with authorities adopting stringent measures with the least powerful whilst the wealthier were able to conduct and attend marriages and other ceremonies (Arunachalam & Halwai, 2020). It also forced those without reliable access to livelihoods, sanitation, transport, and food to stay at home, resulting in deaths that were not related to COVID-19 infection (Arunachalam & Halwai, 2020).

## DISCUSSION

### *Summary of findings*

The reviewed studies suggest that populations were initially accepting of lockdown measures. Acceptance of such measures increased with higher rates of infection and perceived risk of infection. Those opposed to lockdown tended to express greater distrust in authorities, held more conspiracy beliefs, viewed the risk of infection as low and the guidance regarding restrictions as unclear. The extent to which individuals felt a sense of control over their circumstances differed, with some feeling more 'in control' than others. Low perceived control was linked to greater depressive and anxious symptomatology (van Mulukom et al., 2021a), and those who felt less in control over their circumstances were less likely to adhere to lockdown (Ceylan & Hayran, 2021; Frounfelker et al., 2021b; Hills & Eraso, 2021; Lo Presti et al., 2022; Sobkow et al., 2020b). Nonetheless, perceived control and tolerance for restrictions lessened over time as a sense of intrusiveness by authorities emerged across studies (Bernacer et al., 2021).

Adherence to lockdown was influenced by the views and behaviours of those around an individual. Those with close family members or friends who held favourable views regarding

lockdown were influenced to comply with regulations (Marinthe et al., 2022), whilst those whose social circles did not adhere to lockdown regulations felt lower perceived pressure to follow such regulations (Wright et al., 2022). Messaging too impacted how individuals perceived and responded to lockdown measures. The limited evidence suggests that those who place less trust in authorities may be less likely to respond positively to commanding messages if these are perceived as threatening to their autonomy (Krpan & Dolan, 2022). Others who are more focused on harm avoidance or who hold greater respect for authority figures may be more likely to stay at home when these perceive a threat that could impose both emotive and financial consequences upon them (Aoki, 2021). Finally, there is some limited debate regarding the ethicality and fairness of lockdown within the literature, particularly among those with fewer economic means and less reliable access to food, water and sanitation (Arunachalam & Halwai, 2020). Some authors argued that decision-making regarding lockdown must adopt the least restrictive means possible until clear information on a pathogen and the risks it poses emerge, whilst others argue that lockdown is justified where there is a substantial risk of loss of life (Cameron et al., 2021; Kamin et al., 2021; Moser, 2021; Zadey et al., 2021).

*Implications*

As suggested within the review's findings, the general population was more accepting of lockdown where guidance and information regarding the risk of illness from a pathogen and resulting restrictions was clear and cohesive and where these were articulated by authorities whom they trusted. Therefore, preparedness for the possibility of future widespread infectious diseases must focus on identifying and incorporating respected members of communities who can convey public health measures and the reasoning for these consistently and clearly. This is important as clear public messaging delivered by entrusted figures influences both the individual and the attitudes of those around them, which consequentially impacts adherence to

restrictions. Such restrictions may fail to achieve the public safety they aim for when adherence is partial, potentially resulting in a longer period of imposed restrictions that the public feels less able to tolerate.

From the findings, we also know that those who felt less in control over their circumstances experienced greater anxiety, depression and feelings of entrapment. This has important implications for mental health services as an increase in psychological symptoms may result in greater demand for and on such services. In countries where psychological distress is more stigmatised, this may result in individuals not having a source of support and containment. One potential solution may be to provide a forum for the general public's voice to feel heard and included when designing public health measures. Another, perhaps more idealistic, option may be to create brief low-intensity psychological intervention referral pathways designed to help individuals with COVID-related anxiety or depression who have less complex psychological presentations (as seen in some IAPT services that provide first aid to healthcare professionals working with patients diagnosed with COVID-19) whilst scaffolding secondary care services (Cole et al., 2020).

Another significant finding pertains to the greater use of conspiracy theories as a coping mechanism in individuals who felt less in control of their circumstances during the COVID-19 pandemic. The rise of conspiracy theories during the COVID-19 pandemic has, perhaps unhelpfully, been linked to right-wing ideologies. Following recent world events in Western countries alone, such as Trump's presidency and Brexit, public opinion has become increasingly polarised. Rather than highlighting differences in political ideologies, it may be more helpful for the public to seek to understand each other's underlying anxieties and for authorities to project a more unified and consistent public message that reassures the public.

Finally, as highlighted within the included studies, a uniform lockdown can heighten discrimination among those less privileged and/or historically discriminated against. Under the umbrella of the harm prevention principle, we remain unclear about what level of restriction is justified for what level of risk of harm and, whether the risk of contracting COVID-19, disease burden and cost to individuals is equal for all and proportional to the enforcement of lockdown for all (Cameron et al., 2021). An assessment of the costs and benefits of lockdown would therefore be warranted to ensure that some individuals are not disproportionately affected by costs and to prevent discrimination (Cameron et al., 2021; Farina & Lavazza, 2020). Such an assessment and future policy should aim to provide equitable, rather than equal, support to those at risk of loss of income or access to essential goods.

*Strengths and limitations*

In line with the aims of a scoping review, which are to provide a broad overview of the current state of knowledge in a rapidly developing field, this review included various types of literature, ranging from empirical papers with both quantitative and qualitative methodologies, policy frameworks, systematic reviews and commentaries that allowed for the broad mapping of a lesser-known area. Most of the empirical articles employed quantitative online survey methodology. This method ensured that researchers could reach the general population during lockdowns. However, the absence of representative sampling and a consistent measure of perceived coercion, pressures and procedural justice within the general population has serious implications for generalisability. In particular, the samples were biased towards economically developing countries for whom technology was not a barrier. It also meant that there was less space for participants to speak of their experiences and the meaning they attributed to these in their own voice. The inclusion of commentaries, though biased towards the writer's opinion, also provided some useful philosophical debate on the topic. Though authors have, more

recently, called for the inclusion of a quality assessment in relation to scoping reviews, there is yet to be a comprehensive tool that can uniformly assess a range of methodologies. In the absence of such a tool, we urge caution in interpreting the findings above.

*Areas for future research*

The review identified three major gaps in our knowledge. Firstly, it remains unclear as to who perceives the lockdown as more coercive, pressured and procedurally unjust and whether there are specific individual characteristics, circumstances and experiences that increase the likelihood of these perceptions. Such data would be enhanced by the creation of a standardised quantitative measure of perceived coercion, pressures and procedural justice that could be adopted by research teams worldwide and the inclusion of qualitative research that allowed participants to ascribe meaning to their experiences and to define what they find coercive, pressurising or unfair. Secondly, it would be helpful for future research to address how messaging influences the likelihood of such perceptions arising and how it may be influenced by who is communicating information in addition to what and how messages are communicated. Finally, research should target future decision-making with a view to preparing for the possibility of recurrent viral pathogens that may require lockdown or other restrictions. It should focus on the future acceptability of such restrictions and understanding individuals' concerns and what would alleviate these, for instance, by means of assuring certain forms of financial support, access to essential goods, access to socialisation or other.

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**Table 1:** *Publication details of all articles included in the scoping review after full-text screening*

| Nº | Authors | Year | Title | Country | Journal | Design | Sample | Key Findings |
|---|---|---|---|---|---|---|---|---|
| 1 | G. Alkhaldi, G. S. Aljuraiban, S. Alhurishi, R. De Souza, K. Lamahewa, R. Lau, et al. | 2021 | Perceptions towards COVID-19 and adoption of preventive measures among the public in Saudi Arabia: a cross sectional study | Saudi Arabia | BMC Public Health | Empirical study (quantitative research) | General adult population | Most participants were willing (82%) to self-isolate. Households with higher gross incomes had higher odds of being able and willing to self-isolate. |
| 2 | N. Aoki | 2021 | Stay-at-Home Request or Order? A Study of the Regulation of Individual Behavior during a Pandemic Crisis in Japan | Japan | International Journal of Public Administration | Empirical study (quantitative - online survey) | General adult population | Adding penalties (threat of imprisonment or hefty fine) would increase lockdown compliance. Authors suggest this may be due to financial risk and fear of imprisonment, but also shame and embarrassment. |
| 3 | M. A. Arunachalam and A. Halwai | 2021 | An analysis of the ethics of lockdown in India | India | Asian Bioethics Review | Commentary | General adult population | Lockdown forced those without reliable access to livelihoods, sanitation, transport, and food to stay at home, resulting in deaths. The implementation of lockdown was unequal in India, with authorities adopting stringent measures with the vulnerable whilst the wealthier were able to conduct and attend marriages and other ceremonies. |
| 4 | J. Bernacer, J. García-Manglano, E. Camina and F. Güell | 2021 | Polarization of beliefs as a consequence of the COVID-19 pandemic: The case of Spain | Spain | PLoS One | Empirical study (quantitative - online survey) | General adult population | Participants overall disagreed that authorities were being intrusive and being controlled by others was intolerable when asked at the outbreak of the pandemic. After multiple weeks in lockdown, authorities were perceived as excessively intrusive and individuals' perceptions regarding the intolerability of being controlled increased. As lockdown came to |

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| | | | | | | | | an end, participants agreed more strongly that individual rights were more important than group necessities and that being controlled by others is intolerable. The majority of left-leaning voters agreed that government authorities were intrusive and that it was intolerable to be controlled by others before the outbreak, however, changed their opinion after the pandemic. The opposite was true for right-leaning voters, particularly as restrictions eased. |
| 5 | N. Bohler-Muller, B. Roberts, S. L. Gordon and Y. D. Davids | 2021 | The 'sacrifice' of human rights during an unprecedented pandemic: Reflections on survey-based evidence | South Africa | South African Journal on Human Rights | Empirical study (quantitative - online survey) | General adult population | The majority (78%) of participants stated they were willing to sacrifice some human rights to help reduce the spread of Covid-19 and protect safety and health of others. Willingness decreased over time in lockdown as frustration and anger increased and increased again in Winter peak.<br><br>Willingness to sacrifice was lower in in white adults, and was not linked to gender, education, and age group.<br><br>Perceived risk/fear of COVID-19 was linked to public support for temporary reduction in civil liberties.<br><br>There were differences in willingness according to the type of liberty surrendered: |

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| | | | | | | | | approximately half (56%) were willing to surrender their right to religious assembly and freedom to travel. A third were willing to suspend the right to attend school or protest. Slightly fewer (27%) were willing to forgo their right to work, and less again for their right to privacy to be impinged upon.<br><br>Perceiving political leaders as performing well and beliefs that COVID-19 promoted social solidarity, rather than social division, were more willing to sacrifice rights, except for right to privacy.<br><br>Personal income was not a significant predictor when controlling for gender, age, race, and education. However, when examined according to individual civil liberties, higher income predicted willingness to sacrifice all rights apart from the right to work (potential self-interest). |
| 6 | J. Cameron, B. Williams, R. Ragonnet, B. Marais, J. Trauer and J. Savulescu | 2021 | Ethics of selective restriction of liberty in a pandemic | Australia | Journal of Medical Ethics | Commentary | - | Liberty-restricting measures such as lockdowns tend to be justified as necessary for harm prevention to others. The article argues that acceptability of a restriction (and ethical principles such as harm prevention, equality and proportionality) should be assessed via a dualist consequentialist approach. It highlights that both that the harm |

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| | | | | | | | | principle does not address what level of liberty restriction is justified for what level of risk of harm, and that the risk of contracting COVID-19, disease burden and cost to individuals is not equal for all.<br><br>Although restrictions can be viewed as justified if their utility is for the benefit of society, the paper calls for us to assess the costs and benefits of a restriction at both a population and individual level so that some individuals are not disproportionately affected by costs and experience little benefit from these (i.e. one suggestion is to introduce age-selective liberty restrictions) whilst preventing unjustified discrimination.<br><br>The authors argue that a consequentialist approach should aim to reduce disease burden to an acceptable level of harm – which itself is dependent on factors such as mortality, whether harm can be reduced by selective restrictions, prevalence or rate of disease spread already in a population, geopolitics, the potential harms of countermeasures, and state resources. |
| 7 | M. Ceylan and C. Hayran | 2021 | Message Framing Effects on Individuals' Social Distancing and Helping | Turkey & USA | Frontiers in Psychology | Empirical study (quantitative - | University students | Those with low-medium COVID-19 fear and locus of control are more influenced by |

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| | | | Behavior During the COVID-19 Pandemic | | | multiple online surveys) | | prosocial messages rather than self-interest messages. Those with high COVID-19 fear and locus of control are more inclined to adhere to preventive measures. |
| 8 | J. Clinton, J., Cohen, J., Lapinski & Trussler, M. | 2021 | Partisan pandemic: How partisanship and public health concerns affect individuals' social mobility during COVID-19. | USA | Science Advances | Empirical study (online survey) | Adult general population | Republican voters less willing to stay at home during pandemic. |
| 9 | M. Constantinou, A. T. Gloster and M. Karekla | 2021 | I won't comply because it is a hoax: Conspiracy beliefs, lockdown compliance, and the importance of psychological flexibility | Cyprus & Greece | Journal of Contextual Behavioral Science | Empirical study (quantitative - online survey) | General adult population | Belief in conspiracy theories appeared to be a way of coping. The findings suggest that non-compliance may be linked to low psychological flexibility when very distressed and that belief in conspiracy theories may provide a sense of meaning and personal control (i.e. non-compliance may be a way of controlling distressing thoughts). |
| 10 | J. Farias and R. Pilati | 2021 | Violating social distancing amid the COVID-19 pandemic: Psychological factors to improve compliance | Brazil | Journal of Applied Social Psychology | Empirical study (quantitative - online survey) | General adult population | Stronger perceived behavioural control of violating social distancing (i.e. 'I have full control over the action of performing daily tasks that incur in violating social distancing') is a significant predictor of low compliance. |
| 11 | M. Farina and A. Lavazza | 2020 | Lessons From Italy's and Sweden's Policies in Fighting COVID-19: The Contribution of Biomedical and Social Competences | Italy & Sweden | Frontiers in Public Health | Commentary | Global population | There is disagreement between experts regarding whether more or less stringent preventive responses to COVID-19 are epistemically justified and scientifically informed. Less stringent responses like in Sweden are based on choice and |

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| | | | | | | | | fewer restrictions on civil liberties but the impact on minoritized sectors of society is not fully known. Discussions about perceptions of restrictive measures should include these groups to protect their ethical and constitutional rights. |
| 12 | R. L. Frounfelker, T. Santavicca, Z. Y. Li, D. Miconi, V. Venkatesh and C. Rousseau | 2021 | COVID-19 Experiences and Social Distancing: Insights From the Theory of Planned Behavior | Canada | American Journal of Health Promotion | Empirical study (quantitative - online survey) | Adult Quebec residents | Perceived control was linked to intention to follow social distancing guidelines, fear of COVID-19 infection and prior social distancing behaviour. |
| 13 | M. Gollwitzer, C. Platzer, C. Zwarg and A. S. Goritz | 2021 | Public acceptance of Covid-19 lockdown scenarios | Germany | International Journal of Psychology | Empirical study (quantitative - online survey) | General public, inclusive of children aged over 10 years. | Participants' acceptance of restrictive measures was greatest for the strictest short-term lockdown scenario (i.e. citizens only allowed to leave their homes with official consent and severe penalties for violations) and least for longer lockdown where citizens can leave home when necessary and no severe sanctions. |
| 14 | T. O. Gordeeva, O. A. Sychev and Y. I. Semenov | 2020 | Constructive Optimism, Defensive Optimism, and Gender as Predictors of Autonomous Motivation to Follow Stay-at-Home Recommendations during the COVID-19 Pandemic | Russia | Psychology in Russia: State of the Art | Empirical study (quantitative - online survey) | University students | Both autonomous and controlled motivation were linked to stay-at-home behaviour, with autonomous motivation more strongly correlated. |
| 15 | S. Hills and Y. Eraso | 2021 | Factors associated with non-adherence to social distancing rules during the COVID-19 pandemic: a logistic regression analysis | UK | BMC Public Health | Empirical (Cross-sectional Survey) | Adult residents of North London | Not adhering to SD rules increased if participants felt lower control over leaving the house, lower control over their responsibilities, and lower |

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| 16 | J. Jones | 2022 | An Ethnographic Examination of People's Reactions to State-Led COVID-19 Measures in Sierra Leone | Sierra Leone | European Journal of Development Research | Ethnographic study | Adult residents of three rural communities | Women and children were unable to adhere to lockdown due to feeding needs. Some passively resisted the lockdown as they perceived it as unnecessary and believed it was a way for their government to gain financial support from the international community. Others actively resisted the lockdown as they perceived the level of infection as low and questioned how international support would be used by the government to help them. |
| 17 | T. Kamin, N. Perger, L. Debevec and B. Tivadar | 2021 | Alone in a Time of Pandemic: Solo-Living Women Coping With Physical Isolation | Slovenia | Qualitative Health Research | Empirical study (qualitative interviews) | Adult females living alone during the pandemic | Restrictions were generally viewed as justified as the virus was perceived as contagious and with potential to cause serious harm, in the absence of a vaccine.<br><br>Limiting personal freedoms and freedom of movement were viewed as disturbing, particularly to those who viewed such restrictions as unclear or having a hidden authoritarian agenda.<br><br>Participants spoke of not having control over their day-to-day lives, whilst others felt indifferent or accepting of restrictions. Some spoke of 'bending' the rules by creating bubbles or meeting |

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| 18 | D. Krpan and P. Dolan | 2022 | You Must Stay at Home! The Impact of Commands on Behaviors During COVID-19 | UK | Social Psychological and Personality Science | Empirical study (quantitative - online survey) | General adult population | Participants experienced higher autonomy threat when given commanding messages, and these lowered intentions to adhere to restrictions. |
| 19 | K. Lachowicz-Tabaczek and M. A. Kozlowska | 2021 | Being others-oriented during the pandemic: Individual differences in the sense of responsibility for collective health as a robust predictor of compliance with the COVID-19 containing measures | Poland | Personality and Individual Differences | Empirical study (quantitative - online survey) | General adult population | Those concerned for others' health and who feel obliged to stop the spread of COVID-19 are more likely to agree to reducing their civil liberties to protect others. |
| 20 | H. J. Lee and B. M. Park | 2021 | Feelings of Entrapment during the COVID-19 Pandemic Based on ACE Star Model: A Concept Analysis | South Korea | Healthcare | Systematic literature review | - | Authors noted that feelings of entrapment were found within the literature and impacted on individuals' mental health. |
| 21 | S. Lo Presti, G. Mattavelli, N. Canessa and C. Gianelli | 2021 | Psychological precursors of individual differences in COVID-19 lockdown adherence: Moderated-moderation by personality and moral cognition measures | Italy | Personality and Individual Differences | Empirical study (quantitative - online survey) | General adult population | Findings indicate that restrictive strategies and their messaging must be tailored to two different personalities: 1) promoting respect for authority in those who exhibit greater harm-avoidance, and 2) providing clearer and non-contradictory information on the risks for their own health in case of infection for those with greater psychological entitlement and less trust in authorities, as threats and sanctions may lead to less compliant outcomes. |
| 22 | S. Lo Presti, G. Mattavelli, N. Canessa and C. Gianelli | 2022 | Risk perception and behaviour during the COVID-19 pandemic: Predicting variables of | Italy | PLoS One | Empirical study (quantitative - online survey) | General adult population | Internal locus of control, i.e. the individual perception of being in charge, through voluntary actions, of one's own destiny and |

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| | | | compliance with lockdown measures | | | | | life events predicted adherence to restrictions. |
| 23 | A. Maftei and A. C. Holman | 2022 | Beliefs in conspiracy theories, intolerance of uncertainty, and moral disengagement during the coronavirus crisis | Romania | Ethics & Behavior | Empirical study (quantitative - online survey) | General adult population | Lockdown was perceived as more adequate by those not adopting conspiracy beliefs and in women and those who had a higher level of education. Those who were older participants, did not adopt conspiracy beliefs and had lower moral disengagement were more compliant with the lockdown. |
| 24 | K. D. Magnus | 2021 | Commentary: Some Social, Psychological, and Political Factors That Undermine Compliance With COVID-19 Public Health Measures | Germany | International Journal of Public Health | Commentary | - | Compliance or non-compliance to restrictions may be influenced by a desire/pressures to be a part of the 'in-group'. |
| 25 | G. Marinthe, G. Brown, T. Jaubert and P. Chekroun | 2022 | Do it for others! The role of family and national group social belongingness in engaging with COVID-19 preventive health behaviors | France | Journal of Experimental Social Psychology | Empirical study (quantitative - online survey) | General adult population | Belongingness to social groups predicts compliance with preventive measures.<br>Those close to their families were more intent on complying both to protect themselves and close relatives and vulnerable people. |
| 26 | E. Moser | 2021 | Nozick, the pandemic and fear: A contractualist justification of the covid-19 lockdown | Austria | Global Discourse | Commentary | - | The author presents a contractualist justification for lockdown. Using a contractualist framework, government is ethically justified in restricting liberties when these are relinquished by the people via the authorised establishment of a "centralised institution with the power to restrict those liberties", and liberty is purposively relinquished with the aim of reducing loss of life or serious illness. |

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| | | | | | | | | He notes that there was wide consent for restrictions at the beginning of pandemic that waned over time. The justification for restrictions was based on the potential consequences or outcomes that may result from the absence or presence of restrictions.<br><br>According to Nozick, fear of negative outcomes is a dominant justification for imposing restrictions which may result in risks to others. In the absence of such fears, the pandemic would have been managed via a legal route (ie.fines, prohibition etc) instead. |
| 27 | K. Murphy, H. Williamson, E. Sargeant and M. McCarthy | 2020 | Why people comply with COVID-19 social distancing restrictions: Self-interest or duty? | Australia | Australian and New Zealand Journal of Criminology | Empirical study (quantitative - online survey) | General adult population | Compliance with lockdown linked to duty to support the authorities, and when disease perceived as greater risk to own health. |
| 28 | P. Peretti-Watel, V. Seror, S. Cortaredona, O. Launay, J. Raude, P. Verger, et al. | 2021 | Attitudes about COVID-19 lockdown among general population, France, March 2020 | France | Emerging Infectious Diseases | Letter based on empirical study (quantitative online survey) | General adult population | Most individuals were in support of the first lockdown. Low-income participants were less in favour of lockdown and stated that it was "disproportionate considering the real gravity of the epidemic", "that it should be less coercive to be more acceptable" and caused "too much restriction on civil liberties". |
| 29 | T. Porteny, L. Corlin, J. D. Allen, K. Monahan, A. | 2022 | Associations among political voting preference, high-risk health status, and | USA | BMC Public Health | Empirical study (quantitative - online survey) | General adult population | Those who reported a preference for Trump were significantly less likely to have tried to socially-distance and to be able or willing |

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| | Acevedo, T. J. Stopka, et al. | | preventative behaviors for COVID-19 | | | | | to self-quarantine, irrespective of having a high-risk health condition. |
| 30 | A. Roblain, J. Gale, S. Abboud, C. Arnal, T. Bornand, M. Hanioti, et al. | 2022 | Social control and solidarity during the COVID-19 pandemic: The direct and indirect effects of causal attribution of insufficient compliance through perceived anomie | Belgium | Journal of Community & Applied Social Psychology | Empirical (quantitative - online cross-sectional survey) | General adult population | Participants who linked the spread of COVID-19 to insufficient compliance with restrictive measures tended to favour greater social control. Dysregulation ("the perception that political authorities are both illegitimate and ineffective") was linked with greater social solidarity and less favourable attitudes to social control. Disintegration (i.e. perceiving others as disregarding society's customs and values) was linked with more favourable attitudes to social control. |
| 31 | T. Schnell, D. Spitzenstatter and H. Krampe | 2021 | Compliance with COVID-19 public health guidelines: an attitude-behaviour gap bridged by personal concern and distance to conspiracy ideation | Germany & Austria | Psychology & Health | Empirical (Quantitative - exploratory longitudinal survey) | General adult population | Fear of infection and an external locus of control predicted agreement with restrictions. Opposition to restrictions was low on average. Opposition was greater in those who reported higher COVID-19 stress, and in those who held more conspiracy beliefs. It was lower in those at greater risk and more fearful of infection. |
| 32 | L. E. Smith, R. Amlôt, H. Lambert, I. Oliver, C. Robin, L. Yardley, et al. | 2020 | Factors associated with adherence to self-isolation and lockdown measures in the UK: a cross-sectional survey | UK | Public Health | Empirical (quantitative - online cross-sectional survey) | General adult population | Poorer adherence to lockdown was linked to lower perceived pressure from friends and family to follow government measures and lower perceived social norms. It was linked to decreased perceived effectiveness of restrictions, illness severity, |

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| | | | | | | | | likelihood of spreading COVID-19 and perceived legal consequences of not following restrictions. Poorer compliance was also linked to fears of losing touch with friends and relatives if followed restrictions, greater general health; believing that you have had or currently have COVID-19; and increased perceived financial cost. |
| 33 | A. Sobkow, T. Zaleskiewicz, D. Petrova, R. Garcia-Retamero and J. Traczyk | 2020 | Worry, Risk Perception, and Controllability Predict Intentions Toward COVID-19 Preventive Behaviors | Poland | Frontiers in Psychology | Empirical study (quantitative - online survey) | University students | Intent to adhere to restrictions was linked to higher perceived risk and feeling that one has more control over the current pandemic situation. Willingness to take preventive measures was higher in females and increased with age. |
| 34 | S. Sumaedi, I. Bakti, T. Rakhmawati, T. Widianti, N. J. Astrini, S. Damayanti, et al. | 2021 | Factors influencing intention to follow the "stay at home" policy during the COVID-19 pandemic | Indonesia | International Journal of Health Governance | Empirical study (quantitative - online survey) | General adult population of Jakarta | Subjective norms (i.e. perceived expectation to behave in a certain way) and perceived behavioral control were linked to intent to follow “Stay at Home” policy. |
| 35 | Y. L. Tay, Z. Abdullah, K. Chelladorai, L. L. Low and S. F. Tong | 2021 | Perception of the Movement Control Order during the COVID-19 Pandemic: A Qualitative Study in Malaysia | Malaysia | International Journal of Environ Research and Public Health | Empirical study (qualitative interviews) | Malaysian adults | Participants expressed that it was their “responsibility as citizens to comply with the MCO regulations”. The authors attribute this in part to Asian collectivistic culture which is influenced by normative pressures. |
| 36 | E. Trifiletti, S. E. Shamloo, M. Faccini and A. Zaka | 2021 | Psychological predictors of protective behaviours during the Covid-19 pandemic: Theory of | Italy | Journal of Community and Applied Social Psychology | Empirical study (quantitative - online survey) | General adult population | Participants’ perceptions of subjective norms and perceived behavioural control predicted intent to adhere to restrictive measures. |

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| | | | planned behaviour and risk perception | | | | | |
| 37 | V. van Mulukom, B. Muzzulini, B. T. Rutjens, C. J. van Lissa and M. Farias | 2021 | The psychological impact of threat and lockdowns during the COVID-19 pandemic: exacerbating factors and mitigating actions | International (79 countries) | Translational Behavioral Medicine | Empirical study (quantitative - online survey) | General adult population | Days of lockdown did not predict a reduced sense of control. Coping style and government actions increased sense of control, whilst avoidant action did not. Depressive and anxiety symptoms were predicted by a low sense of control. |
| 38 | L. Wright, E. Paul, A. Steptoe and D. Fancourt | 2022 | Facilitators and barriers to compliance with COVID-19 guidelines: a structural topic modelling analysis of free-text data from 17,500 UK adults | UK | BMC Public Health | Empirical study (quantitative - online survey) | General adult population | Social responsibility and civic duty acted as motivating factors for adherence to restrictions. Social pressure to break rules from family and friends as well as observations of non-compliance among the general public and members of the government acted as barriers to adherence. |
| 39 | J. S. Wu, X. Font and C. McCamley | 2022 | COVID-19 social distancing compliance mechanisms: UK evidence | UK | Environmental Research | Empirical study (quantitative - online survey) | General adult population | Participants' intent to adhere to restrictions, altruism and moral obligation decreased whilst moral disengagement increased over time. |
| 40 | S. Zadey, S. Dharmadhikari and P. Mukuntharaj | 2021 | Ethics-driven policy framework for implementation of movement restrictions in pandemics | India | BMJ Global Health | Policy framework | - | In the absence of biomedical, epidemiological or other data (i.e. at the onset of an epidemic), decision-making must follow ethical principles pertaining to the transparency of communication, accountability, equity, reciprocity, and the use of least restrictive means. As more information unfolds, decisions must be guided by the principles of preventing harm, justifiability and proportionality. |

Part 2: Empirical Paper

# The COVID-19 Wellbeing Study: Perceived coercion and psychological wellbeing arising from the UK COVID-19 lockdowns

**ABSTRACT**

This study applies the constructs of perceived coercion, perceived pressures and procedural justice to the general population during the UK COVID-19 lockdowns. Its aims are threefold: 1) to examine the extent to which the general population perceives the lockdown as coercive, pressured and procedurally unjust and whether these perceptions change over time, during successive lockdowns; 2) to assess whether such perceptions predict the level of psychological distress experienced by the general population during the lockdowns; and 3) to observe whether coping style and post-traumatic growth mediate the relationship between such perceptions and psychological distress. The study consists of a baseline and follow-up survey hosted online and shared on multiple social media platforms during the UK governmental lockdowns. 2006 participants completed the baseline survey comprising of demographic and health status questions, an adapted MacArthur Admission Experience Survey (AES), the Depression, Anxiety and Stress Scale (DASS-21), the brief COPE, and the Post-Traumatic Growth Inventory – Short Form (PTGI-SF). Cross-lagged path analyses were used to test for the direction of relationships between the measures across the UK lockdowns. The findings indicate that those who perceived the first lockdown as more coercive experienced less anxiety and those that reported a greater sense of procedural justice at first lockdown also had lower depression scores. At second lockdown, the models also suggest that perceived coercion predicted depressive and anxious symptomatology at second lockdown. Our findings provide evidence for the applicability of examining perceived coercion and procedural justice within the general population in relation to lockdown.

## INTRODUCTION

In March 2020, the WHO declared that the level of infection arising from the novel betacoronavirus had reached a pandemic status (World Health Organisation, 2020). In response to this global public health crisis, many countries introduced measures to curb the spread of the virus. In the UK, these measures commenced with initial recommendations in mid-March 2020 to avoid all non-essential contact and travel followed by a first UK-wide lockdown imposed ten days later (UK Parliament, 2021). This lockdown mandated that citizens remained within their homes except to collect essential goods, exercise, receive clinical care, or travel to an essential workplace. As infection rates slowed, such restrictions began to ease from June 2020 in most parts of England, allowing for contact between members of multiple households and the gradual reopening of public venues. Two further national lockdowns were subsequently announced in November 2020 and January 2021 with restrictions easing from March 2021 (UK Parliament, 2021).

As outlined in the scoping review in Part One, there is a plethora of research examining the impact of the lockdown(s) on wellbeing globally. Most of these studies have focused on the impact of lockdown on loneliness, physical and/or mental health and quality of life, particularly in 'at-risk' individuals or those belonging to certain occupational groups. Less well understood however, is the extent to which individuals perceived the lockdown(s) as coercive, pressured or procedurally unjust. The studies included in the scoping review – which focused on coercion and related issues - indicated that, in general, individuals responded to lockdown with initial acceptance, willingness and a sense of personal control over restrictions that decreased over time. They were also motivated to adhere to restrictions due to concern for family and friends and societal norms (Alkhaldi et al., 2021b; Bernacer et al., 2021; Lo Presti et al., 2022; Trifiletti, Shamloo, Faccini, & Zaka, 2021b; Wright et al., 2022). Perceptions of risks and

decisions about adherence may also be influenced by other individual, as well as socioeconomic and cultural factors (Arunachalam & Halwai, 2020; Sumaedi et al., 2021; Tay et al., 2021).

Missing from this picture is an understanding of how such perceptions may affect the psychological wellbeing of the general population. For this reason, the following study will apply the transactional theory of stress and coping to examine perceived coercion in those who have experienced the UK COVID-19 lockdown and describe how such perceptions may impact on psychological well-being, potentially via coping method. As per the transactional theory, individuals will encounter stressors defined as benign or stressful which they then appraise their capacity to cope with (Lazarus & Folkman, 1984). This appraisal, in turn, determines the individual's emotional response to the stressor. Modifying this theory, we posit that lockdown is a stressor that is potentially appraised as coercive, pressured or procedurally unjust. These appraisals may then activate maladaptive coping strategies that may, in turn, result in individuals experiencing symptoms of psychological distress. Over subsequent lockdowns, individuals may re-appraise their circumstances leading to alternate coping mechanisms and states of wellbeing. However, as with all cross-sectional data, static assessment of coercive appraisals and distress would make it difficult to test directionality of causation. As such, in the current study, we aimed to assess the link between these variables in a series of cross-lagged panel models. Such models can clarify the directionality of associations between two variables while accounting for their association at timepoint 1, as well as their association at timepoint 2. Although strong causal claims cannot be made using such models, they do provide evidence for the temporal order of associations (e.g. perceived coercion preceding symptoms of depression).

*Key research questions:*

1) To what extent does the general population perceive the lockdown as coercive, pressured and procedurally unjust? Do these perceptions change over time, during successive lockdowns?

2) Do participants' perceptions of coercion predict their level of psychological distress, after controlling for demographic factors?

3) Does coping style and post-traumatic growth mediate the relationship between perceived coercion and psychological distress?

## METHOD

This study was approved by UCL's Research Ethics Committee (please see appendices).

### *Setting*

A baseline and follow-up survey were hosted online due to ease of accessibility to potential participants during the UK governmental lockdown(s). These were hosted on two online platforms, firstly on Opinio (ObjectPlanet, 2020) and then transferred onto Qualtrics (Qualtrics, 2020) for ease of use to both the researchers and participants. Both survey tools were GDPR compliant and certified to ISO 27001 standard at the time of the survey. Both were also approved by the local Information Governance team at University College London (UCL) and were accessed as part of an existing service level agreement with UCL.

### *Recruitment*

Participants were recruited via advertisements posted and shared on various social media platforms (Facebook, Reddit, Twitter, and Instagram), including adverts placed on 844 Facebook group pages encompassing various geographical and cultural communities, and

COVID-19 groups across the UK. Advertisements were also disseminated through snowballing (e.g. via email). Recruitment to the baseline study occurred between 22nd of July 2020 and 3rd October 2020. Part of this period coincided with an easing of lockdown restrictions (June-August 2020). Recruitment to the follow-up study took place between 23rd of November 2020 and 7th of April 2021. Data from the second and third lockdowns have been combined for the follow-up data due to the proximity of their dates and the overlap between full lockdown and the somewhat less restrictive and more localised Tier 4 stay-at-home orders that emerged in multiple parts of the country.

The intended sample size was not strictly pre-determined based on a power calculation for specific analyses. Rather we aimed for as large a sample as was feasible within the manpower constraints of the team. Publications using similar methods to ours, had typical samples sizes of several hundred to >1000 (Martinez-Mesa, Gonzalez-Chica, Bastos, Bonamigo, & Duquia, 2014; Maxwell, 2000).

*Procedure*

Participants who clicked on the study's advertisement link were redirected to the survey's home page. The home page consisted of an information sheet outlining the purpose of the study, and how participants' data would be stored and kept confidential (for a copy of the information sheets and consent forms, please see the Appendices). Participants who wished to take part were asked to provide informed consent online before proceeding to the survey on the following page. After completing the survey, participants were invited to leave their email address should they wish to take part in a shorter follow-up survey.

*Participants*

The primary inclusion criteria for the study were age ≥18 years and resident in the UK at the time of the lockdowns. The baseline sample consisted of n=2006 and the follow-up sample (i.e. the second and third lockdown sample) was n=688.

*Instruments*

All participants completed a baseline and follow-up survey. At baseline, this survey also asked participants for demographic and health status details (please see the Appendices for a copy of these). They also completed the following measures at both timepoints: 1) an adapted version of the MacArthur Admission Experience Survey (AES) (Gardner et al., 1993b); 2) the Depression, Anxiety and Stress Scale (DASS-21) (Lovibond & Lovibond, 1995); 3) the brief COPE (Carver, 1997) and 4) the Posttraumatic Growth Inventory-Short Form (Tedeschi & Calhoun, 1996). The adapted versions of the scales and demographic and clinical background questionnaires underwent minor modifications after piloting. We initially trialled the Impact of Events Scale-Revised (IES-R) as a measure of potential trauma arising from the lockdown and the pandemic, however, discarded this as preliminary analysis during pilot testing indicated that it was not an appropriate measure because of its reference to a discrete traumatic event rather than a process of adjustment (Brunet et al., 2022; Weiss & Marmar, 1997).

*Adapted MacArthur Admission Experience Survey (AES)* (Gardner et al., 1993b)

An adapted version of the AES was used to measure the extent to which individuals report perceived coercion, perceived pressures and procedural justice regarding quarantine. It is composed of thirteen statements divided into three sub-scales measuring perceived coercion, perceived pressures and procedural justice. The perceived coercion subscale consists of five questions rated either “true” or “false” scale (0= “true”, 1= “false”), with “false” responses

indicating a greater level of perceived coercion. The perceived pressures subscale consists of four questions rated either “yes” or “no” (0= “yes”, 1= “no”), with “yes” responses indicating a higher degree of perceived pressures. The procedural justice subscale consists of four likert-scaled questions, with responses ranging from “not at all” to “very much” (0= “not at all”, 3= “very much”). Scores on each scale range from 0-5 on the perceived coercion subscale, 0-4 for the perceived pressures subscale, and 0-12 on the procedural justice subscale. Higher scores on each measure indicate greater perceived coercion, perceived pressures and procedural justice. The AES has been previously been adapted for use in caregivers by the thesis author (Ranieri et al., 2015). For this study, it was adapted for the general population who experienced governmental lockdown. For a copy of the measure, please see the Appendices.

*Depression, Anxiety and Stress Scale (DASS-21)(Lovibond & Lovibond, 1995)*

The DASS-21 is a 21-item self-report measure that indicates the presence of depression, anxiety and stress in individuals (Lovibond & Lovibond, 1995). The measure is divided into 3 sub-scales consisting of 7 items each. The depression sub-scale measures dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, anhedonia and inertia. The anxiety sub-scale measures autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. In the stress sub-scale, individuals are asked to indicate if the following are present: difficulty relaxing, nervous arousal, agitation, irritability and impatience. Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items.

*Brief COPE (Carver, 1997)*

The brief COPE is a 28-item self-report measure designed to examine the strategies that individuals employ to cope with difficult life events. It does not provide a total coping score.

Instead, it assesses the extent to which 14 stress responses and coping patterns appear in an individual. These are: self-distraction, active coping, denial, substance use, emotional support, instrumental support, behavioural disengagement, venting, positive reframing, planning, humour, acceptance, religion and self-blame that can be categorised into either adaptive or maladaptive coping subscales. As part of the survey, participants were asked to reflect on the coping strategies they employed during the lockdown. The potential answer options they could give were 'I usually don't do this at all (1)', 'I usually do this a little bit (2)', 'I usually do this a medium amount (3)' or 'I usually do this a lot (4)', with scores for each strategy ranging from 1-4 in order of ascending use. This measure was chosen as it was originally adapted from the 'Ways of Coping' scale that mapped onto the transactional model of stress and coping (Lazarus & Folkman, 1984).

*Post-Traumatic Growth Inventory – Short Form (PTGI-SF)* (Tedeschi & Calhoun, 1996)

The original PTGI is a self-report measure that assesses positive outcomes in those who have experienced traumatic events (Tedeschi & Calhoun, 1996). It consist of 21 items that evaluate the extent to which individuals perceive their experience as an event that brought new meaning or led them to reconstruct their view of themselves or others. Questions are categorised into five sub-categories: new possibilities, relating to others, personal strength, spiritual change, and appreciation of life. Each item is scored 0-5, with higher scores denoting a greater degree of posttraumatic growth. The short form version of the PTGI consisting of 10 items and the same sub-categories as the original version was included in this study for its brevity and robust psychometric properties.

*Statistical analysis*

Multiple cross-lagged path analyses were conducted to test for the presence and direction of relationships between the three constructs of the MacArthur AES (perceived coercion, perceived pressures, procedural justice) and the depression and anxiety sub-scales of the DASS across the UK lockdowns (Stata Version 17) (StataCorp, 2021). Full Maximum Likelihood estimation was used to estimate the parameters of each model. Several variations of models were tested with alternate paths and alternative mediators than those presented below. All models whose values on the Comparative Fit Index (CFI), Tucker–Lewis Index (TLI) or Root Mean Squared Error of Approximation (RMSEA) indicated a poor model fit were excluded from further analyses. Since the Chi square test of model fit is extremely sensitive to minor model misspecification and is likely a highly overpowered test in the current context, significant values were not considered to reflect poor model fit. However, significant Chi square values were used as a basis to determine if important paths/ parameters were missing from the models based on an examination of modification indices. However, because none of the potential modifications had a strong theoretical justification, no changes were made on the basis of modification indices. Three models whose values suggested an adequate fit to the data and were also theoretically aligned with Lazarus & Folkman's (1984) transactional model of stress and coping are presented below.

## RESULTS

*Participants characteristics*

Participants in the baseline sample were n=2006 adults (aged≥18 years) with a mean age of 45 years. The frequency of demographic characteristics of the baseline sample is presented in Table 1. As can be seen from the table, the sample consists predominantly of women, and highly educated individuals largely from England.

**Table 1.** *Participants' demographic characteristics*

| Demographic characteristics | N (%) |
|---|---|
| *Gender* | |
| Female | 1570 (78%) |
| Male | 385 (19%) |
| Non-binary | 19 (1%) |
| Transgender female | 14 (1%) |
| Transgender male | 10 (1%) |
| Other | 2 (< 1%) |
| Not stated | 3 (< 1%) |
| *Marital status* | |
| Single | 590 (30%) |
| Married/in a partnership | 1219 (61%) |
| Divorced | 152 (8%) |
| Widowed | 42 (2%) |
| *Education* | |
| No formal schooling | 0 (0%) |
| Primary/elementary school | 7 (< 1%) |
| Secondary/middle-high school | 448 (22%) |
| Undergraduate degree or diploma | 956 (48%) |
| Postgraduate degree | 592 (30%) |
| *Geographical location* | |
| East Anglia | 164 (8%) |
| East Midlands | 134 (7%) |
| Greater London | 297 (15%) |
| North East | 140 (7%) |
| North West | 177 (9%) |
| South East | 329 (16%) |
| South West | 297 (15%) |
| West Midlands | 139 (7%) |
| Yorkshire and the Humber | 134 (7%) |
| Wales | 76 (4%) |
| Northern Ireland | 32 (2%) |
| Scotland | 84 (4%) |

*Living and employment status*

The majority of participants were co-habiting with their partner (62%, N = 1231) and either experienced no change (45%, N = 782) or an increase (45%, N = 781) in 'closeness' to others in their household. Over 40% of the sample conveyed that they had caring responsibilities (N = 844) and approximately a third experienced a loss of income during the first lockdown (34%, N = 679). For further information on participants' background characteristics, please see table 2 below.

**Table 2.** *Participants' background characteristics*

| ***Living circumstances during the first lockdown*** | **N (%)** |
|---|---|
| Alone | 334 (17%) |
| With partner/spouse | 1231 (62%) |
| With children | 657 (33%) |
| With parents | 174 (9%) |
| With other family members | 199 (10%) |
| With friends | 34 (2%) |
| With housemates | 85 (4%) |
| *Closeness to others within household* | |
| A lot less close | 64 (4%) |
| Somewhat less close | 115 (7%) |
| No change | 782 (45%) |
| Somewhat closer | 476 (27%) |
| A lot closer | 305 (18%) |
| *Employment status* | |
| Employed Full-Time Equivalent (FTE) | 727 (36%) |
| Employed Part-Time Equivalent | 333 (17%) |
| Self-employed | 219 (11%) |
| Both employed PTE and self-employed | 17 (1%) |
| Retired | 280 (14%) |
| Unemployed | 165 (8%) |
| Full-time student | 80 (4%) |
| Furlough only | 57 (3%) |
| Unable to work | 124 (6%) |
| *Key worker occupation sector* | |
| Education and childcare | 174 (9%) |
| Food and other necessary goods | 80 (4%) |
| Health and social care | 150 (8%) |
| Local and national government | 57 (3%) |
| Public safety and national security | 22 (1%) |
| Public service | 47 (2%) |
| Transport | 15 (1%) |
| Utilities, communication and financial services | 46 (2%) |
| *Income status* | |
| A significant loss | 241 (12%) |
| Some loss | 438 (22%) |
| No loss | 1176 (60%) |
| A gain | 116 (6%) |
| Prefer not to say | 32 (2%) |

*Health & wellbeing*

Thirty-one percent of the sample (N = 616) reported having a disability or long-term condition. Similarly, a large proportion indicated that had received a diagnosis of depression and/or anxiety prior to the COVID-19 lockdown (Table 3). Sixteen percent of the sample indicated that they were living with a health condition considered high risk during the pandemic (N = 317). A further 6% reported that they were unsure of whether their disability or long-term condition placed them in the higher risk category (N = 122). A third of participants stated that

they needed medical support for an acute or long-term condition during the first lockdown (33%, N = 654). Of this group, however, 72% (N = 473) received such support. A similar trend was found in those requiring psychological treatment with 21% (N = 425) indicating a need and 46% actually accessing such treatment (N = 196).

**Table 3.** *Health and wellbeing characteristics of participants at baseline*

| **Health & wellbeing characteristics** | **N (%)** |
|---|---|
| *Prior mental health diagnosis* | |
| Anxiety disorder | 555 (27%) |
| Bipolar disorder | 29 (1%) |
| Depressive disorder | 670 (33%) |
| Eating disorder | 62 (3%) |
| Obsessive-compulsive disorder | 46 (2%) |
| Personality disorder | 49 (2%) |
| PTSD | 106 (5%) |
| Psychotic spectrum disorder | 4 (0.2%) |
| Substance use disorder | 39 (1%) |
| No formal diagnosis | 1086 (54%) |
| Prefer not to say | 21 (1%) |
| Other | 41 (2%) |
| *Change in physical wellbeing (not due to COVID-19)* | |
| I feel a lot better | 65 (3%) |
| I feel a bit better | 221 (11%) |
| No change | 949 (47%) |
| I feel a bit worse | 624 (31%) |
| I feel a lot worse | 144 (7%) |
| *Change in psychological wellbeing* | |
| I feel a lot better | 66 (3%) |
| I feel a bit better | 193 (10%) |
| No change | 393 (20%) |
| I feel a bit worse | 929 (46%) |
| I feel a lot worse | 422 (21%) |

Participants' scores on the DASS-21 indicated that they, on average, felt moderately depressed (M= 15.46, SD = 12.39), and presented with mild levels of anxiety (M = 8.25, SD = 9.12) and stress (M = 15.45, SD = 11.25) at baseline. At follow-up, participants were extremely severely depressed (M = 29.64, SD = 12.28) and anxious (M = 20.98, SD = 8.01) and severely stressed (M = 28.72, SD = 10.97).

*Experiences of COVID-19*

Approximately 21% (N= 415) of the sample stated that they believed they had previously had COVID-19 by the time of the baseline survey, as widely available testing facilities were absent during the first wave of COVID-19 in the UK. Slightly fewer (19%; N = 374) stated that they were unsure if they had been infected. A quarter of participants (N = 464) had been tested for COVID-19 and 4% of those tested had received a confirmatory diagnosis of the illness (N = 79). A minority of participants reported requiring medical treatment or having been hospitalised for symptoms of the illness at the time of the survey (5%, N = 96). However, more than 80% of participants reported being afraid of being infected or reinfected by COVID-19 (N = 1625). The majority also stated being worried about becoming severely ill (N = 1522).

When asked whether family members or close friends had experienced serious illness associated with COVID-19, most stated that they had not (73%, N = 1468). A tenth of the sample reported that they also experienced the sudden death of a relative or close friend during the first wave of COVID-19 (10%, N = 201). Approximately 4% (N = 74) reported that they experienced the death of someone close to them due to being unable to get immediate medical assistance during lockdown for an illness unrelated to COVID-19.

*Experiences of restrictions*

Most (70%, N = 1397) of the baseline sample reported voluntarily self-isolating since the spread of COVID-19. Over a quarter of participants stated that they self-isolated prior to the first UK lockdown coming into place (28%, N = 556). Participants described self-isolating for a multitude of reasons, such as: having symptoms of COVID-19 (19%, N = 383); someone in the household having symptoms of COVID-19 (10%, N = 209); coming into contact with

someone who received confirmation of their positive COVID-19 status (3%, N = 62); and returning from a country on the UK government's 'red list' (3%, N = 65).

When asked about their perceptions of coercion, pressures and procedural justice arising from lockdown, participants reported low levels of perceived coercion (M = 1.40, SD = 1.42) and pressures (M = .51, SD = .82) and mid-levels of procedural justice from the first lockdown (M = 7.99, SD = 3.96). Whilst both perceived coercion (M = 1.59, SD = 1.57) and pressures (M = .34, SD = .70) remained low, procedural justice scores too were low over the subsequent lockdowns (M = 5.16, SD = 4.03).

*Cross-lagged path models*

Multiple bivariate correlation tables relating to variables contained in all of the tested models are presented below in Tables 4, 5 and 6. All variables were tested for adequate model fit; however, perceived coercion, procedural justice and coping style were the sole variables that revealed a good fit. Perceived pressures and post-traumatic growth were thus excluded from further analysis.

*Model One: Path model of perceived coercion and depression*

According to the specified arrangement of the coercion and depression variables at the two timepoints, and maladaptive coping at the first timepoint (T0), Model 1 (Fig 1) had good fit ($x^2(2) = 3.29$, p = .19, RMSEA = .02, 90% CI = [0.00, 0.05], CFI >0.99, TLI>0.99). Based on this model, higher levels of perceived coercion at $T_0$ were causally linked to maladaptive coping (at $T_0$; b=0.71, se=0.09, p<0.001), which in turn was a significant predictor of depression during the first lockdown (b = 1.50, s.e. = .03, p < .001). Depression scores were not significantly predicted by perceived coercion during the first lockdown (b=0.19, se=0.13, p=0.15) but were during the subsequent lockdown (b = 1.12, s.e. = .23, p < .001). While neither

of the cross-lagged paths were significant at $p \leq 0.05$, the coefficient between depression at $T_0$ and perceived coercion at $T_1$ was at trend-level ($p=0.077$), suggesting that earlier depression *may* influence perceived coercion during the subsequent lockdown.

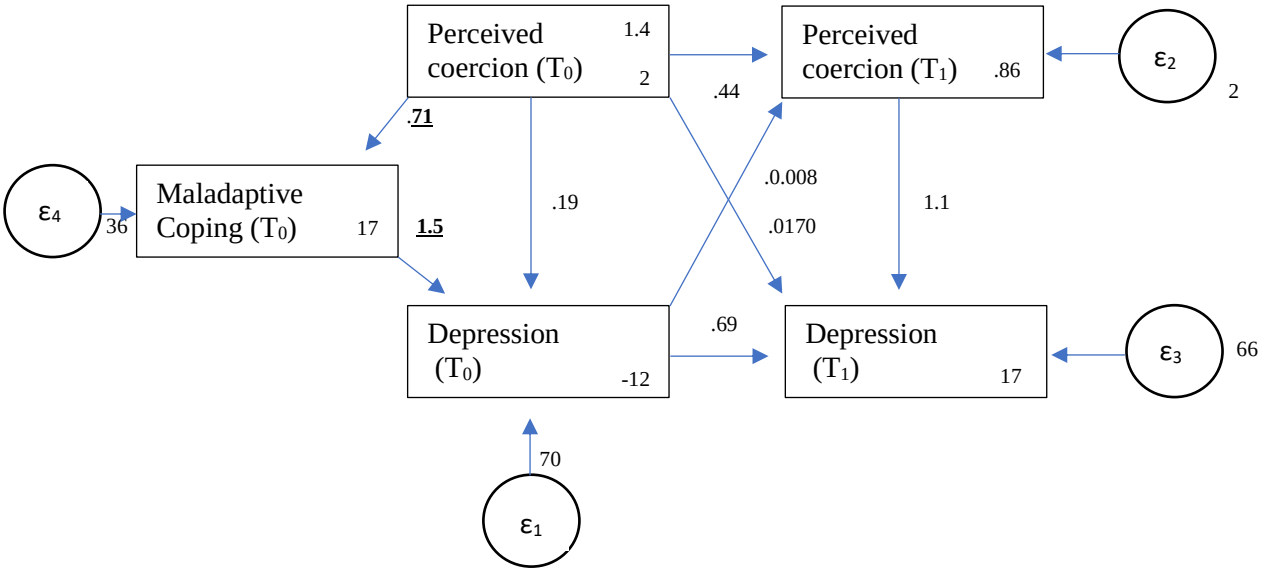
**Table 4.** *Correlations between the MacArthur AES, DASS variables and brief COPE variables from all lockdowns*

| *Variables* | LD1 Perceived Coercion | LD1 Perceived Pressures | LD1 Procedural Justice | LD1 Depression | LD1 Anxiety | LD1 Stress | LD1 Maladaptive coping | LD1 Adaptive coping | LD2 Perceived Coercion | LD2 Perceived Pressures | LD2 Procedural Justice | LD2 Depression | LD2 Anxiety | LD2 Stress | LD2 Maladaptive coping | LD2 Adaptive coping |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LD1 Perceived Coercion | | | | | | | | | | | | | | | | |
| LD1 Perceived Pressures | .256** | | | | | | | | | | | | | | | |
| LD1 Procedural Justice | -.252** | -.108** | | | | | | | | | | | | | | |
| LD1 Depression | . 119* | .098** | -.187** | | | | | | | | | | | | | |
| LD1 Anxiety | .051** | .101** | -.094** | 657** | | | | | | | | | | | | |
| LD1 Stress | .124** | .115** | -.137** | .784** | 745** | | | | | | | | | | | |
| LD1 Maladaptive coping | .138** | .191** | -.180** | .749** | .698** | .794 | | | | | | | | | | |
| LD1 Adaptive coping | -.028 | .109** | .146** | .015 | .132** | .122** | .202** | | | | | | | | | |
| LD2 Perceived Coercion | .401** | .195** | -.198** | .139** | .099* | .139** | .149** | -.040 | | | | | | | | |
| LD2 Perceived Pressures | .210** | .362** | -.119* | .156** | .131** | .165** | .168** | .006 | .256** | | | | | | | |
| LD2 | .377** | .295** | -.678** | .339** | .191* | .219** | .291** | -.150 | -.252** | -.108** | | | | | | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Procedural Justice | | | | | | | | | | | | | | | | |
| LD2 Depression | .175** | .122** | -.201** | .718** | .514** | .606** | .596** | -.093 | . 119* | .098** | -.187** | | | | | |
| LD2 Anxiety | .099* | .070 | -.094 | .482** | .664** | .528** | .547** | .017 | .051** | .101** | -.094** | 657** | | | | |
| LD2 Stress | .161** | .133** | -.143** | .584** | .562** | .719** | .629** | .028 | .124** | .115** | -.137** | .784** | 745** | | | |
| LD2 Maladaptive coping | .186** | .189** | -.214** | .532** | .475** | .554** | .659** | .131** | .138** | .191** | -.180** | .749** | .698** | .794 | | |
| LD2 Adaptive coping | -.030 | .025 | .079 | -.061 | .062 | .060 | .104** | .612** | -.028 | .109** | .146** | .015 | .132** | .122** | .202** | |

*Correlation is significant at the 0.05 level (two-tailed); **Correlation is significant at the 0.01 level (two-tailed

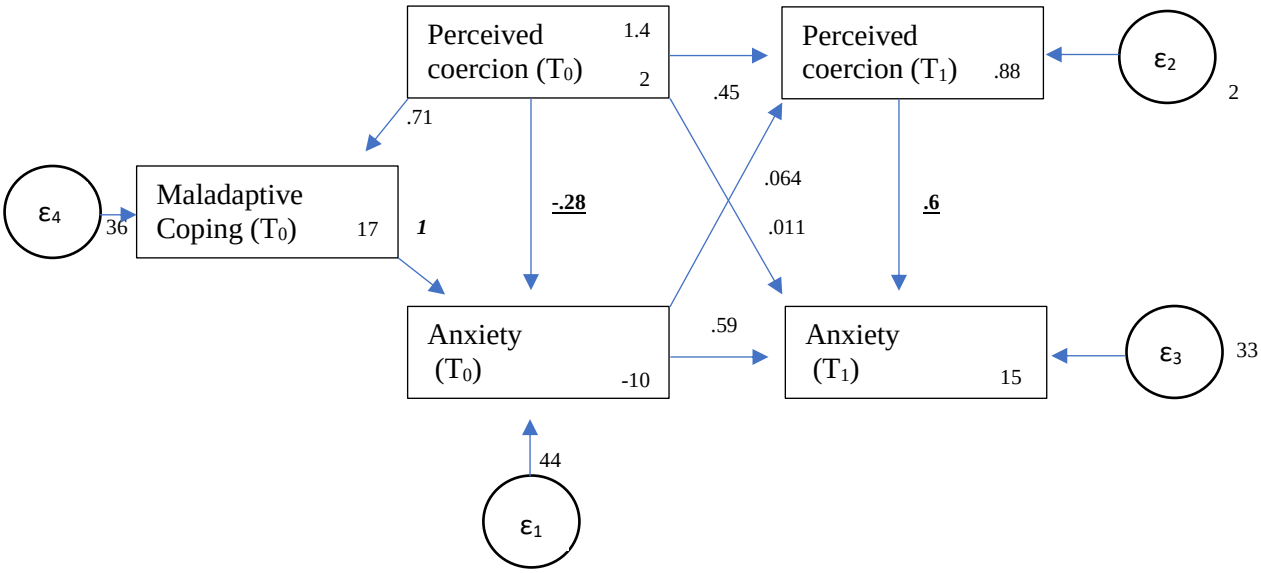
**Figure 1:** *A cross-lagged path model of perceived coercion and depression over lockdowns. Bold and underlined type denotes coefficients that are significant at p<0.001. The cross-lagged paths were non-significant: $T_0$ Depression to $T_1$ perceived coercion (p=0.077), and $T_0$ perceived coercion to $T_1$ Depression (p>0.9)*




*Model Two: Path model of perceived coercion and anxiety*

The second cross-lagged model was also not statistically different from the fully saturated model, $x^2(2) = 5.95$, p = .05, suggesting good fit of the model to the data, RMSEA = .03, 90% CI = [0.00, 0.06], CFI = 1.00, TLI = .99. This second model indicated that maladaptive coping was a significant predictor of anxiety during the first lockdown (b = 1.03, s.e. = .02, p < .001) and that the path coefficient from perceived coercion to anxiety during the first lockdown was negative and significant (b = -.28, s.e. = .11, p < .01). Perceived coercion also significantly predicted anxiety during the second lockdown (b = .60, s.e. = .16, p < .001). As above (Model 1), the cross lagged path between anxiety at $T_0$ and perceived coercion at $T_1$ (b=0.011, se=0.006) was at trend level (p=0.07) whereas the path from perceived coercion at $T_1$ to anxiety at $T_1$was not (p=0.71).

**Figure 2:** *A cross-lagged path model of perceived coercion and anxiety over lockdowns*
*Bold and italic type denotes coefficients that are significant at p<0.01. Bold and underlined type denotes coefficients that are significant at p<0.001. The cross-lagged paths were non-significant: $T_0$ anxiety to $T_1$ perceived coercion (p=0.07), and $T_0$ perceived coercion to $T_1$ anxiety (p>0.7)*




*Model Three: Path model of procedural justice and depression*

Finally, a chi-square difference test indicated that our third model was also not statistically different from the fully saturated model, $x^2(2) = 4.88$, p = .09, suggesting good fit of the model to the data, RMSEA = .03, 90% CI = [0.00, 0.06], CFI = 1.00, TLI = 1.00. This third model indicated that maladaptive coping was a significant predictor of depression during the first lockdown (b = 1.48, s.e. = .03, p < .001) and that the path coefficient from procedural justice to depression during the first lockdown was negative and significant (b = -.23, s.e. = .06, p < .001). Procedural justice also significantly predicted depression during the second lockdown (b = .98, s.e. = .23, p < .001). Cross lagged coefficients were trend level (0.035, se=0.02, p=0.08) and significant between procedural justice at $T_0$ and depression at $T_1$ (p=0.02). A such, it is difficult to establish causal precedence in this analysis.

**Figure 3:** *A cross-lagged path model of procedural justice and depression over lockdowns Bold and italic type denotes coefficients that are significant at p<0.01. Bold and underlined type denotes coefficients that are significant at p<0.001. The cross-lagged path from $T_0$ depression to $T_1$ procedural justice (p=0.07) was non-significant, whilst the path from $T_0$ procedural justice to $T_1$ depression was significant (p<.05)*

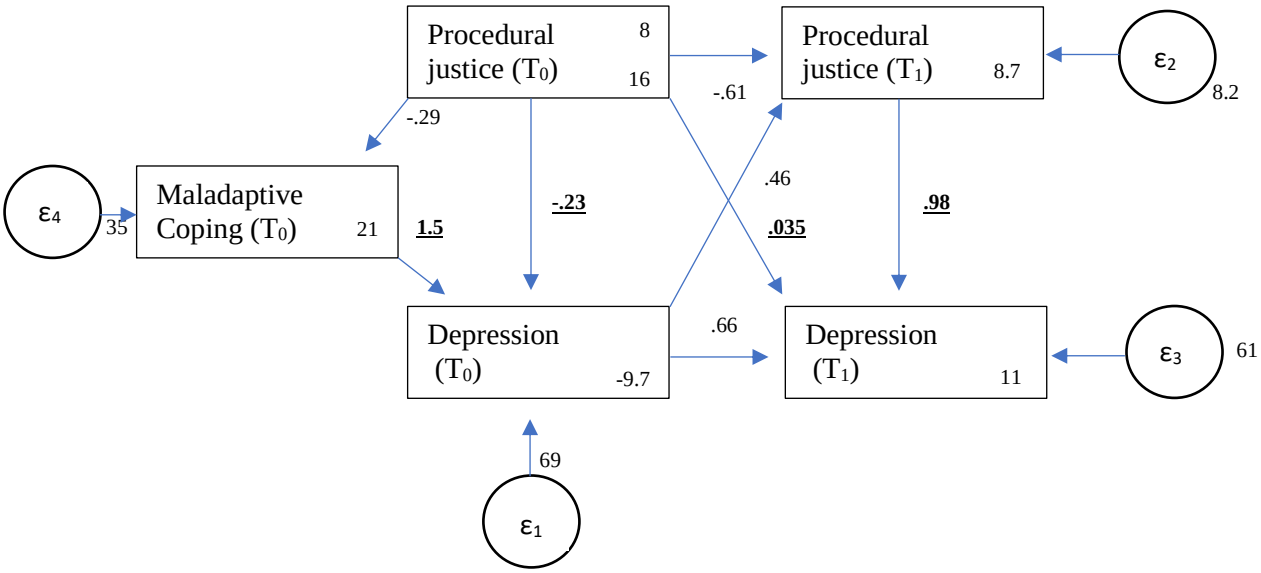


**Table 5.** *Correlations between the MacArthur AES, DASS variables, brief COPE and PTGI variables from lockdown one*

| | Perceived Coercion | Perceived Pressures | Procedural Justice | Depression | Anxiety | Stress | Maladaptive coping | Adaptive coping | PTGI - Relating to others | PTGI – New possibilities | PTGI– Personal strength | PTGI – Spiritual change | PTGI – Appreciation of life |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perceived Coercion | | | | | | | | | | | | | |
| Perceived Pressures | .256** | | | | | | | | | | | | |
| Procedural Justice | -.252** | -.108** | | | | | | | | | | | |
| Depression | . 119* | .098** | -.187** | | | | | | | | | | |
| Anxiety | .051** | .101** | -.094** | 657** | | | | | | | | | |
| Stress | .124** | .115** | -.137** | .784** | 745** | | | | | | | | |
| Maladaptive coping | .138** | .191** | -.180** | .749** | .698** | .794 | | | | | | | |
| Adaptive coping | -.028 | .109** | .146** | .015 | .132** | .122** | .202** | | | | | | |
| PTGI - Relating to others | -.121** | -.054** | .318** | -.186** | .000 | -.073** | -.082** | .313** | | | | | |
| PTGI – New possibilities | -.117** | -.075** | .168** | -.122** | .017 | -.024 | -.040 | .269** | .626** | | | | |
| PTGI – Personal strength | -.074** | -.037 | .175** | -.122** | .017 | -.024 | -.038 | . 295** | .665** | .662** | | | |
| PTGI – Spiritual change | .028 | .002 | .122** | -.063** | .071** | .009 | .018 | .238** | .473** | .547** | .480** | | |
| PTGI – Appreciation of life | -.095** | -.065** | .222** | -.049* | .119** | .063** | .026 | .256** | .648** | .704** | 618** | .452** | |

*Correlation is significant at the 0.05 level (two-tailed); **Correlation is significant at the 0.01 level (two-tailed)

**Table 6.** *Correlations between the MacArthur AES, DASS variables, brief COPE and PTGI variables from lockdowns two/three*

| | Perceived Coercion | Perceived Pressures | Procedural Justice | Depression | Anxiety | Stress | Maladaptive coping | Adaptive coping | PTGI - Relating to others | PTGI – New possibilities | PTGI– Personal strength | PTGI – Spiritual change | PTGI – Appreciation of life |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perceived Coercion | | | | | | | | | | | | | |
| Perceived Pressures | .303** | | | | | | | | | | | | |
| Procedural Justice | .463** | .372** | | | | | | | | | | | |
| Depression | .223** | .225** | .445** | | | | | | | | | | |
| Anxiety | .157** | .124** | .164* | .580** | | | | | | | | | |
| Stress | .201** | .238** | .302** | .750** | .681** | | | | | | | | |
| Maladaptive coping | .159** | .208** | .451** | .660** | .531** | .681** | | | | | | | |
| Adaptive coping | -.100** | .033 | -.292** | -.113** | .093* | .052 | .208** | | | | | | |
| PTGI - Relating to others | -.104** | -.101* | -.327** | -.177** | .016 | -.038 | -.043 | .359** | | | | | |
| PTGI – New possibilities | -.063 | -.050 | -.224** | -.095* | .084* | .064 | .058 | .366** | .561** | | | | |
| PTGI – Personal strength | -.095* | -.073 | -.203* | -.164** | .032 | .001 | -.001 | .383** | .617** | .608** | | | |
| PTGI – Spiritual change | -.064 | -.065 | -.235** | -.049 | .132** | .068 | .080* | .283** | .400** | .452** | .401** | | |
| PTGI – Appreciation of life | -.073 | -.081* | -.377** | -.030 | .152** | .112** | .119** | .312** | .579** | .641** | .531** | .423** | |

*Correlation is significant at the 0.05 level (two-tailed); **Correlation is significant at the 0.01 level (two-tailed)

## DISCUSSION

*Summary*

The findings indicate that the general population did not perceive the lockdowns as highly coercive or pressured overall. Of note, however, was the general population's change from viewing the first lockdown as procedurally just to increasingly procedurally unjust over the subsequent lockdown. This change suggests that individuals viewed the subsequent lockdowns as unfair and not implemented respectfully or out of concern for their perceived needs. These findings are in line with prior research emerging from the scoping review that highlighted an initial acceptance of lockdown and a significant decrease in the general population's acceptance and tolerance of such restrictions over time (Bernacer et al., 2021). Within the literature, this decreased sense of acceptance coincided with an increased sense of intrusiveness by authorities (Bernacer et al., 2021). It is important to note that news of multiple violations of lockdown rules by figures of authority began to emerge which, according to the literature, may have impacted on participants' perspectives, acceptance and adherence to a continued lockdown (Bernacer et al., 2021; Wright et al., 2022).

Our cross-lagged path models suggest that participants who adopted maladaptive forms of coping experienced greater depressive and anxious symptoms during the first lockdown. Whilst perceived coercion was not found to predict depression during the first lockdown, our model suggests that those who perceived the first lockdown as more coercive experienced less anxiety and those that reported a greater sense of procedural justice at first lockdown also had lower depression scores. As found in the scoping review, this finding may indicate that a greater fear of infection or perceived risk of COVID-19 may have mitigated against such perceptions, particularly when accompanied with an individual's sense of internal locus of control

(Frounfelker et al., 2021a; Lo Presti et al., 2022; Sobkow, Zaleskiewicz, Petrova, Garcia-Retamero, & Traczyk, 2020a). As emphasised in the limited literature on the field, those who displayed less anxiety were less fearful of contracting COVID-19 and tended to believe in conspiracy theories and therefore, not justify a need for restrictions (Maftei & Holman, 2022b; Schnell, Spitzenstatter, & Krampe, 2021a).

Conversely, our findings also revealed that an increase in perceived coercion scores was predictive of increased depressive and anxious symptomatology at second lockdown. This follows the findings of an international study that denoted that low perceived control predicted depressive and anxious symptomatology (van Mulukom, Muzzulini, Rutjens, van Lissa, & Farias, 2021b). Furthermore, our third model specified that an increase in procedural justice at second/third lockdown predicted an increase in depressive symptomatology. Applying the transactional model of stress and coping (Lazarus & Folkman, 1984), this may suggest that individuals experienced a re-appraisal of lockdown, whereby the first lockdown was viewed as less coercive and more procedurally just due to circumstances that were perceived as anxiety-inducing. In an effort to manage this anxiety, individuals may have drawn on maladaptive coping mechanisms which may have reinforced their anxiety and depressive symptoms. During the subsequent lockdowns, though individuals may have felt more familiar with lockdown and perceived the restrictions as fair in light of increased COVID-19 cases in the UK, external factors such as a longer duration of lockdown with continued restriction on social interactions and ability to work for many may have led to an increased sense of hopelessness and low mood. Finally, post-traumatic growth did not reveal good fit to the model. This may be linked to the timing of data collection as individuals may have felt that they were living through an acute phase of the pandemic whereby growth after trauma may require further time to process. Furthermore, depending on an individual's circumstances, the pandemic may have either not

resonated as a traumatic event or may represented a very traumatic event from which no positive aspects could be extrapolated.

*Strengths and limitations*

To the researchers' knowledge, this is the first study that extrapolated the constructs of perceived coercion, perceived pressures and procedural justice from the psychiatric literature and applied them to the context of lockdown in the general population. This is also the first time that these constructs have been applied using the transactional model of stress and coping within the context of the COVID-19 pandemic. Our survey and recruitment method presented both strengths and limitations. The use of a survey allowed the researchers to access a sufficient number of participants nationwide for our analyses to be sufficiently powered. Recruitment via multiple local social media groups also helped us ensure that participants were geographically spread across the UK and that participants had an informal way of asking the researcher questions regarding the study. However, this method also reduced accessibility to those with greater literacy and technological skills. The utilisation of social media and a survey method also may have affected the demographic variability of our sample. Though substantial efforts were made to recruit participants across multiple forms of social media and from different groups within those (i.e. religious groups, specific causes), many of those who responded were white older females and thus, not representative of the wider population.

We experienced delays in gaining ethical approval due to a backlog of studies requiring re-review by UCL's ethical board in light of restrictions to data collection and consent methods imposed by the lockdown. Although UCL's ethical board understandably prioritised medical studies for re-review, such delays had a significant impact on our data collection period for the first survey. Our first survey coincided with the end of first lockdown and, therefore, may not

have provided an accurate portrayal of individuals' distress during the first lockdown. Nonetheless, higher levels of distress may have been linked to the combined longevity of the second and third lockdowns that took place in Winter, a season potentially associated with lower mood in and of itself and potential confounder (Levitan, 2007).

*Implications*

Our findings provide evidence for the applicability of examining perceived coercion and procedural justice within the general population in relation to lockdown. In monitoring the general population's level of these inter-related constructs and applying these to the transactional model of stress and coping, we may be able to predict the psychological thermostat of the population, with a view to forecasting future need for psychological services and preparing such services. Such preparation is particularly important as scientists across the globe have forewarned of the likelihood of future epidemics that may require similar restrictions (The Lancet Respiratory, 2022).

*Directions for future research*

Our study provides initial insight into how perceived coercion, perceived pressures and procedural justice influence psychological wellbeing, and how these constructs are linked to coping mechanisms. Though it provides a broad examination of how the general population was impacted by the lockdowns, further spotlight is needed on whether there are specific groups that were more affected than others, for instance due to pre-existing health conditions, shielding status, demographic factors or other marginalized groups (Asmundson et al., 2020; Otu, Ahinkorah, Ameyaw, Seidu, & Yaya, 2020). It is likely that for some of these groups, a sense of coercion or pressure may have emerged from being asked to resume face-to-face activities whilst lockdown itself may have felt protective, and for others the ability to lockdown

itself was challenging due to homelessness, mixed or crowded households. Such further examination could include a qualitative study that examined individuals' personal experiences and whether there were specific factors that contributed to their perceptions that may not have been detected in this quantitative study.

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# Part 3: Critical Appraisal

This thesis was both a cathartic and challenging endeavour. The initial idea for the study first emerged in February 2020 with my dear mentor (and one of my supervisors), Prof Sarah Edwards, with whom I share an interest in bioethics. Over lunch, she remarked that it may be interesting to apply the theme of my PhD, perceived coercion, to an outbreak of which we knew little of, that was unfolding in parts of China. Applying the construct of perceived coercion, a concept more commonly used to describe someone's experience at admission to a mental health hospital, was a tentative hypothesis. We forwarded an initial adaptation of the MacArthur Admission Experience Survey to potential collaborators in China and stood by as observers. These came back to us expressing fear of the potential impact of including a topic such as coercion within their research. It wasn't until a month later, with the onset of COVID-19 across Europe, that the study officially began. It began amid the harrowing images of Bergamo's hospitals full, beyond capacity, of patients wearing oxygen helmets and of army trucks transporting bodies to crematoria. It began as I watched my Italian family, from a distance, go into one of the strictest lockdowns across the globe whilst sick with suspected COVID-19. Though far from family and symptomatic for months, I am one of the lucky ones. Most of my family are alive following multiple lockdowns and we have all, so far, escaped the clutches of serious COVID-19 illness.

Reflecting on the context of the study, and its set-up, methodology and findings, some instances stood out as points of learning that may be useful also to other researchers. Being a COVID-19 researcher provided a way of connecting with the world while isolated. Though at first, conducting the research may have been a distraction or coping mechanism in light of world events and a way of feeling a sense of community and togetherness whilst segregated from others, there were also significant challenges in conducting the research. Living through a pandemic whilst researching the psychological impact of that same pandemic can have an

added psychological and physical toll. The rapid and uncertain nature of restrictions had implications for our ability to set up a timely study on the very topic of restrictions, particularly when there are delays to ethical approval or other processes beyond the research team's control. Needing to ensure that the study was set up and data was collected in as close a timeframe to the first lockdown despite such delays translated to acute work-life imbalance for me until the baseline data was collected. From memory, multiple surveys were distributed during the first lockdown across the UK on a variety of topics ranging from mental health, nutrition, and socioeconomic impact amongst others. As our data for the first wave was collected towards the end of the first lockdown, participants may have experienced survey fatigue which may have meant that data collection was more extensive as more participants had to be approached to ensure we had adequate power for our analyses. All these factors contributed to having little time to process the psychological impact of the pandemic until months afterwards when it was coupled with burnout. Looking back over this time, I learned valuable lessons about imposing boundaries for my wellbeing and being stricter about my self-care in addition to being aware of what core belief may be fuelling my drive to place work above self-care. I am conscious that this later awareness also stems from my clinical training and that it is not something that I have found has been actively encouraged within prior research jobs. This, to me, highlights the need for junior researchers to have either a one-to-one or group space where topics such as potential triggers and the personal impact of conducting research in a sensitive area are explored in addition to line management meetings.

Furthermore, completing research at the same time as holding service users' needs in mind is a balancing act for all clinical academics, outside of the context of a pandemic. When the most frequent contact a trainee clinical psychologist who is 'learning the ropes' has with the outside world is with individuals presenting with mental health difficulties that are looking to them for

help, while in the midst of enforced and/or solitary isolation, this too can have a significant psychological impact. When holding family's anxiety in relation to COVID-19 or the impact of restrictions (i.e. unemployment) with little containment within clinic or in one's personal life in addition to the experiences listed above, this too can be more challenging. In thinking of a potential solution, a few come to mind. Yet, these are dependent on the availability of supportive interpersonal relationships, trust, workload and ability to express one's needs. For instance, supervision in clinic is often regarded as the more appropriate place to speak of how one's clinical work may be affected by one's own past experiences or current context and vice versa. In practice, this may not always be possible. Supervision, in my experience, can be scant on some placements or workloads may be so heavy as to leave little space to discuss triggers due to the practical and/or immediate needs of the client or clinic. On some placements, it may not feel quite 'safe' to discuss the personal impact of scenarios one comes into contact with, particularly where placements are brief, where supervision duties are shared between supervisors or where one senses that there are differences in privilege of which discussion may not be welcomed. Another factor that is important to highlight is the power imbalance between the supervisor and the trainee whose role is to guide but also to judge trainees' performance. Unlike our clients whom we encourage to speak and reveal snippets of vulnerability with time with a focus on not placing judgement upon their thoughts or actions, the same cannot be genuinely said of trainees coming to supervision. We are there to, in primis, provide a service and, on some placements, expected to do so quietly.

Using social media platforms as a method of recruitment can be an impactful, practical and speedier way of recruiting participants. However, in the aftermath of the European Court of Justice rulings that demanded stricter checks on content posted on social media, recruiting via platforms such as Facebook/Meta has become more difficult. For instance, Facebook/Meta

now imposes limits on the number of posts you can make, groups you can join and pages you can 'like' within a day, thus limiting your daily potential recruitment rate. Furthermore, in light of the Facebook-Cambridge Analytica scandal, there are now substantial restrictions too on the type of advertisements one can post. For this study, we were unable to post any paid adverts despite multiple attempts due to the subject of the study. There was no solution to this as Facebook/Meta does not list a phone number or email you can contact them on and attempts at contacting them through their website went unanswered.

Conducting our research online increased geographical accessibility to the study. Over 800 Facebook/Meta groups' pages/walls and 100 Reddit threads were used to advertise the study ranging across all parts of the UK. The simplest way to identify these groups was by locating a map of the UK and searching for whether the most densely populated cities, towns and villages per county had groups or threads one could post to. Although this method was fruitful and attracted participants to the survey, many of those who took part were white, older females. This differed from the predominant demographic of these two social media platforms which, according to Facebook and Reddit, is mainly composed of 25-34 year olds and 18-29 year olds, respectively. Our older sample may be indicative of the users who belong to community groups or there may have been other factors at play. Considering this demographic and the concurrent timing of the Black Lives Matter movement, it felt important to me to attract more participants from different ethnic backgrounds. Upon receiving advice from Asian and Arabic friends, family and colleagues, I searched for differing cultural and religious groups that I could speak to and recruit from. Whilst I am more familiar with Middle Eastern culture as part of my family is Syrian Lebanese, I sometimes felt like an intruder when posting to certain groups as I was acutely aware of being a White person using these groups for my gain to a certain extent. I was also made aware by colleagues that surveys can be met with distrust by certain communities,

particularly if they addressed an aspect relating to COVID-19. Despite these attempts, many of our respondents continued to be White, a notable limitation to the study that I tried to readdress in a qualitative sub-study not presented as part of this thesis due to word count and time constraints.

In addition to the barriers presented above, the use of an online survey may present a further obstacle for those with literacy or technological literacy difficulties to be included. This obstacle extended also to the research team. One technological difficulty we experienced was linked to Opinio, the first online survey system we used, crashing and our survey remaining offline at a crucial timepoint of data collection. Though UCL had a specialised team that managed Opinio, there was no contact number we could dial for speedy help. After this experience, we decided to use Qualtrics and did not experience this difficulty since. In future, I would select and recommend a survey system that encompasses both a user-friendly interface and one that is perhaps better known for it is likely to have a greater support package if needed. An advantage to the use of both online surveys was that these also provided participants with the capacity for anonymity. However, such anonymity, in the context of an emotionally charged topic, also gave way to behaviour that could be classified as intimidating or perturbing. As a female researcher, I received enquiries regarding my marital status, availability and sexual preferences. They are, unfortunately, commonplace on the internet and something that I, like many other women, am somewhat habituated to. However, such comments also emerged alongside the news of multiple high-profile cases of femicide and rape in England. Such comments or enquiries would have been easy for me to delete or disregard, yet as a by-product of these cases, they were reported. Though I had a husband to safely express anger or fear to which felt sufficient, researchers, particularly if younger or living alone, may benefit from having an agreed figure with whom they feel safe to debrief with.

There were other instances of challenging behaviour that emerged during recruitment. In attempting to make the survey more inclusive of all genders, I contacted Gendered Intelligence, a notable charity whose aim is to increase the general population's understanding of gender diversity and improve the lives of trans people, to ask what gender options they felt would be important to list in the survey. Upon including these options, I was met by comments, from individuals who identified as female, that were transphobic in nature. These comments centred upon a narrative that the needs of those assigned female at birth were being disregarded in the survey and that transwomen should not have the option of selecting 'woman' within the survey. After attempts to politely reassure these individuals that that was not the case to no avail, I opted to disengage. My need to reassure these individuals may have come from my own identification as a woman, my own anxiety to recruit enough participants, and my own desire to be trans-inclusive stemming from my prior experience of conducting research with the Gender Identity Development Service at the Tavistock a few years ago. Though I am comfortable with my gender identity, it is important for research leads to be conscious that other researchers within a team may not be and may require further scaffolding had they encountered a comparable situation. Similarly to what was highlighted in the paragraph above, it may be beneficial for research teams to identify a figure with whom more junior researchers can feel they debrief with. In light of the sensitivity of the topic, it may be helpful for such figures to be outside of the immediate research team or not in the position of line managing the individual.

As expected, many of the comments received also articulated that COVID-19 was a hoax. These posters of these comments expressed distrust of the survey, with some comments conveying that I was 'out to get them' and 'prove' they had a mental health condition for which they could be sectioned. Though I provided reassurance that the survey was anonymous and

that I was interested in understanding the viewpoints of all sectors of the public rather than disputing the veracity of COVID-19 being a real or fabricated illness, I was also clear that I was collecting the data in my capacity as a health professional and that the study was about the public's perceptions and experiences of lockdown. I felt that hiding my position, a position which likely identified me as a COVID 'believer', would have been deceitful and risked augmenting these individuals' sense of distrust. Some, I believe, eventually took part in the survey. However, this may a limitation to the survey that many COVID-19 research teams may find have found difficult to bridge. Though I am an immigrant in this country, following both Brexit and COVID-19, it seems as though this divide in opinions or sense of distrust has become more apparent. Research can help facilitate some reconnection, however, cannot be the sole way to rebuild such trust, particularly in the context of partygate, rule-breaking and in instances where cabinet members openly state that the country is "sick of experts".

On a limited number of occasions, social media posts and survey responses also garnered replies or comments where individuals disclosed risk. Where risk was disclosed, I contacted both supervisors for debriefs and followed the risk protocol. Though our information sheets included details of how to source help if in crisis, all individuals, where possible, were redirected towards their local A&E, the NHS crisis website (https://www.nhs.uk/nhs-services/mental-health-services/where-to-get-urgent-help-for-mental-health/) and their GP. Though research does not always carry the same level of responsibility regarding risk monitoring as clinical practice, these experiences highlighted the importance of having a risk plan and a clinical supervisor with whom to debrief with. Worryingly, nonetheless, was the fact that such disclosures were not always apparent during typical office hours and that it was not always possible to determine the identity of the poster. Comparably to clinical practice, it

may be necessary for research teams to establish an on-call rota in preparation for the possibility of such events, depending on the nature of the research.

As a penultimate note, the thesis presented here is a snapshot of a larger international mixed-methods study on perceived coercion arising from lockdown spanning ten countries across the globe (for further information, please visit: http://thecovid19wellbeingstudy.org). It came together, on a shoestring, after reaching out to colleagues in the European Violence in Psychiatry Research group who share the same interest in bioethics and coercion. It consists of the online survey presented within this thesis (replicated across participating countries) and a series of asynchronous virtual focus groups in some participating countries (UK, Norway, Italy and Australia). The analysis of the international comparison data and the asynchronous virtual focus groups is ongoing. Solely the online survey is presented in this thesis due to the time restraints of the DClinPsy programme. I am grateful for this international collaboration as it afforded me the opportunity to acquire leadership skills whilst in training. In addition to this international comparison, I recruited two fellow trainees who took a special interest in perceived coercion and are presenting their own DClinPsy theses on perceptions of coercion arising from working as healthcare professionals with COVID-19 patients during the pandemic (Ms Andrea Sem Stoltenberg) and in individuals previously identified by the UK government as 'clinically extremely vulnerable' who were advised to 'shield' during lockdown (Ms Josie Harris). With the support of the Department of Science and Technology Studies at UCL for whom I was an honorary research associate, I was also able to acquire two summer interns to assist with recruitment to the survey, logo design and initial coding of the qualitative data. An unexpected area in which I gained experience was in website design. With the help of Paolo Callea, I learned how to structure the aforementioned website to include information regarding

the study and links to the international surveys. I don't, nonetheless, pretend to know the slightest thing about coding.

One joyful though complicating factor in completing this thesis pertained to being pregnant in my final year of training. As I write this chapter, I am nearing my 35$^{th}$ week of pregnancy and hoping to deliver said thesis before baby. If you are reading this over the Summer period prior to a September 2022 viva, it means that I've managed to do so! In many ways, I am grateful that the topic of my thesis was on COVID-19 as data collection was completed by the end of my second year of clinical training. The first few months of final year were marked by disabling morning sickness that caused delays in being able to clean datasets and analyse the data. I have been shown immense kindness, understanding and encouragement by my research and clinical supervisors in the last year in particular. So-called 'baby brain' has meant that my dear supervisor, Prof Sunjeev K Kamboj, had to patiently introduce and re-introduce me to Stata, structural equation modelling, and path analysis, none of which I was previously familiar with. (Sunjeev – if you are reading this – THANK YOU!). Looking back, I am happy to have had that challenge as it provided me with an opportunity for growth and learning. It reminds me of my very first day on the course where we were shown a graph depicting the four stages of learning, ranging from unconscious and conscious incompetence to conscious and unconscious competence. Now, towards the end of training, I feel I am pendulating between the latter three.

# APPENDICES

# ETHICAL APPROVAL

**UCL RESEARCH ETHICS COMMITTEE**
**OFFICE FOR THE VICE PROVOST RESEARCH**

15th July 2020

Professor Sunjeev Kamboj
Department of Clinical, Educational and Health Psychology
UCL

Cc: Professor Sarah Edwards, Dr Veronica Ranieri & Ms Andrea Stoltenberg

Dear Professor Kamboj

**Notification of Ethics Approval with Provisos**
**Project ID/Title: 7335/004: The COVID-19 Wellbeing Study: Perceived coercion and psychological wellb the COVID-19 pandemic**

Further to your satisfactory responses to the Committee's comments, I am pleased to confirm in my capacity as Chair of the UCL Research Ethics Committee (REC) that your study has been ethically approved by the UCL REC until **15th July 2021.**

**Ethical approval is granted on the following provisos:**

1. Clarify if the anonymised data that will be retained for 10 years will be made available to other researchers during this time, and if so this needs to be made explicit in the information sheets and consent forms. Please clarify this before the study commences.

2. Norwegian ethical approval is obtained and submitted to us for record before the study commences.

As you will be submitting a modification at a later stage to include Ireland in this study, please submit the ethical approval from Dundalk Institute of Technology University when you submit the amendment request.

Also, in view of the fast developments of the pandemic, the numerous projects being initiated and the constantly changing framework, please provide us with regular updates **every 3 months** regarding the ethical aspects of your project and the specific problems (if any) that you have encountered. At the end of the study, as part of the final report you have to submit to the UCL REC, please include alongside a brief outline of the research outcomes, any experiences which would be valuable for informing the fast-track COVID review process, and in turn subsequent fast-tracked studies.

Ethical approval is also subject to the following conditions:

**Notification of Amendments to the Research**
You must seek Chair's approval for proposed amendments (to include extensions to the duration of the project) to the research for which this approval has been given. Each research project is reviewed separately and if there are significant changes to the research protocol you should seek confirmation of continued ethical

# PARTICIPANT INFORMATION SHEET FOR THE ONLINE SURVEY

UCL Research Ethics Committee Approval ID Number: 7335/004

**You Can Also Download A Copy Of This Information Sheet From www.thecovid19wellbeingstudy.org**

**Title of Study:**

*The COVID-19 Wellbeing Study*

Perceived coercion and psychological wellbeing during the COVID-19 pandemic

**Department:**

Science & Technology Studies / Psychology & Language Sciences

**Name and Contact Details of the Researcher(s):**

Dr Veronica Ranieri T: +447474187218 E:v.ranieri@ucl.ac.uk
Ms Andrea Stoltenberg T: +447858923670 E:andrea.stoltenberg.19@ucl.ac.uk
Prof Sarah Edwards E:sarah.edwards@ucl.ac.uk
Prof Sunjeev Kamboj E:sunjeev.kamboj@ucl.ac.uk

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*You are being invited to take part in a research project. Before you decide, it is important for you to understand why the research is being done and what participation will involve. Please take your time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. The data collected for this project will also form part of a clinical psychology doctoral thesis for Veronica Ranieri and Andrea Stoltenberg. Thank you for reading this.*

1. **What is the project's purpose?**
   The aim of the study is to understand the lived experiences of those who have been placed under governmental lockdown or are key workers working during the COVID-19 pandemic. We would like to primarily understand how these experiences, and other background factors, have impacted on your perceptions of coercion and psychological wellbeing resulting from the lockdown or working as a key worker during the COVID-19 pandemic. Previous research has identified that an individual's perceptions or appraisal of a situation may impact on their psychological wellbeing and coping mechanisms. When a situation is perceived negatively, it can lead to experiences of psychological distress and differences in the type or frequency of coping mechanisms we use to help manage the situation. We are, therefore, interested in how you experienced the extent to which you perceived the lockdown as coercive or pressured, and your psychological wellbeing.

2. **Why have I been chosen?**
   We are inviting you to take part as someone who has experienced governmental lockdown due to the COVID-19 pandemic. We are inviting all individuals aged 18 years or older who have experienced governmental lockdown due to the COVID-19 pandemic and are ordinarily resident either in the UK or Italy to participate.

3. **Do I have to take part?**
   Participation in this study is voluntary. You may discontinue participating in the survey at any time without giving a reason by leaving the survey's webpage. Your data will only be stored should you complete the survey.

4. **What will happen to me if I take part?**
   If you would like to take part, we would ask that you fill in the online survey on a survey website called Opinio/Qualtrics. The survey will ask questions relating to perceived coercion, psychological

wellbeing, coping mechanisms, costs and healthcare usage and questions about your circumstances. We think that it may take you twenty minutes to fill it out.

We would also like to invite you to take part in a repeat of part of the survey (looking at perceived coercion, psychological wellbeing and coping only), and an online focus group or one-time interview to better understand your experiences. If you would like to take part in the second part of the study, please include your email address on the last page of the online survey. We will store email addresses separately from the survey data and will contact you using the email address you provide at a later time.

5. **What are the possible disadvantages and risks of taking part?**
We do not expect that taking part in this survey will place you at risk of harm. However, you may feel some emotional distress during or after the survey due to the nature of the topic. Should you experience significant distress, arising during or as a consequence of the research, please tell us. We will urge you to contact a health professional such as your General Practitioner and can redirect you to services available in your area. On our website **www.thecovid19wellbeingstudy.org** you will also be able to find multiple contact details for organisations providing support, such as the Samaritans on 116 123; SANEline on 0300 304 7000 and the The Mix for those under 25, on 0808 808 4994.

6. **What are the possible benefits of taking part?**
Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will help shape future clinical practice, government policy, and research, in relation to supporting individuals during pandemics.

7. **What if something goes wrong?**
Should you encounter any difficulties during the online survey, please contact Veronica at v.ranieri@ucl.ac.uk or Andrea at andrea.stoltenberg.19@ucl.ac.uk

Should you have queries regarding the overall conduct of the study, please contact Sarah at sarah.edwards@ucl.ac.uk or Sunjeev at sunjeev.kaboj@ucl.ac.uk

Should you feel that your concern is not adequately addressed by the research team and wish to raise a complaint, please contact the Chair of the UCL Research Ethics Committee at ethics@ucl.ac.uk

8. **Will my taking part in this project be kept confidential?**
All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any ensuing reports or publications. Any identifiable information (i.e. your email) will be stored on UCL's Data Safe Haven, a GDPR-compliant, encrypted system for the duration of the study. The data will be analysed by the research team.

9. **What will happen to the results of the research project?**
The results of this research may feature in peer-reviewed publications, national or international conferences or media. You will not be able to be identified in any ensuing reports or publications. We will add any outputs from the study onto our website for you to access once analysed and written.

10. **What if I change my mind and would like to withdraw my information?**
As this is an anonymous survey, we will be unable to identify your data from it to withdraw it. If you have left your email address in the final page to take part in a follow-up survey or qualitative sub-study, we can delete your email address from our records at any time. Should you wish to withdraw your email address, please email this request in writing to Veronica at v.ranieri@ucl.ac.uk or Andrea at andrea.stoltenberg.19@ucl.ac.uk"

**11. Local Data Protection Privacy Notice**

**Notice:**
The controller for this project will be University College London (UCL). The UCL Data Protection Officer provides oversight of UCL activities involving the processing of personal data, and can be contacted at data-protection@ucl.ac.uk

This 'local' privacy notice sets out the information that applies to this particular study. Further information on how UCL uses participant information can be found in our 'general' privacy notice found at https://www.ucl.ac.uk/legal-services/privacy/ucl-general-privacy-notice-participants-and-researchers-health-and-care-research-studies

The information that is required to be provided to participants under data protection legislation (GDPR and DPA 2018) is provided across both the 'local' and 'general' privacy notices.

The categories of personal data used will be as follows: age, geographical region, employment status and household income, psychological and physical health, and healthcare resource usage

The lawful basis that would be used to process your *personal data* will be performance of a task in the public interest. The lawful basis used to process *special category personal data* will be for scientific and historical research or statistical purposes.

Your personal data will be processed so long as it is required for the research project. We will anonymise all personal data you provide and will endeavour to minimise the processing of personal data wherever possible.

If you are concerned about how your personal data is being processed, or if you would like to contact us about your rights, please contact UCL in the first instance at data-protection@ucl.ac.uk.

**12. Who is organising and funding the research?**
The research is led by researchers at University College London (UCL). UCL is sponsoring the research.

**Thank you for reading this information sheet and for considering taking part in this research study.**

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Vs 1.1 25.05.2020

**PARTICIPANT CONSENT FORM FOR THE ONLINE SURVEY**
UCL Research Ethics Committee Approval ID Number: 7335/004

**Title of Study:**
*The COVID-19 Wellbeing Study*
Perceived coercion and psychological wellbeing during the COVID-19 pandemic

**Department:**
Science & Technology Studies / Psychology & Language Sciences

**Name and Contact Details of the Researcher(s):**
Dr Veronica Ranieri T: +447474187218 E:v.ranieri@ucl.ac.uk
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**Name and Contact Details of the UCL Data Protection Officer: Alexandra Potts data-protection@ucl.ac.uk**

**This study has been approved by the UCL Research Ethics Committee: Project ID number: _____**

**Please complete this form after you have read the Information Sheet about the research.**

Thank you for considering taking part in this research. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in.

**I confirm that I understand that by ticking/initialling each box below I am consenting to this element of the study. I understand that it will be assumed that unticked/initialled boxes means that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.**

| | | Tick Box |
|---|---|---|
| 1. | *I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction. | |
| 2. | *I consent to participate voluntarily in the study. Data from incomplete surveys will not be kept.<br><br>I understand that my personal information (such as age, gender, geographical region, emotional and physical wellbeing scores and healthcare resource usage data) will be used for the purposes explained to me. I understand that according to data protection legislation, 'public task' will be the lawful basis for processing, and 'research purposes' will be the lawful basis for processing special category data. | |

| | | |
|---|---|---|
| 3. | *I understand that I will be unable to withdraw my data after I complete the anonymous survey.<br><br>Should I wish to take part in a repeat of part of the survey (looking at perceived coercion, psychological wellbeing and coping only), and/or further online focus group or interview, I will provide an email address of my choosing for the researcher to contact me on. This email address will be stored separately from my survey data and will not be used to identify me. | |
| 4. | *I understand that my data gathered in this study will be stored anonymously and securely. I understand that the information I have submitted will be published as peer-reviewed publications and I can access a copy of these online or on www.thecovid19wellbeingstudy.org. It will not be possible to identify me in any publications. | |
| 5. | *I understand that my information may be subject to review by responsible individuals from University College London for monitoring and audit purposes. | |
| 6. | I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.<br><br>I understand that no promise or guarantee of benefits have been made to encourage me to participate.<br><br>I understand that I will not benefit financially from this study or from any possible outcome it may result in in the future.<br><br>I am aware of who I should contact if I wish to lodge a complaint. | |

# ONLINE BASELINE SURVEY

Start of Block: Demographic & Background Qauestions

1 What country do you reside in?

(Please select option that applies)

- ○ England (1)
- ○ Wales (2)
- ○ Scotland (3)
- ○ Northern Ireland (4)

2 Which of these are you currently residing in?

(Please select option that applies)

- ○ Greater London (1)
- ○ South East (2)
- ○ South West (3)
- ○ West Midlands (4)
- ○ North West (5)
- ○ North East (6)
- ○ Yorskshire and the Humber (7)
- ○ East Midlands (8)
- ○ East Anglia (9)
- ○ Wales (10)
- ○ Scotland (11)
- ○ Northern Ireland (12)

3 What is your age?

(Please specify in years)

_____

4 Which gender do you identify with?

(Please select option that applies)

- ○ Female (1)
- ○ Male (2)
- ○ Non-binary (3)
- ○ Agender (4)
- ○ Prefer not to say (5)
- ○ Other (6) _____

5 What is your ethnicity?

(Please select option that applies)

- ○ Asian/Asian British (1)
- ○ Black/African/Caribbean/Black British (2)
- ○ Mixed/multiple ethnic groups (3)
- ○ White (4)
- ○ Prefer not to say (5)
- ○ Other ethnic group (6) _____

---

6 What is your nationality?

(If you have dual nationality, please pick the option that you most closely identify with)

▼ Stateless (1) ... Prefer not to say (198)

---

7 What is your marital status?

(Please select option that applies)

- ○ Single (1)
- ○ Married/in a relationship (2)
- ○ Divorced (3)
- ○ Widowed (4)

---

8 What is the highest level of education you have completed?

(Please select option that applies)

- ○ No formal schooling (1)
- ○ Primary/elementary school (2)
- ○ Secondary/middle-high school (3)
- ○ Undergraduate degree or diploma (4)
- ○ Postgraduate degree (5)
- ○ Doctoral degree (6)

---

9 What is your current employment status?

(Please select option(s) that applies/apply)

- [ ] Employed full-time (more than 35 hours a week) (1)
- [ ] Employed part-time (less than 35 hours a week) (2)
- [ ] Redeployed (3)
- [ ] Self-employed (4)
- [ ] Furloughed (on payroll but not working at same capacity as pre-covid) (5)
- [ ] Unemployed (currently looking for work) (6)
- [ ] Unemployed (not currently looking for work) (7)
- [ ] Student (8)
- [ ] Studying and employed (9)
- [ ] Studying and self-employed (10)
- [ ] Retired (11)
- [ ] Unable to work (i.e. due to COVID-19, other illnesses or other factors) (12)
- [ ] On maternity leave (13)
- [ ] On leave (other than maternity leave) (14)

---

11 Are you generally able to follow government recommendations at your workplace to prevent the spread of COVID-19?

(Please select option that applies)

- ○ Yes, very (1)
- ○ Yes, a little (2)
- ○ Not at all (3)
- ○ Not applicable (4)

---

12 Have you experienced a loss of income since the COVID-19 pandemic?

(Please select option that applies)

- ○ Yes, a significant loss (1)
- ○ Yes, some loss (2)
- ○ No loss (3)
- ○ No, a gain (4)
- ○ Prefer not to say (5)

---

13 Are you a key worker during the COVID-19 pandemic in one of the following areas?

(Please select option that applies)

- ○ Health and social care (1)
- ○ Education and childcare (2)
- ○ Public service (3)
- ○ Transport (4)
- ○ Food and other necessary goods (5)
- ○ Public safety and national security (6)
- ○ Local and national government (7)
- ○ Utilities, communications and financial services (8)
- ○ Not a key worker (9)

End of Block: Demographic & Background Questions

Start of Block: Household

22 Are/were you in lockdown?

(Please select option that applies)

- ○ Alone (1)
- ○ With partner/spouse (2)
- ○ WIth children (3)
- ○ With parents (4)
- ○ With other members of family (5)
- ○ WIth friends (6)
- ○ With housemates (7)

---

23 Since the lockdown came into effect, have you experienced a change in how close you feel to the people in your household?

(Please select option that applies)

- ○ Yes, I feel a lot closer to them (1)
- ○ Yes, I feel somewhat closer to them (2)
- ○ No change (3)
- ○ Yes, I feel somewhat less close to them (4)
- ○ Yes, I feel a lot less close to them (5)
- ○ Not applicable (6)

---

24 Do you have any caring responsibilities for:

(Please select all that apply)

- [ ] Young children or adolescents (1)
- [ ] Spouse/partner (2)
- [ ] Older adults (3)
- [ ] No caring responsibilities (4)
- [ ] Other (5) _____

End of Block: Household

Start of Block: Health & Wellbeing

25 Are you currently living with a condition that is considered high risk during the COVID-19 pandemic?
For example, you may be at high risk from coronavirus if you:- have had an organ transplant - are having certain types of cancer treatment - have blood or bone marrow cancer, such as leukaemia - have a severe lung condition, such as cystic fibrosis or severe asthma - have a condition that makes you much more likely to get infections - are taking medicine that weakens your immune system - are pregnant and have a serious heart condition
(Please select option that applies)

- ○ Yes (1)
- ○ No (2)
- ○ Unsure (3)
- ○ Prefer not to say (4)

26 Do you identify as having a disability or long-term condition?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)
- ○ Prefer not to say (3)

---

27 Have you experienced a change in your physical health since the spread of the pandemic, NOT due to symptoms of COVID-19?

(Please select option that applies)

- ○ Yes, I feel a lot better (1)
- ○ Yes, I feel somewhat better (2)
- ○ Not at all (3)
- ○ Yes, I feel a bit worse (4)
- ○ Yes, I feel a lot worse (5)

---

28 How many times, on average, did you attend the following services per month pre-COVID-19?

_____ GP (1)
_____ Other physical health specialist (2)
_____ Mental health worker (3)
_____ Other (4)

29 How many times, on average, do you attend the following services per month since the COVID-19 pandemic?

_____ GP (1)
_____ Other physical health specialist (2)
_____ Mental health worker (3)
_____ Other (4)

30 Have you experienced a change in your psychological wellbeing since the COVID-19 pandemic?

(Please select option that applies)

- ○ Yes, I feel a lot better (1)
- ○ Yes, I feel somewhat better (2)
- ○ Not at all (3)
- ○ Yes, I feel a bit worse (4)
- ○ Yes, I feel a lot worse (5)

31 Prior to the COVID-19 pandemic, did you ever receive a diagnosis of any of the following mental health difficulties?

(Please select all that apply)

- [ ] Agoraphobia (1)
- [ ] Depression (2)
- [ ] Bipolar disorder (3)
- [ ] Eating disorder (4)
- [ ] Anxiety and/or panic disorder (5)
- [ ] Personality disorder (6)
- [ ] Obsessive-compulsive disorder (7)
- [ ] Post-traumatic stress disorder (8)
- [ ] Psychotic spectrum disorder (9)
- [ ] Alcohol/substance use disorder (10)
- [ ] No formal diagnosis (11)
- [ ] Prefer not to say (12)
- [ ] Other (13) _____

32 Have you experienced a change in your level of loneliness since the start of the lockdown?

(Please select option that applies)

- ○ Yes, I have been feeling a lot less lonely (1)
- ○ Yes, I have been feeling somewhat less lonely (2)
- ○ Not at all/no difference (3)
- ○ Yes, I have been been feeling a little more lonely (4)
- ○ Yes, I have been feeling a lot lonelier (5)

---

33 Have you experienced a change in how frequently you are in contact with family outside your household since the lockdown?

(Please select option that applies)

- ○ Yes, we have been in contact a lot more (1)
- ○ Yes, we have been in contact somewhat more (2)
- ○ No change (3)
- ○ Yes, we have been in contact somewhat less (4)
- ○ Yes, we have been in contact a lot less (5)

---

34 Have you experienced a change in how frequently you are in contact with friends outside your household since the lockdown?

(Please select option that applies)

- ○ Yes, we have been in contact a lot more (1)
- ○ Yes, we have been in contact somewhat more (2)
- ○ No change (3)
- ○ Yes, we have been in contact somewhat less (4)
- ○ Yes, we have been n contact a lot less (5)

---

35 Have you experienced a change in how frequently you engage in moderate or vigorous exercise since the lockdown?

*Moderate-vigorous exercise is that which causes faster breathing, feeling warmer and raised heart rate.

(Please select option that applies)

- ○ Yes, I have been exercising a lot more (1)
- ○ Yes, I have been exercising somewhat more (2)
- ○ No change (3)
- ○ Yes, I have been exercising a bit less (4)
- ○ Yes, I have been exercising a lot less (5)

**End of Block: Health & Wellbeing**

---

**Start of Block: Access to healthcare resources**

36 Have you needed medical treatment for an acute or long-term condition (that was not COVID-19) since the start of the COVID-19 pandemic?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)

37 If yes, have you received this treatment?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)

---

38 Have you needed psychological treatment (talking therapies) since the start of the pandemic?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)

---

39 If yes, have you received psychological treatment?

- ○ Yes (1)
- ○ No (2)

**End of Block: Access to healthcare resources**

---

**Start of Block: Experiences of wellbeing during the COVID-19 pandemic**

40 Do you believe you have had COVID-19?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)
- ○ Unsure (3)

---

41 Have you been tested for COVID-19?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)

---

42 If yes, have you received confirmation of having COVID-19 following testing?

- ○ Yes (1)
- ○ No (2)
- ○ Not applicable (3)

---

43 Have you required medical treatment or been hospitalised for symptoms of COVID-19?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)
- ○ Not applicable (3)

---

44 Are you worried about becoming infected/reinfected with COVID-19?

(Please select option that applies)

- ○ Yes, very (1)
- ○ Yes, a little (2)
- ○ Not at all (3)

---

45 Are you worried about becoming severely ill with COVID-19?

(Please select option that applies)

- ○ Yes, very (1)
- ○ Yes, a little (2)
- ○ No, not at all (3)

---

46 Have any of your family members or close friends experienced serious illness associated with COVID-19?

(Please select option that applies)

- ○ Yes, several (1)
- ○ Yes, one (2)
- ○ No, none (3)

---

47 Have you experienced the sudden death of a relative or friend due to COVID-19?

(Please select option that applies)

- ○ Yes, due to being ill with COVID-19/suspected COVID-19 (1)
- ○ Yes, due to being unable to get help for another condition during the COVID-19 pandemic (2)
- ○ Yes, for another reason (3)
- ○ No (4)

---

48 Since the spread of COVID-19, have you shielded due to medical reasons?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)

49 Are you presently shielding due to medical reasons?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)

---

50 Since the spread of COVID-19, have you self-isolated?

(Please select option(s) that applies/apply)

- ☐ Yes, because I experienced symptoms of COVID-19 (1)
- ☐ Yes, because someone in my household experienced symptoms of COVID-19 (2)
- ☐ Yes, because I came into contact with someone who was a confirmed case of COVID-19 (3)
- ☐ Yes, because I returned from a country or region where there were many cases of COVID-19 (4)
- ☐ Yes, for another reason (5)
- ☐ No, I did not self-isolate (6)

---

51 If you self-isolated, was this prior to the UK lockdown coming into place?

*UK lockdown came into effect on 23/03/2020

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)

**End of Block: Experiences of wellbeing during the COVID-19 pandemic**

---

**Start of Block: Perceptions regarding the COVID-19 response**

52 How confident are you:

| | 0 - Not confident at all (1) | 1 (2) | 2 (3) | 3 (4) | 4 (5) | 5 - Very confident (6) |
|---|---|---|---|---|---|---|
| That access to essentials (access to food, water, medicines, deliveries) will be maintained during the pandemic and a possible second wave? (1) | ○ | ○ | ○ | ○ | ○ | ○ |
| In your government's response and ability to manage the spread of COVID-19? (2) | ○ | ○ | ○ | ○ | ○ | ○ |
| That the health system can meet essential healthcare needs and contain the spread of COVID-19? (3) | ○ | ○ | ○ | ○ | ○ | ○ |
| In your own knowledge about the COVID-19 virus? (4) | ○ | ○ | ○ | ○ | ○ | ○ |
| In your own knowledge about the government guidelines? (5) | ○ | ○ | ○ | ○ | ○ | ○ |

53 How concerned are you about the possibility of a second wave?

(Please select option that applies)

- ○ 0 - Not concerned at all (1)
- ○ 1 (2)
- ○ 2 (3)
- ○ 3 (4)
- ○ 4 (5)
- ○ 5 - Very concerned (6)

54 Are you following the recommendations form the authorities to prevent the spread of COVID-19 in your private life?

(Please select option that applies)

- ○ Very much so (1)
- ○ Mostly (2)
- ○ Somewhat (3)
- ○ Not much (4)
- ○ Not at all (5)

**End of Block: Perceptions regarding the COVID-19 response**

Start of Block: Perceptions of Coercion, Pressures, and Procedural Justice

59
Perceived Coercion

These statements look at your views regarding being at home during the lockdown.

Please try to answer each question individually, no matter how similar it may sound to another.

| | True (1) | False (2) |
|---|---|---|
| I had more influence than anyone else on whether I stayed at home during the lockdown (1) | ○ | ○ |
| I had a lot of control over whether I stayed at home or went out during the lockdown (2) | ○ | ○ |
| I chose to stay at home during the lockdown (3) | ○ | ○ |
| I felt free to do what I wanted about staying home or going out during the lockdown (4) | ○ | ○ |
| Although it was required by law, it was my choice to say at home during the lockdown (5) | ○ | ○ |

60 Perceived pressures

| | Yes (1) | No (2) |
|---|---|---|
| Did anyone (ie friends, family, partner, government or others) try to talk you into staying at home during the lockdown? (1) | ○ | ○ |
| Did anyone (ie friends, family, partner, government or others) offer or promise you anything to stay at home during the lockdown? (2) | ○ | ○ |
| Did anyone (ie friends, family, partner, government or others) threaten you into staying at home during the lockdown? (3) | ○ | ○ |
| Did anyone (ie friends, family, partner, government or others) force you to stay at home during the lockdown? (4) | ○ | ○ |

61 Procedural Justice

| | Very much (1) | Mostly /some (2) | A little (3) | Not at all (4) |
|---|---|---|---|---|
| To what extent did those (ie. friends, family, partner, government or other) who told you to stay home during the lockdown act out of concern? (1) | ○ | ○ | ○ | ○ |
| How much respect did those (ie. friends, family, partner, government or other) who told you to stay home during the lockdown treat you with? (2) | ○ | ○ | ○ | ○ |
| How seriously did those (ie. friends, family, partner, government or other) who told you to stay home during the lockdown consider what you had to say? (3) | ○ | ○ | ○ | ○ |
| How fairly were you treated in being asked to stay home during the lockdown? (4) | ○ | ○ | ○ | ○ |

62 Did you experience any pressure from others (i.e. friends family, government or others) to leave the house or return to pre-lockdown activities once lockdown ended?

(Please select option that applies)

- ○ Very much (1)
- ○ Some (2)
- ○ A little (3)
- ○ Not at all (4)
- ○ Not applicable to me as I am under lockdown (5)

End of Block: Perceptions of Coercion, Pressures, and Procedural Justice

---

Start of Block: The Depression, Anxiety and Stress Scale

63 Please read each statement and tick the option which indicates how much the statement applied to you over the past week. There are no right or wrong answers.

| | Did not apply to me (1) | Applied to me to some degree, or some of the time (2) | Applied to me to a considerable degree (3) | Applied to me very much or most of the time (4) |
|---|---|---|---|---|
| I was aware of dryness in my mouth (1) | ○ | ○ | ○ | ○ |
| I found it hard to wind down (2) | ○ | ○ | ○ | ○ |
| I couldn't seem to experience any positive feeling at all (3) | ○ | ○ | ○ | ○ |
| I experienced breathing difficulty (4) | ○ | ○ | ○ | ○ |
| I found it difficult to work up the initiative to do things (5) | ○ | ○ | ○ | ○ |
| I tended to overreact to situations (6) | ○ | ○ | ○ | ○ |
| I experienced trembling (eg. in the hands) (7) | ○ | ○ | ○ | ○ |
| I felt that I was using a lot of nervous energy (8) | ○ | ○ | ○ | ○ |
| I was worried about situations in which I might panic and make a fool of myself (9) | ○ | ○ | ○ | ○ |
| I felt that I had nothing to look forward to (10) | ○ | ○ | ○ | ○ |
| I found myself getting agitated (11) | ○ | ○ | ○ | ○ |
| I found it difficult to relax (12) | ○ | ○ | ○ | ○ |

| | | | | |
|---|---|---|---|---|
| I felt downhearted and blue (13) | ○ | ○ | ○ | ○ |
| I was intolerant of anything that kept me from getting on with what I was doing (14) | ○ | ○ | ○ | ○ |
| I felt I was close to panic (15) | ○ | ○ | ○ | ○ |
| I was unable to become enthusiastic about anything (16) | ○ | ○ | ○ | ○ |
| I felt I wasn't worth much as a person (17) | ○ | ○ | ○ | ○ |
| I felt that I was rather touchy (18) | ○ | ○ | ○ | ○ |
| I was aware of the action of my heart in the absence of physical exertion (19) | ○ | ○ | ○ | ○ |
| I felt scared without any good reason (20) | ○ | ○ | ○ | ○ |
| I felt that life was meaningless (21) | ○ | ○ | ○ | ○ |

End of Block: The Depression, Anxiety and Stress Scale

Start of Block: Brief COPE

**Brief COPE**

These items deal with ways you've been coping with the stress in your life since you found out you were going to have to have this operation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all
2 = I've been doing this a little bit
3 = I've been doing this a medium amount
4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real.".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.

20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation.

---

Scales are computed as follows (with no reversals of coding):

Self-distraction, items 1 and 19
Active coping, items 2 and 7
Denial, items 3 and 8
Substance use, items 4 and 11
Use of emotional support, items 5 and 15
Use of instrumental support, items 10 and 23
Behavioral disengagement, items 6 and 16
Venting, items 9 and 21
Positive reframing, items 12 and 17
Planning, items 14 and 25
Humor, items 18 and 28
Acceptance, items 20 and 24
Religion, items 22 and 27
Self-blame, items 13 and 26

**End of Block: Brief COPE**

**Post Traumatic Growth Inventory – Short Form**

Indicate for each of the statements below the degree to which this change occurred in your life as a result of the crisis/disaster, using the following scale.
*0 = I did not experience this change as a result of my crisis.*
*1 = I experienced this change to a very small degree as a result of my crisis.*
*2 = I experienced this change to a small degree as a result of my crisis.*
*3 = I experienced this change to a moderate degree as a result of my crisis.*
*4 = I experienced this change to a great degree as a result of my crisis.*
*5 = I experienced this change to a very great degree as a result of my crisis*

1. I changed my priorities about what is important in life.

2. I have a greater appreciation for the value of my own life.

3. I am able to do better things with my life.

4. I have a better understanding of spiritual matters.

5. I have a greater sense of closeness with others.

6. I established a new path for my life.

7. I know better that I can handle difficulties.

8. I have a stronger religious faith.

9. I discovered that I'm stronger than I thought I was.

10. I learned a great deal about how wonderful people are.

End of Block: Post-Traumatic Growth Inventory - Short Form

Start of Block: End of survey

***Thank you*** *for taking the time to participate in the COVID-19 Wellbeing Study online survey.*

*We are hoping to repeat part of this survey in up to 3 months' time.*

*We would also like to further speak to you about your perceptions of coercion and psychological wellbeing, by means of an online focus group or individual interview.*

66 If you are happy for the researchers to contact you about repeating part of the survey and/or speaking to us about your views and experiences, please leave your email address in the box below:

_____

End of Block: End of survey

# ONLINE FOLLOW-UP SURVEY

Start of Block: Demographic & Background Questions

1 What is your participant ID?

*If you cannot find your participant ID, please input your email address.

_____

2 Which of these are you currently residing in?

(Please select option that applies)

- Greater London (1)
- South East (2)
- South West (3)
- West Midlands (4)
- North West (5)
- North East (6)
- Yorskshire and the Humber (7)
- East Midlands (8)
- East Anglia (9)
- Wales (10)
- Scotland (11)
- Northern Ireland (12)

7 Have you experienced a change in your marital status following the first lockdown?

(Please select option that applies)

- ○ Yes, I am now single (1)
- ○ Yes, I am now married/in a relationship (2)
- ○ Yes, I am now divorced (3)
- ○ Yes, I am now widowed (4)
- ○ No change (5)

---

9 Have you experienced a change in your current employment status following the first lockdown?

(Please select option(s) that applies/apply)

- [ ] Yes, I am now employed full-time (more than 35 hours a week) (1)
- [ ] Yes, I am now employed part-time (less than 35 hours a week) (2)
- [ ] Yes, I am now redeployed (3)
- [ ] Yes, I am now self-employed (4)
- [ ] Yes, I am now furloughed (on payroll but not working at same capacity as pre-covid) (5)
- [ ] Yes, I am now unemployed (7)
- [ ] Yes, I am now a student (8)
- [ ] Yes, I am now studying and employed/self-employed (9)
- [ ] Yes, I am now Retired (11)
- [ ] Yes, I am now unable to work (i.e. due to COVID-19, other illnesses or other factors) (12)
- [ ] Yes, I am now on maternity leave (13)
- [ ] Yes, I am now on leave (other than maternity leave) (14)
- [ ] No change (15)

---

22 Are you in lockdown (or circuit or fire break):

(Please select option that applies)

- [ ] Alone (1)
- [ ] With partner/spouse (2)
- [ ] WIth children (3)
- [ ] With parents (4)
- [ ] With other members of family (5)
- [ ] WIth friends (6)
- [ ] With housemates (7)

End of Block: Demographic & Background Questions

Start of Block: Health & Wellbeing

27 Have you experienced a change in your physical health during the second/third lockdown (or circuit or fire break) in comparison to the first lockdown, NOT due to symptoms of COVID-19?

(Please select option that applies)

- ○ Yes, I feel a lot better (1)
- ○ Yes, I feel somewhat better (2)
- ○ Not at all (3)
- ○ Yes, I feel a bit worse (4)
- ○ Yes, I feel a lot worse (5)

30 Have you experienced a change in your psychological wellbeing during the second/third lockdown (or circuit or fire break) in comparison to the first lockdown?

(Please select option that applies)

- ○ Yes, I feel a lot better (1)
- ○ Yes, I feel somewhat better (2)
- ○ Not at all (3)
- ○ Yes, I feel a bit worse (4)
- ○ Yes, I feel a lot worse (5)

---

32 Have you experienced a change in your level of loneliness since the start of the second/third lockdown (or circuit or fire break) in comparison to the first lockdown?

(Please select option that applies)

- ○ Yes, I have been feeling a lot less lonely (1)
- ○ Yes, I have been feeling somewhat less lonely (2)
- ○ Not at all/no difference (3)
- ○ Yes, I have been been feeling a little more lonely (4)
- ○ Yes, I have been feeling a lot lonelier (5)

---

35 Have you experienced a change in how frequently you engage in moderate or vigorous exercise since the start of the second/third lockdown (or circuit or fire break) in comparison to the first lockdown?

*Moderate-vigorous exercise is that which causes faster breathing, feeling warmer and raised heart rate.

(Please select option that applies)

- ○ Yes, I have been exercising a lot more (1)
- ○ Yes, I have been exercising somewhat more (2)
- ○ No change (3)
- ○ Yes, I have been exercising a bit less (4)
- ○ Yes, I have been exercising a lot less (5)

End of Block: Health & Wellbeing

Start of Block: Access to healthcare resources

36 Have you needed medical treatment for an acute or long-term condition (that was not related to COVID-19) during second/third lockdown (or circuit or fire break)?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)

37 If yes, have you received this treatment?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)

38 Have you needed psychological treatment (talking therapy) during the second/third lockdown (or circuit or fire break)?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)

---

39 If yes, have you received psychological treatment?

- ○ Yes (1)
- ○ No (2)

End of Block: Access to healthcare resources

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Start of Block: Experiences of wellbeing during the COVID-19 pandemic

40 Do you believe you have had COVID-19?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)
- ○ Unsure (3)

---

41 Have you been tested for COVID-19?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)

---

42 If yes, have you received confirmation of having COVID-19 following testing?

- ○ Yes (1)
- ○ No (2)
- ○ Not applicable (3)

---

43 Have you required medical treatment or been hospitalised for symptoms of COVID-19?

(Please select option that applies)

- ○ Yes (1)
- ○ No (2)
- ○ Not applicable (3)

---

44 Are you worried about becoming infected/reinfected with COVID-19?

(Please select option that applies)

- ○ Yes, very (1)
- ○ Yes, a little (2)
- ○ Not at all (3)

---

45 Are you worried about becoming severely ill with COVID-19?

(Please select option that applies)

- ○ Yes, very (1)
- ○ Yes, a little (2)
- ○ No, not at all (3)

---

46 Have any of your family members or close friends experienced serious illness associated with COVID-19?

(Please select option that applies)

- ○ Yes, several (1)
- ○ Yes, one (2)
- ○ No, none (3)

---

47 Have you experienced the sudden death of a relative or friend associated with COVID-19?

(Please select option that applies)

- ○ Yes, due to being ill with COVID-19/suspected COVID-19 (1)
- ○ Yes, due to being unable to get help for another condition during the COVID-19 pandemic (2)
- ○ Yes, for another reason (3)
- ○ No (4)

---

50 Since the start of the pandemic, have you self-isolated?

(Please select option(s) that applies/apply)

- ☐ Yes, because I experienced symptoms of COVID-19 (1)
- ☐ Yes, because someone in my household experienced symptoms of COVID-19 (2)
- ☐ Yes, because I came into contact with someone who was a confirmed case of COVID-19 (3)
- ☐ Yes, because I returned from a country or region where there were many cases of COVID-19 (4)
- ☐ Yes, for another reason (5)
- ☐ No, I did not self-isolate (6)
- ☐ Shielded (7)

Q82 What types of restrictions have you experienced since the start of the pandemic in the UK?

- ☐ National lockdown (1)
- ☐ Local lockdown (2)
- ☐ Medium / Tier 1 restrictions: Rule of six if meeting indoors or outdoors; pubs and restaurants shut at 10pm (3)
- ☐ High / Tier 2 restrictions: No household mixing indoors; rule of six applies outdoors; pubs and restaurants shut at 10pm (4)
- ☐ Very high / Tier 3 restrictions: No household mixing indoors or in some outdoor spaces; pubs and bars not serving meals are closed (5)
- ☐ Firebreak lockdown / circuit breaker (6)
- ☐ Other (7) _____

**End of Block: Experiences of wellbeing during the COVID-19 pandemic**

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**Start of Block: Perceptions regarding the COVID-19 response**

52 How confident are you:

| | 0 - Not confident at all (1) | 1 (2) | 2 (3) | 3 (4) | 4 (5) | 5 - Very confident (6) |
|---|---|---|---|---|---|---|
| In your government's response and ability to manage the spread of COVID-19? (2) | ○ | ○ | ○ | ○ | ○ | ○ |
| That the health system can meet essential healthcare needs and contain the spread of COVID-19? (3) | ○ | ○ | ○ | ○ | ○ | ○ |
| In your own knowledge about the COVID-19 virus? (4) | ○ | ○ | ○ | ○ | ○ | ○ |
| In your own knowledge about the government guidelines? (5) | ○ | ○ | ○ | ○ | ○ | ○ |

53 How concerned are you about the possibility of subsequent waves of COVID-19?

(Please select option that applies)

- ○ 0 - Not concerned at all (1)
- ○ 1 (2)
- ○ 2 (3)
- ○ 3 (4)
- ○ 4 (5)
- ○ 5 - Very concerned (6)

End of Block: Perceptions regarding the COVID-19 response

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Start of Block: Perceptions of Coercion, Pressures, and Procedural Justice

59
Perceived Coercion

These statements look at your views regarding being at home during the second/third lockdown / firebreak/ circuit break.

Please try to answer each question individually, no matter how similar it may sound to another.

| | True (1) | False (2) |
|---|---|---|
| I had more influence than anyone else on whether I stayed at home during the second/third lockdown (1) | ○ | ○ |
| I had a lot of control over whether I stayed at home or went out during the second/third lockdown (2) | ○ | ○ |
| I chose to stay at home during the second/third lockdown (3) | ○ | ○ |
| I felt free to do what I wanted about staying home or going out during the second/third lockdown (4) | ○ | ○ |
| Although it was required by law, it was my idea to stay at home during the second/third lockdown (5) | ○ | ○ |

60 Perceived pressures

| | Yes (1) | No (2) |
|---|---|---|
| Did anyone (ie friends, family, partner, government or others) try to talk you into staying at home during the second/third lockdown? (1) | ○ | ○ |
| Did anyone (ie friends, family, partner, government or others) offer or promise you anything to stay at home during the second/third lockdown? (2) | ○ | ○ |
| Did anyone (ie friends, family, partner, government or others) threaten you into staying at home during the second/third lockdown? (3) | ○ | ○ |
| Did anyone (ie friends, family, partner, government or others) force you to stay at home during the second/third lockdown? (4) | ○ | ○ |

61 Procedural Justice

| | Very much (1) | Mostly /some (2) | A little (3) | Not at all (4) |
|---|---|---|---|---|
| To what extent did those (ie. friends, family, partner, government or other) who told you to stay home during the second/third lockdown act out of concern? (1) | ○ | ○ | ○ | ○ |
| How much respect did those (ie. friends, family, partner, government or other) who told you to stay home during the second/third lockdown treat you with? (2) | ○ | ○ | ○ | ○ |
| How seriously did those (ie. friends, family, partner, government or other) who told you to stay home during the second/third lockdown consider what you had to say? (3) | ○ | ○ | ○ | ○ |
| How fairly were you treated in being asked to stay home during the second/third lockdown? (4) | ○ | ○ | ○ | ○ |

62 Did you experience any pressure from others (i.e. friends family, government or others) to leave the house or return to pre-lockdown activities between the first and second lockdown?

(Please select option that applies)

- ○ Very much (1)
- ○ Some (2)
- ○ A little (3)
- ○ Not at all (4)

---

Q83 How did you feel when the second/third lockdown / firebreak /circuit break was announced?

| | 0 10 20 30 40 50 60 70 80 90 100 |
|---|---|
| Apprehensive () |  |
| Relieved () |  |
| Distressed () |  |
| Other emotion () |  |

---

Q84 If you were living in an area that had a low incidence of COVID-19 compared to other parts of your country, would you view a national lockdown as:

- ☐ Coercive (1)
- ☐ Protective (2)
- ☐ Indifferent (3)
- ☐ Don't Know (4)

End of Block: Perceptions of Coercion, Pressures, and Procedural Justice

Start of Block: The Depression, Anxiety and Stress Scale

63 Please read each statement and tick the option which indicates how much the statement applied to you over the past week. There are no right or wrong answers.

| | Did not apply to me (1) | Applied to me to some degree, or some of the time (2) | Applied to me to a considerable degree (3) | Applied to me very much or most of the time (4) |
|---|---|---|---|---|
| I was aware of dryness in my mouth (1) | ○ | ○ | ○ | ○ |
| I found it hard to wind down (2) | ○ | ○ | ○ | ○ |
| I couldn't seem to experience any positive feeling at all (3) | ○ | ○ | ○ | ○ |
| I experienced breathing difficulty (4) | ○ | ○ | ○ | ○ |
| I found it difficult to work up the initiative to do things (5) | ○ | ○ | ○ | ○ |
| I tended to overreact to situations (6) | ○ | ○ | ○ | ○ |
| I experienced trembling (eg. in the hands) (7) | ○ | ○ | ○ | ○ |
| I felt that I was using a lot of nervous energy (8) | ○ | ○ | ○ | ○ |
| I was worried about situations in which I might panic and make a fool of myself (9) | ○ | ○ | ○ | ○ |
| I felt that I had nothing to look forward to (10) | ○ | ○ | ○ | ○ |
| I found myself getting agitated (11) | ○ | ○ | ○ | ○ |
| I found it difficult to relax (12) | ○ | ○ | ○ | ○ |

| | | | | |
|---|---|---|---|---|
| I felt downhearted and blue (13) | ○ | ○ | ○ | ○ |
| I was intolerant of anything that kept me from getting on with what I was doing (14) | ○ | ○ | ○ | ○ |
| I felt I was close to panic (15) | ○ | ○ | ○ | ○ |
| I was unable to become enthusiastic about anything (16) | ○ | ○ | ○ | ○ |
| I felt I wasn't worth much as a person (17) | ○ | ○ | ○ | ○ |
| I felt that I was rather touchy (18) | ○ | ○ | ○ | ○ |
| I was aware of the action of my heart in the absence of physical exertion (19) | ○ | ○ | ○ | ○ |
| I felt scared without any good reason (20) | ○ | ○ | ○ | ○ |
| I felt that life was meaningless (21) | ○ | ○ | ○ | ○ |

**End of Block: The Depression, Anxiety and Stress Scale**

Start of Block: Brief COPE

**Brief COPE**

These items deal with ways you've been coping with the stress in your life since you found out you were going to have to have this operation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all
2 = I've been doing this a little bit
3 = I've been doing this a medium amount
4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real.".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.

18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation.

---

Scales are computed as follows (with no reversals of coding):

Self-distraction, items 1 and 19
Active coping, items 2 and 7
Denial, items 3 and 8
Substance use, items 4 and 11
Use of emotional support, items 5 and 15
Use of instrumental support, items 10 and 23
Behavioral disengagement, items 6 and 16
Venting, items 9 and 21
Positive reframing, items 12 and 17
Planning, items 14 and 25
Humor, items 18 and 28
Acceptance, items 20 and 24
Religion, items 22 and 27
Self-blame, items 13 and 26

**Post Traumatic Growth Inventory – Short Form**

Indicate for each of the statements below the degree to which this change occurred in your life as a result of the crisis/disaster, using the following scale.
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*3 = I experienced this change to a moderate degree as a result of my crisis.*
*4 = I experienced this change to a great degree as a result of my crisis.*
*5 = I experienced this change to a very great degree as a result of my crisis*

1. I changed my priorities about what is important in life.

2. I have a greater appreciation for the value of my own life.

3. I am able to do better things with my life.

4. I have a better understanding of spiritual matters.

5. I have a greater sense of closeness with others.

6. I established a new path for my life.

7. I know better that I can handle difficulties.

8. I have a stronger religious faith.

9. I discovered that I'm stronger than I thought I was.

10. I learned a great deal about how wonderful people are.

Start of Block: End of survey

Q85 Is there anything you feel we haven't asked that you'd like us to know about?

_____

End

**Thank you** for taking the time to participate in our survey.

Should you experience significant distress, arising during or as a consequence of the research, please tell us. We will urge you to contact a health professional such as your General Practitioner and can redirect you to services available in your area. If you would prefer to access support anonymously, please contact the Samaritans on 116 123; SANEline on 0300 304 7000 and the The Mix for those under 25, on 0808 808 4994.

End of Block: End of survey