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The Role of Bounded-Authority Concerns in Shaping Citizens' Duty to Obey Authorities During COVID-19

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Purpose

The COVID-19 pandemic has necessitated the introduction of extra-ordinary restrictions to mitigate its spread. Authorities rely on the public's voluntary willingness to obey these restrictions, yet the intrusive nature of these measures may lead some people to believe that authorities are overstepping the limits of their rightful power (i.e., bounded-authority). This paper applies the bounded-authority framework to the COVID-19 context to understand the factors associated with the public's duty to obey authorities during COVID-19.

Design/methodology/approach

This paper utilizes survey data from 1,582 individuals to examine what factors drive COVID-19-related bounded-authority concerns, and in turn, how bounded-authority concerns may impact one's duty to obey authorities during COVID-19.

Findings

Results show that worry about freedom loss, opposition to surveillance tactics, police heavy-handedness, and perceptions of procedural injustice from police during the pandemic all drive bounded-authority concerns. We also find that bounded-authority concerns are associated with reduced duty to obey and mediate the relationship between procedural justice and the duty to obey authorities' enforcement of COVID-19 restrictions.

Originality

Our findings reveal new evidence about the bounded-authority framework and the public's duty to obey authorities, with implications for the COVID-19 context and beyond.

Plain Language Summary

If people feel that authorities overstep the limits of their regulatory powers, they may be less inclined to obey authorities' directives. We test this proposition in the COVID-19 context. Our findings show that COVID-19 policing responses deemed to encroach on civil liberties can reduce public willingness to obey authorities.

Keywords: COVID-19, policing, duty to obey, procedural justice, bounded-authority

Introduction

The COVID-19 pandemic has created a global public health crisis requiring a coordinated response from authorities and the public. At the time of writing (January 2022), over 336 million people worldwide had contracted COVID-19 and over 5.5 million had died (World Health Organization, 2022). Due to the health risks associated with COVID-19, governments globally have implemented restrictions and periodic lockdowns to curb virus spread.

COVID-19 measures involve regulating and restricting citizen behaviors within private and public spheres. Relying on police alone to enforce directives is unfeasible; thus acquiring voluntary public compliance is necessary. Research shows that ensuring the public feels a duty to obey authorities during the pandemic is critical to compliance with government restrictions (Author, 20xxa). The *duty to obey* is defined here as the normative assumption that people feel an ethical and moral responsibility to defer to authorities (i.e., police are entitled to be obeyed), rather than an instrumental orientation to avoid punishment (i.e., sanction risk; Huq, et al., 2017).

The prolonged enforcement of COVID-19 restrictions has prompted anti-lockdown protests and resistance to comply with these measures (McCarthy, et al., 2021); as have spikes in community transmission when restrictions have eased. Despite vaccination rollouts, governments globally continue to rely on compliance with changing restrictions from an increasingly fatigued public. This underlines the importance of understanding the predictors of the duty to obey authorities in a pandemic - a key driver of compliance with COVID-19 restrictions (Author, 20xxa).

One framework that might help to understand peoples' reluctance to obey authorities during the COVID-19 pandemic is the *bounded-authority* framework. 'Bounded-authority' refers to one's perception of the extent that authorities (e.g., police; governments) act within normatively appropriate limits of power (Trinkner, et al., 2018). They are judgements people

make about the situations, places, or contexts they believe authorities should or should not operate in. Tyler and Trinkner (2017, p. 11) argue “that authorities’ directives can be rejected if they insist on trying to control behavior outside appropriate domains.” Hence, we anticipate that perceiving COVID-19 restrictions as bounded-authority violations may explain why some people feel less of a duty to obey authorities than others.

Determining what authorities can do to encourage the public’s duty to obey COVID-19-related directives is a policing, public health, and governmental priority. Public willingness to obey authorities can mitigate virus spread and thus has flow-on public health and economic effects. We argue that the COVID-19 pandemic presents an ideal case study to examine the bounded-authority concept and its influence on citizens’ duty to obey.

What promotes the duty to obey?

The public is sensitive to how authorities exercise their power and compare this with their expectations of the law’s role and the values underpinning appropriate regulatory power (Tyler & Trinkner, 2017). If authorities’ actions align with citizens’ values and expectations, they are more likely to secure public obedience. Yet, if authorities act contrarily to established values and expectations, voluntary deference to the law and law enforcement directives is harder to obtain (Trinkner et al., 2018).

Research on public evaluations of authorities largely focuses on individuals’ perceptions and expectations of how authorities have or will treat them (e.g., Tyler & Trinkner, 2017). Specifically, *procedural justice*—commonly defined as *fair*, *respectful* and *neutral* treatment of citizens that conveys *trustworthy motives* and allows citizens *voice* before making decisions—has become a prominent perspective to understand public deference to authorities (Mazerolle, et al., 2014; Tyler, 2006). Procedural justice is important for securing the public’s obligation to obey authorities because it communicates and reinforces law-abiding values and norms (Huq, et al., 2017). When people are treated with procedural justice by authorities, they are more

willing to “legitimize its structures of authority, comply with its rules, and cooperate within and on its behalf” (Bradford, et al., 2014, p. 529). Numerous empirical studies find that procedural justice is a key antecedent to one’s obligation to obey authorities, their evaluations of authorities as legitimate and trustworthy, and their willingness to cooperate and comply with authorities (e.g., Mazerolle et al., 2014; Tyler, 2006). In the COVID-19 context, research has also found that perceptions of the procedurally just nature of authorities’ treatment towards community members can improve public willingness to comply with authorities’ directives (see e.g., Author, 20xx; Nix, et al., 2021; Sandrin & Simpson, 2021).

Recently, however, scholars have argued that public evaluations of authorities are not just contingent on how authorities *treat* citizens (i.e., procedural justice), but also on how authorities use their powers (Murphy, 2021; Trinkner, et al., 2018). Individuals place limits on what they consider *acceptable* use of power by authorities. This *bounded-authority* perspective is concerned with “what power is being exercised when and where” (Trinkner, et al., 2018, p. 282). When discussing police authority, Trinkner et al. (2018) note that individuals do not cede absolute authority over any situation to police. Instead, they demarcate their lives into different domains, and place varying limits on police officers’ rights to regulate their behavior, regardless of the legality of police actions. *Bounded-authority* concerns also “represent individual and societal notions about the places, spaces and things that people feel police have no business being involved in” (Trinkner et al., 2018, p. 281). For example, stop and frisk powers may contravene expectations that police are behaving appropriately, because they can be perceived as violating a person’s right to privacy (Tyler & Trinkner, 2017).

While the literature base on bounded-authority is small, studies show that bounded-authority concerns are key predictors of individuals’ attitudes towards authorities. For example, Huq et al. (2017) drew on a national probability sample of adults in England and Wales to examine the relationship between bounded-authority and participants’ legitimization of police.

Legitimization of police was measured through two concepts: normative alignment and the duty to obey authorities. Findings showed that bounded-authority concerns were strongly associated with normative alignment. Normative alignment also fully mediated the relationship between bounded-authority concerns on the duty to obey police. In other words, bounded-authority concerns positively predicted participants' duty to obey police because such police behaviors were seen to normatively align with participants' sense of appropriate police conduct. A subsequent study by Trinkner et al. (2018) drew on an American sample and yielded similar findings; bounded-authority concerns positively predicted normative alignment and the obligation to obey police.

More recently, Murphy (2021) utilized data from 398 Muslim-Australians to examine the relationship between procedural justice and bounded-authority concerns on Muslims' defiance towards police. While the outcome variables were different to the two papers reviewed above, Murphy's (2021) findings demonstrate the relevance of bounded-authority concerns on public defiance toward authorities. Defiance was operationalized as the degree to which Muslims were resistant towards or disengaged from authorities. Findings showed that while Muslims' concerns about procedural justice were most important for understanding resistance, Muslims' bounded-authority concerns were associated most strongly with disengagement.

What are the antecedents of bounded-authority concerns?

The above studies suggest that bounded-authority concerns are associated with how people perceive and are willing to engage with authorities *and* can be considered a distinct concept to procedural justice. Yet, prior studies are limited in their exploration of the drivers of bounded-authority concerns. To date, only one study has examined this. Ali et al. (2021) interviewed 104 Muslim-Australians about their views of specific counter-terrorism measures. In Australia, counter-terrorism laws and their application have disproportionately targeted Muslim populations (Williamson, 2019). Thus, Ali et al. (2021) sought to gauge Muslims'

perceptions of bounded-authority violations in this policing context. Intrusive powers, such as police surveilling mosques, intercepting donations to Islamic charities, and tapping personal communications were seen as bounded-authority violations. Participants felt strongly that police should never operate in these spaces. While this provides some initial insight into the nature of interventions that can generate bounded-authority concerns, more research is needed.

The introduction of COVID-19 restrictions presents a unique opportunity to examine (a) how attitudes towards COVID-19 policing powers may predict bounded-authority concerns, and (b) the relationship between such powers, bounded-authority concerns, and the duty to obey authorities. COVID-19 powers, by their nature, may threaten citizens' sense of agency, privacy and freedoms. In their seminal work on bounded-authority concerns, Trinkner et al. (2018) pointed to the value that individuals place on their agency and freedom "from regulation or surveillance in their personal lives" (p. 282). While acknowledging that sometimes, such freedoms would be overshadowed by authorities' execution of regulatory powers, Trinkner et al. (2018) argued that the public is likely to be sensitive to indicators that authorities exercise their powers appropriately. Specifically, when people feel their freedoms are compromised, or that authorities use their powers inappropriately, a perceived bounded-authority violation may occur.

The expansive nature of COVID-19 restrictions has constrained peoples' freedom of movement in unprecedented ways. Concerns have emerged that governments are using these powers to *permanently* track and control citizens (Ng, 2020). Similarly, methods to trace COVID-19 virus outbreaks may also impact bounded-authority evaluations. A recent study found that some participants were concerned about the potential for contact tracing apps to impinge on their privacy (Doogan, et al., 2020). As such, worry that freedoms will not return to how they were prior to the pandemic, or feeling that methods to trace COVID-19 encroach on civil liberties, may shape perceptions that authorities have overstepped acceptable regulatory

boundaries. These concerns may impede the duty to obey; when regulatory practices are deemed intrusive, the public's deference to authorities can be hindered (Tyler, et al., 2014).

Another factor likely to contribute to bounded-authority concerns is perceived heavy-handedness by police when enforcing COVID-19 restrictions. The COVID-19 pandemic has seen the introduction of sanctions criminalizing behaviors previously considered normal (e.g., issuing fines for being out of the house or breaching gathering rules; arresting people involved in peaceful protest; charging individuals for crossing state borders). Deterrence theory stipulates that deference to authorities is more likely to occur when there is a greater likelihood and severity of punishment for non-compliance (Nagin, 2013). However, implementing sanction-based measures in a heavy-handed or perceived unfair way may trigger public resentment and backlash towards authorities. COVID-19 sanctions may create a perceived bounded-authority violation amongst those who feel their use has been excessive and unwarranted, regardless of their legality (Trinkner, et al., 2018), and may subsequently impact the duty to obey.

Finally, the perceived procedural justness of police-citizen interactions may also shape bounded-authority concerns. Studies have examined procedural justice and bounded-authority as joint predicates of legitimacy (e.g., Huq, et al., 2017; Trinkner, et al., 2018). However, concerns about police procedural injustice may also elicit bounded-authority concerns. Specifically, by explaining their reasons for engaging an individual, and treating them with neutrality and respect, procedural justice may enable authorities to communicate the boundaries of their control in each context, and to indicate trustworthy motives. Moreover, as the voice component of procedural justice can facilitate dialogue between citizens and authorities, it may enable individuals to make informed bounded-authority assessments. This study provides the first empirical assessment of the effect of procedural justice on bounded-authority evaluations,

and whether bounded-authority concerns mediate the association between procedural justice and the duty to obey.

The current study

Few studies have examined the factors contributing to people's bounded-authority concerns (but see Ali et al., 2021). Moreover, research to date has exclusively explored bounded-authority concerns in general policing or terrorism policing, but not in public health policing where such concerns are very apparent. Thus, the pandemic presents a unique context to further our empirical understanding of the factors that might elicit bounded-authority concerns, and how they might impact individuals' duty to obey authorities. Understanding the effects of reactions to these powers on people's duty to obey is important because authorities can use this information to inform continuing regulatory responses to COVID-19 and future pandemics. Figure 1 presents the conceptual model to be tested.

[Figure 1]

Based on the findings of the studies presented in the literature review, we expect that:

1. Participants will be more likely to express bounded-authority concerns if they: are worried that their freedoms will not return to normal after the pandemic (Hypothesis 1A); oppose the use of COVID-19 police surveillance tactics (Hypothesis 1B); perceive that police enforce COVID-19 restrictions in a heavy-handed manner (Hypothesis 1C); and perceive police contact as procedurally unjust when enforcing COVID-19 restrictions (Hypothesis 1D).
2. Participants will be less likely to feel a duty to obey COVID-19 directives if they: fear permanent freedom loss, oppose police surveillance, and/or view police as using heavy-handed tactics (Hypothesis 2A); there is no credible risk of being sanctioned for flouting COVID-19 restrictions (Hypothesis 2B); and the police have behaved in a procedurally unjust manner when enforcing COVID-19 restrictions (Hypothesis 2C).

3. Heightened bounded-authority concerns will be associated with reduced duty to obey authorities (Hypothesis 3A); and they will mediate the relationship between perceptions of procedurally unjust police contact and the duty to obey (Hypothesis 3B).

Methods

Participants and procedure

Data are drawn from a national survey of 1,582 Australians. The anonymous survey was fielded between April 24 and May 15, 2020; five weeks after the Australian Government introduced lockdown restrictions requiring citizens to stay indoors. While each state and territory mandated their own restrictions, requirements to isolate at home if experiencing COVID-19 symptoms, limit contact with others, and restrict travel outside of the household unless for essential purposes were uniform nationwide.

Participants were recruited through an advertisement on Facebook that directed interested parties to a LimeSurvey weblink. Social media platforms are increasingly being utilized to conduct criminological research (e.g., XXXX, 20xx). Despite limitations with using Facebook recruitment, including difficulties in recruiting a fully representative sample, it offers an inexpensive and efficient means of data collection, which was important because of the time-sensitive nature of the study (i.e., capturing attitudes during the initial COVID-19 lockdown). Further, 65% of the Australian population are regular Facebook users (StatCounter, 2021), so recruitment through Facebook was a viable way of attracting participants.

Eligibility criteria stipulated that only Australian Facebook users aged 18+ years could participate. A total of 3,628 participants accessed the LimeSurvey link and, upon reading information and consent materials, 3,175 participants voluntarily consented to participate. Two validity check items were included in the survey to assess survey fatigue, whereby 178 participants incorrectly answered the questions. After data cleaning (i.e., deleting those who did not complete the full survey (N=1,402), who incorrectly answered the validity check questions

(N=178), and duplicate participants (N=13)), there was a final useable sample of 1,582 participants. The survey sample was broadly representative of the Australian population when considering key demographics such as age, gender, and country of birth (see Table 1; for more details on the survey methodology see Author, 20xxb).

[Table 1]

Measures

The survey included 227 questions measuring participants' perceptions of authorities in Australia (e.g., government, health authorities, police), their handling of the COVID-19 pandemic, and participants' attitudes towards COVID-19. All items used in this paper were subject to reliability analysis and a principal components analysis prior to creating scales (see Table 2). No cross-loading between items in different factors was observed, suggesting all multi-item scales displayed discriminant validity. Scales were created by calculating a mean-score across the items in each scale. Table 3 outlines the correlations between all scales used in this paper.

[Table 2][Table 3]

Dependent Variable

Duty to obey. This five-item scale asked participants the extent to which it was everybody's duty to support the Government by NOT engaging in a range of restricted behaviors during lockdown (measured on a 1=not at all everybody's duty to 5=completely everybody's duty Likert scale). The scale was developed by the authors. A higher score indicates a stronger duty to obey (Mean=3.79; SD=1.17; $\alpha=0.87$).

Mediator and Independent variables

Bounded-authority concerns. This four-item scale served as a dependent and mediator variable and was based on Huq et al.'s (2017) measure. As the visible enforcers of COVID-19

restrictions, police were the focus of this measure. Participants were asked on a 1=strongly disagree to 5=strongly agree Likert scale the extent to which they felt that police generally overstep the boundaries of their authority. A higher score indicates that participants had stronger bounded-authority concerns (Mean=2.58; SD=1.11; $\alpha=0.93$).

Perceptions of COVID-19 policing responses. Three variables measured public attitudes towards COVID-19 policing responses. Firstly, four items measured *police heavy-handedness*, which assessed participants' perceptions that police enforced COVID-19 restrictions in a heavy-handed manner. The items were developed by the authors and were measured on a 1=strongly disagree to 5=strongly agree Likert scale. A higher score represents stronger perceptions of police heavy-handedness during the pandemic. Due to the negative skewness of this variable, it was transformed using the square root transformation method (Mean=1.72; SD=0.26; $\alpha=0.64$).¹

One item measured *worry about freedom loss* because of expanded powers during COVID-19. Participants were asked: 'How much do you worry that after the whole Coronavirus crisis ends, our freedoms will never return to what they were before the Coronavirus outbreak?'). Participants responded on a 1=not at all to 5=extremely worried Likert scale. A higher score represents greater worry about ongoing freedom loss (Mean=2.86; SD=1.56).

Finally, two items were combined to measure participants' *opposition to police surveillance tactics* during the pandemic: the use of facial recognition technology and contact tracing apps. Contact tracing apps were introduced Australia-wide, and some Australian states and territories also adopted facial recognition technology to track and contain virus spread in high-risk areas (e.g., airports). Items were developed by the authors and were measured on a

¹ The mean and standard deviation of the untransformed scale is M=2.98; SD=0.89.

1=strongly oppose to 5=strongly support Likert scale. Items were recoded so that a higher score denotes greater opposition to COVID-19 surveillance tactics (Mean=4.01; SD=1.12; α =0.77).

Procedurally just police contact. Participants were asked if they had had contact with police in the four weeks prior to completing the survey, and the procedurally just nature of that contact. Two measures were included in the analyses: the procedural justness of a (1) police-initiated contact; and a (2) citizen-initiated contact.

The procedural justness of *police-initiated contact* was measured by asking participants if police had approached, stopped, or contacted them for any reason in the past four weeks. Only 158 participants reported a police-initiated contact. They were asked four questions to gauge the procedurally just nature of the encounter. Specifically, participants were asked ‘*When you were approached by the police would you say that they: (a) were polite; (b) treated you with respect; (c) explained why they approached you; and (d) carefully listened to what you said?*’ Responses were measured on a 1=strongly disagree to 5=strongly agree Likert scale. The four items were combined to create a mean scale (Mean=3.74, SD=1.34, α =0.93). However, to avoid losing most of our respondents in the analysis, we created a dummy variable to also capture those with no police-initiated contact. To do so, procedurally just contact scores for those who had contact were dichotomized in a manner used by XXXX (20xx). Scores for participants who reported a procedurally just encounter (mean >3) versus those who reported a procedurally unjust encounter (mean \leq 3) during the pandemic were recorded. The final variable thus included three categories: (0) no contact; (1) procedurally unjust police-initiated contact (scores \leq 3.0); and (2) procedurally just police-initiated contact (scores >3.0).

The same process was employed to gauge the procedural justness of *citizen-initiated* contacts during the COVID-19 lockdown. Participants who reported initiating contact with police in the preceding four weeks (n=171) were asked three follow-up questions to determine the procedural justness of the contact. Specifically, they were asked ‘*When you approached or*

contacted the police would you say they: (a) were polite; (b) treated you with respect; and (c) carefully listened to what you said.' Responses were again measured on a 1=strongly disagree to 5=strongly agree Likert scale. Responses to the three items were averaged to create a mean scale (Mean=4.15, SD=1.16, $\alpha=0.95$) and were dichotomized as described above to create a three-response procedural justice dummy variable for citizen-initiated police contacts.

Sanction Risk. One item asked participants about the perceived likelihood that an individual would be sanctioned for engaging in restricted behaviors. Items were developed by the authors and participants were asked to respond on a (1) not at all likely to (5) very likely Likert scale. A higher score indicates a greater perceived likelihood that individuals would be caught and sanctioned for violating COVID-19 restrictions (Mean=2.19; SD=0.79; $\alpha=0.88$).

Demographic and control variables

A range of control variables were also included, as they have been associated with peoples' duty to obey authorities in other contexts (e.g., Bradford, et al., 2014): *age* (Mean=49.73; SD=14.47); *gender*; *country of birth* (0=Australia; 1=overseas); *educational attainment* (1=no schooling to 7=postgraduate degree); *employment status* (0=employed; 1=unemployed); and *political orientation* (1=left-leaning to 7=right-leaning). A 'time' variable also controlled for the date the survey was completed; it was assumed that longer periods of time spent in lockdown might result in greater complacency towards COVID-19 restrictions and a reduced duty to obey (a higher 'time' score indicated that the survey was completed further into lockdown).

Results

We conducted two ordinary least squares (OLS) regression analyses (see Table 4) to better understand the factors contributing to bounded-authority concerns (Regression 1), and how these factors and bounded-authority concerns predicted participants' duty to obey authorities during COVID-19 (Regression 2). Regression 2 also allowed us to examine if

bounded-authority concerns mediated the association between procedural justice and the duty to obey. Independent variables were entered in blocks to examine how much variance each set of variables contributed to the overall model. No Variance Inflation Factor (VIF) scores exceeded 5, suggesting that multicollinearity between independent variables was not observed in either regression model (Tabachnick & Fidell, 2007; i.e., highest VIF=4.78).

Regression 1: Independent variables predicting bounded-authority concerns

In Block 1, time was positively associated with bounded-authority concerns, suggesting that participants were less accepting of COVID-19 restrictions the longer they were in lockdown ($\beta=0.074$, $p<0.01$). Age ($\beta=-0.079$, $p<0.01$), gender ($\beta=-0.194$; $p<0.001$), educational attainment ($\beta=-0.064$; $p<0.05$), and political orientation ($\beta=-0.106$; $p<0.001$) were negatively associated with bounded-authority concerns. These results suggest that female, older, more educated, and more right-wing participants were less likely to hold bounded-authority concerns.

Items measuring perceptions of COVID-19 police responses were entered in Block 2. Worry about freedom loss was most strongly associated with bounded-authority concerns ($\beta=0.264$; $p<0.001$), suggesting that participants who feared ongoing freedom loss were more likely to harbor bounded-authority concerns (Hypothesis 1A supported). Additionally, greater opposition to COVID-19 police surveillance tactics ($\beta=0.231$; $p<0.001$) and stronger views that police had been heavy-handed when enforcing COVID-19 restrictions ($\beta=0.108$; $p<0.001$) were positively associated with bounded-authority concerns; the more participants opposed surveillance tactics and the more they perceived police to be heavy-handed, the greater their bounded-authority concerns were (Hypotheses 1B and 1C supported). Perceived sanction risk was unrelated to bounded-authority concerns.

Finally, when examining procedural justice perceptions following a police interaction, those who rated a police-initiated ($\beta=-0.209$; $p<0.001$) or citizen-initiated interaction ($\beta=-$

0.115; $p < 0.05$) as procedurally just were less likely to have bounded-authority concerns when compared to those who had had a procedurally unjust contact (Hypothesis 1D supported).

Additionally, those who had *no* police-initiated contact ($\beta = -0.227$; $p < 0.001$) were less likely to hold boundary-authority concerns compared to those who had a procedurally unjust contact.

Regression 2: Independent variables predicting duty to obey authorities during COVID-19

The second OLS regression analysis extended the first regression findings to further understand how bounded-authority concerns might shape participants' duty to obey authorities during the COVID-19 pandemic, when controlling for socio-demographic characteristics, procedural justice in police contacts, and perceptions of COVID-19 policing responses. Items were entered in blocks to explore the unique variation that each block of variables contributed to the model. In Block 1, time ($\beta = -0.057$; $p < 0.05$) and political orientation ($\beta = -0.193$; $p < 0.001$) were both negatively associated with duty to obey; the longer participants were in lockdown, and the more right-leaning they were, the less obligated they felt to obey authorities. Age ($\beta = 0.060$; $p < 0.05$) and gender ($\beta = 0.225$; $p < 0.001$) were positively associated with the duty to obey; older participants and females were more likely to feel a duty to obey.

In Block 2, worry about freedom loss ($\beta = -0.264$; $p < 0.001$), opposition to COVID-19 police surveillance tactics ($\beta = -0.307$; $p < 0.001$), and police heavy-handedness ($\beta = -0.146$; $p < 0.001$) were negatively associated with the duty to obey (Hypotheses 2A supported). In contrast, those who perceived greater sanction risk for flouting COVID-19 restrictions were more likely to feel a duty to obey ($\beta = 0.046$; $p < 0.05$), which reinforces the relationship between perceived deterrence and the duty to obey (Hypothesis 2B supported). Lastly, when compared to those who had had a procedurally unjust police-initiated interaction, those who had had a procedurally just interaction ($\beta = 0.072$; $p < 0.05$), and those who had had no contact with police ($\beta = 0.088$; $p < 0.05$) were more likely to feel a duty to obey (Hypothesis 2C supported).

However, no significant association existed between citizen-initiated police contact evaluations and participants' duty to obey.

In Block 3, the bounded-authority concern scale was added. It was negatively and significantly associated with the duty to obey ($\beta=-0.099$; $p<0.001$), suggesting that those with heightened bounded-authority concerns were less likely to feel obligated to follow COVID-19 directives (Hypothesis 3A supported). Additionally, when the bounded-authority scale was added in Block 3, the police-initiated contact item measuring the procedural justness of a police-initiated interaction ($\beta=0.051$; $p=0.146$) lost significance, indicating mediation. The no contact item was marginally significant ($\beta=0.065$; $p=0.067$). The mediation effect was confirmed using Hayes' (2013) PROCESS macro, suggesting that compared to a procedurally unjust police-initiated contact during the pandemic, a procedurally just police-initiated interaction ($B=0.082$, $B_{SE}=0.042$; 95%CI (0.005-0.165)) is associated with reduced bounded-authority concerns, and thus does not serve to undermine individuals' feelings of duty to obey COVID-19 restrictions (Hypothesis 3B supported).

Discussion

This study tested three hypotheses to better understand the antecedents of bounded-authority concerns, and their influence on individuals' duty to obey authorities during COVID-19. Our findings suggest that people's perceptions of COVID-19 policing approaches predicted their evaluations of bounded-authority and their duty to obey COVID-19 directives. For example, concerns about ongoing freedom loss most strongly predicted bounded-authority concerns *and* participants' duty to obey authorities when enforcing COVID-19 directives. The concern that freedom loss will be a more permanent feature of post-pandemic life may extend from believing that authorities have used the pandemic to extend their powers without an appropriate degree of oversight (XXXX, 20xx). This belief may be reinforced when clear messaging stipulating a realistic end-date to imposed restrictions is lacking. Studies show that

worry about freedom loss is associated with a lower likelihood of complying with COVID-19 restrictions (Author, 20xx) and increased defiance towards authorities (McCarthy et al., 2021). As the duty to obey authorities is a key antecedent to compliance generally (Tyler, 2006) and in the COVID-19 context (e.g., van Rooij, et al., 2020), these findings suggest that fears about freedom loss may be an important factor in determining attitudes towards authorities and compliance during the pandemic.

Additionally, participants' opposition to police surveillance during the pandemic strongly predicted their bounded-authority concerns and duty to obey. While surveillance is not a new policing strategy, opposing such intrusive methods may signal that authorities' powers no longer align with public expectations of appropriate regulatory behavior (Tyler & Trinkner, 2017). As in Ali et al.'s (2021) study, surveillance in the counter-terrorism context was also perceived as a bounded-authority violation. It appears intrusions on privacy, particularly in spaces that people consider off-limits to authorities (e.g., in places of worship; in one's home), are particularly contentious. This finding suggests that governments should be wary of intrusive surveillance strategies during the pandemic, or they may risk public defiance and reduced compliance.

Perceived sanction risk had a small effect on shaping participants' duty to obey, which suggests deterrence can help to secure public deference. However, as identified in other studies—where deterrence has little effect on compliance behavior (see e.g., Author, 20xxa)—deterrence strategies cannot be relied upon solely to secure public obedience. Trinkner et al. (2018) also posit that when sanctions are perceived as heavy-handed, deterrence can backfire, resulting in opposition to and non-compliance with authorities' directives. Our findings support this; participants were more likely to perceive a bounded-authority violation when police were deemed heavy-handed when enforcing COVID-19 restrictions. This supports broader findings that indicate that the manner in which police enforce restrictions, above and beyond the

restrictions themselves, can influence attitudes towards authorities and their rules (McCarthy et al., 2021).

Linked to this, our study finds that procedural justice in police contacts was also important, but predominately in police-initiated contacts. These findings align with prior research identifying a positive link between procedurally fair police-initiated contacts, bounded-authority evaluations (Huq, et al., 2017) and the duty to obey (Tyler and Trinkner, 2017). Indeed, we found that bounded-authority concerns *mediated* the influence of procedural justice on duty to obey. That is, experiencing a procedurally unjust police-initiated contact may in part negatively influence an individual's felt duty to obey, because it elicits a sense of boundary violation by the authority. This finding suggests that if police respectfully explain their reasons for engaging an individual, behave neutrally and provide citizens with an opportunity to voice concerns, it may reinforce the rationale for using extended regulatory powers (i.e., to reduce virus spread), engender confidence that such powers are not being abused, and reduce perceived bounded-authority violations. In turn, this can create greater duty to obey these restrictions. Together, these findings indicate that in the COVID-19 context, there may be considerable value in police employing procedural justice during police-citizen interactions.

Implications

A recent focus on bounded-authority spotlights the importance of public perceptions of the appropriateness of regulatory powers in their evaluations of authorities (e.g., Huq, et al., 2017; Trinkner, et al., 2018). Yet less is known about the *antecedents* of bounded-authority concerns themselves. Our findings demonstrate some key policing processes that further our understanding of how, where, and why people may develop bounded-authority concerns regarding police power. That is, the use of powers that can impinge on individuals' feelings of privacy (e.g., surveillance tactics) or violations of personal freedoms (e.g., COVID-19

restrictions; lockdown) may be deemed a bounded-authority violation. These powers may also conflict with Peelian principles that underpin the consent-based model of policing observable in democracies such as Australia, the UK, Canada, and New Zealand (Loader, 2016). The limits of public tolerance for these measures will likely become clearer as the threat of the COVID-19 pandemic recedes. Authorities need to be mindful of the potential negative effects of enduring intrusive measures, as they may create longstanding effects on individuals' inclinations to obey authorities beyond the pandemic.

Relatedly, public concerns around permanent freedom loss can taint attitudes towards appropriate regulatory powers, as can perceiving police as heavy-handed and procedurally unjust. These factors can damage peoples' felt duty to obey authorities during the pandemic, which raises questions about what authorities should do to ensure the public does not feel authorities are over-reaching their regulatory limits. To contain virus spread, consistent messaging requiring the public to abide by social distancing measures is critical, as is emphasizing the science underpinning these restrictions. Ensuring public health messages are evidence-based and continue to be transparent and proportionate to the risk COVID-19 poses is essential to public confidence (Blanchard, et al., 2020).

With respect to concerns about ongoing freedom loss, there is value in authorities being clearer about the time limits of enforceable expanded police powers. Clarifying under what conditions these powers would be rescinded or modified is also important (McCarthy, et al., 2021). Relatedly, addressing public feelings around the uncertainty exacerbated by lockdowns and restriction changes is important. van den Bos and Lind (2002) suggest that in the face of uncertainty, obeying authorities is contingent on treating individuals fairly. Our findings also point to the need for police—the enforcers of COVID-19 restrictions—to be procedurally just in encounters with the public, which can impact their obligation to obey.

Limitations

While this study offers new findings that contribute to understanding bounded-authority concerns and the duty to obey in the COVID-19 context, there are limitations that must be considered. First, our survey data are cross-sectional, so causality between variables cannot be determined. Longitudinal data are necessary to determine the temporal order of our variables of interest. Secondly, the data comprise a non-probability, convenience sample obtained via a Facebook survey, which could impact the study's sample representativeness and internal validity. For example, sample representativeness may be limited by individuals' access to and use of the Internet and Facebook. These restrictions may have resulted in participants engaging in the study who had higher incomes, higher educational qualifications, and/or stronger attitudes towards authorities' roles during COVID-19. However, it is worth noting that the survey sample was broadly representative of the Australian population on key demographics. A third limitation relates to our duty to obey scale. This scale gauges one's duty to obey the government during the pandemic, while all other items used in the analyses relate to perceptions of police and police use of power. However, as police are the government's agents of social control and have been responsible for enforcing the COVID-19 restrictions outlined in our duty to obey scale, we do not feel this is a significant limitation. In fact, our findings suggest that what police do during a public health crisis can shape the public's duty to obey government directives more broadly. Scholars may wish to consider these nuances when developing their own measures.

Conclusion

To conclude, the introduction of COVID-19 measures has impacted peoples' freedoms and privacy in unprecedented ways. Our findings show that when these measures are perceived as bounded-authority violations, peoples' duty to obey authorities during the pandemic is undermined. Our study speaks to the need for authorities to alleviate public concerns around

freedom loss, heavy-handed policing, violations of privacy and procedurally unjust policing. Continuing to communicate about responses to the pandemic transparently and ensuring that authorities enforce public health restrictions in a procedurally just way may reduce public uncertainty and contribute to ensuring compliance with COVID-19 restrictions.

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Tables

Table 1 Sample (N=1,582) representativeness against Australian census data

Demographic Variable	Survey Sample		Australian population [#]
	N	%	%
Gender			
<i>Male</i>	670	42.4	49.3
<i>Female</i>	897	56.7	50.7
<i>Other</i>	15	0.9	n/a
Age [*]			
<i>18-19*</i>	17	1.1	7.5
<i>20-24</i>	87	5.5	8.2
<i>25-34</i>	182	11.5	17.7
<i>35-44</i>	258	16.3	16.5
<i>45-54</i>	354	22.4	16.3
<i>55-64</i>	429	27.2	14.5
<i>65+</i>	252	16.0	16.8
Country of birth			
<i>Australia</i>	1220	77.1	73.7
<i>Overseas</i>	362	22.9	26.3
Educational attainment			
<i>No education</i>	2	0.1	0.8
<i>Did not complete high school</i>	59	3.7	23.7
<i>Completed high school</i>	185	11.7	15.7
<i>Trade/Technical Certificate/Diploma</i>	447	28.3	24.7
<i>Bachelor's Degree or more</i>	889	56.2	22.0
Employment Status			
<i>Employed</i>	878	55.5	60.1
<i>Unemployed</i>	704	44.5	39.9

*ABS proportions include 15–19-year-olds. [#]Source: Australian Bureau of Statistics Census Data from 2016.

Table 2 Principal Components Analysis

	Factor				
	1	2	3	4	5
Duty to obey					
<i>To what extent do you think it is everybody's duty to support the Government by NOT engaging in the following behaviors:</i>					
Socializing in person with friends or relatives whom you don't live with	0.832				
Leaving the house without a really good reason	0.847				
Traveling for leisure (e.g., drive somewhere to go for a walk)	0.794				
Going out shopping for essential or non-essential items when you have COVID-19 symptoms	0.604				
Going out shopping for non-essential items when you do NOT have COVID-19 symptoms	0.805				
Bounded-authority concerns					
Police often get involved in situations that they have no right to be in		0.849			
Police often arrest people for no good reason		0.877			
Police often overstep the boundaries of their authority		0.897			
Police often abuse their power		0.887			
Sanction risk					
<i>How likely is it that someone would get caught and sanctioned should they engage in each of the following behaviors during the COVID-19 outbreak?</i>					
Socializing in person with friends or relatives whom they don't live with			0.851		
Leaving the house without a really good reason			0.911		

Traveling for leisure (e.g., drive somewhere to go for a walk)						0.851
Going out shopping for essential or non-essential items when they have COVID-19 symptoms						0.719
Going out shopping for non-essential items when they do NOT have COVID-19 symptoms						0.839
Perceptions of COVID-19 policing responses						
<i>Opposition to COVID-19 police surveillance tactics</i>						
<i>Can you tell me whether you support or oppose granting authorities the following powers:</i>						
Use facial recognition technology to track people who are out of their homes						0.793
Forcing people to download a COVID-19 contact tracing app on their mobile phones						0.838
<i>Police heavy-handedness</i>						
Some police in my State/Territory have abused their authority when issuing fines to people						0.739
By issuing fines to people the police in my State/Territory are getting involved in situations they have no right to be in						0.673
Some of the police in my State/Territory issue fines to people for no good reason						0.765
By issuing fines to people the police violate people's personal freedoms						0.518
Eigenvalues	5.364	3.501	2.157	1.746	1.046	
% of variance	26.818	17.504	10.783	8.728	5.232	

Note: Principal components analysis with varimax rotation was used. A factor loading cut-off of 0.35 was used.

Table 3 Correlations between key scales of interest

	1	2	3	4	5	6	7
1.Time	1						
2.Worry about freedom loss	-.005	1					
3.Opposition to COVID-19 police surveillance tactics	-.005	.521***	1				
4.Sanction risk	-.072**	.066**	-.038	1			
5.Bounded-authority concerns	.069**	.445***	.423***	-.012	1		
6.Police heavy-handedness	.059*	.123***	.060*	-.021	.173***	1	
7.Duty to obey	-.063*	-.465***	-.441***	.031	-.357***	-.240***	1

NOTE: only key variables of interest are entered into the correlation matrix; *p<0.05; **p<0.01; ***p<0.001

Table 4 OLS Regression

	Regression 1: Bounded-authority concerns				Regression 2: Duty to Obey					
	Block 1		Block 2		Block 1		Block 2		Block 3	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Age	-0.006 (.002)	-.079**	-0.002 (.002)	-.021	.005 (.002)	.060*	.000 (.002)	-.005	-.001 (.002)	-.007
Gender (1=female)	-.432 (.056)	-.194***	-.175 (.050)	-.078***	.533 (.058)	.225***	.239 (.050)	.101***	.220 (.049)	.093***
Country of birth (1=overseas born)	-.106 (.065)	-.040	-.068 (.056)	-.026	-.060 (.068)	-.022	-.095 (.056)	-.034	-.102 (.056)	-.037
Educational attainment	-.041 (.016)	-.064*	-.044 (.014)	-.069**	.021 (.017)	.030	.024 (.014)	.035	.019 (.014)	.028
Employment status (1=not employed)	-.020 (.058)	-.009	-.035 (.050)	-.016	-.032 (.060)	-.014	-.019 (.049)	-.008	-.023 (.049)	-.010
Political orientation	-.076 (.018)	-.106***	-.056 (.016)	-.077***	-.148 (.019)	-.193***	-.177 (.016)	-.231***	-.183 (.016)	-.238***
Time	.012 (.004)	.074**	.010 (.003)	.066**	-.010 (.004)	-.057*	-.008 (.003)	-.046*	-.007 (.003)	-.039*
Worry about freedom loss			.186 (.018)	.264***			-.197 (.018)	-.264***	-.178 (.018)	-.238***
Opposition to COVID-19 surveillance			.228 (.025)	.231***			-.322 (.025)	-.307***	-.298 (.026)	-.284***
Sanction Risk			-.021 (.030)	-.015			.068 (.030)	.046*	.066 (.030)	.044*
Police heavy-handedness			.454 (.090)	.108***			-.652 (.090)	-.146***	-.604 (.090)	-.136***

Police-initiated contact (ref=low PJ contact)								
<i>No police-initiated contact</i>		-0.842 (.139)	-0.227***		.345 (.139)	.088*	.256 (.139)	.065
<i>High PJ police-initiated contact</i>		-0.922 (.165)	-0.209***		.336 (.164)	.072*	.239 (.165)	.051
Citizen-initiated contact (ref=low PJ contact)								
<i>No citizen-initiated contact</i>		-0.082 (.165)	-0.023		-0.046 (.164)	-0.012	-0.055 (.163)	-0.014
<i>High PJ citizen-initiated contact</i>		-0.453 (.182)	-0.115*		.135 (.181)	.032	.087 (.181)	.021
Bounded-authority concerns								
							-0.105 (.025)	-0.099***
Constant		4.099 (.211)***	4.348 (.266)***		3.308 (.218)***	3.807 (.264)***	3.993 (.267)***	
R ²		.059	.308		.107	.392	.399	
Adjusted R ²		.055	.301		.103	.386	.393	
R ² change		.059	.249		.107	.285	.007	
F change		13.897	69.529		26.623	92.670	17.574	

*p<0.05; **p<0.01; ***p<0.001; PJ=procedural justice

Figures

Figure 1. Conceptual Model to be tested

