

Balancing the Freedom-Security Tradeoff During Crises and Disasters

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**In press at *Perspectives on Psychological Science***

**This manuscript is subject to change during the copyediting process prior to publication.**

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### Abstract

During crises and disasters, such as hurricanes, terrorist threats, or pandemics, policymakers must often increase security at the cost of freedom. Psychological science, however, has shown that the restriction of freedom may have strong negative consequences for behavior and health. We suggest that psychology can inform policy both by elucidating some negative consequences of lost freedom (e.g., depression or behavioral reactance) and by revealing strategies to address them. We propose four interlocking principles that can help policymakers restore the freedom-security balance. Careful consideration of the psychology of freedom can help policymakers develop policies that most effectively promote public health, safety, and well-being when crises and disasters strike.

*Keywords:* freedom, security, framing, public health, COVID-19

Policymakers must often weigh the drawbacks of restricting freedom against the dangers of relaxed security. When natural disasters strike, mandatory evacuations or shelter-in-place orders save lives at the cost of liberty. In financial markets, regulation protects participants but constrains free choice. Throughout everyday life, seatbelt laws, smoking bans, and prescription drug regulation protect people while imposing limits on what they are free to do.

The coronavirus pandemic has been no exception. Urging or compelling citizens to change their behavior has been policymakers' main tool to protect public health during the pandemic, and even with widespread vaccine availability, vaccine hesitancy, logistical obstacles, proliferating virus variants, and other barriers will ensure that non-medical interventions remain necessary public health strategies. Throughout the pandemic, governments around the world have adopted a variety of freedom-restricting measures, including quarantines and lockdowns, immigration and travel restrictions, mask-wearing mandates, curfews, social distancing requirements, restrictions on mass gatherings, and more (Cheng et al., 2020). Policies that restrict freedom and enforce widespread behavior change are some of the best defenses against virus transmission (e.g., Kucharski et al., 2020), but they also have potentially profound psychological consequences that may both endanger well-being and drive people to disregard recommended or required behaviors, thereby endangering the health of themselves and others.

More broadly, whether intended to address hurricanes, financial markets, driver safety, or a global pandemic, the restriction of freedom that accompanies many security-enhancing behavioral interventions has important negative consequences. Psychology can inform policy by elucidating some ramifications of lost freedom (e.g., harm to well-being) and by revealing strategies to address them. Thus, in this article, we apply well-established findings in

psychological science and allied disciplines to analyze the *freedom-security tradeoff* in policymaking.

We draw on insights gleaned from a variety of contexts, from everyday behaviors like smoking to rare catastrophes like terrorist attacks, while also focusing much of our analysis on the context of the COVID-19 pandemic. We do so for two reasons. First, at time of writing, the coronavirus continues to pose urgent and ongoing problems to which psychology can contribute valuable insight. Moreover, if and when the global pandemic recedes, COVID-19 is predicted to become endemic, new variants may continue to appear, and new pandemics are likely to be a more frequent event in years to come (Dobson et al., 2020; Gibb et al., 2020; Smith et al., 2014). A behaviorally-informed understanding of the psychology of freedom as it relates to public health policy may thus inform future as well as present approaches to addressing pandemics.

Second, the pandemic is a useful case study with which to illustrate our general perspective on the psychology of freedom-security tradeoffs during crises and disasters. Indeed, a particular benefit of this pandemic as a case study is that its emergence spurred a flood of new research, the findings of which converge to offer a wide range of insights into tradeoffs between security and freedom and into the effects of different policies on billions of people's well-being and behavior. Among this flood of studies are some that show differences in countries' success at containing the virus, with countries such as the U.S., where individual freedom is highly valued, having greater difficulty containing the virus than other countries with greater cultural emphasis on collectivism and tighter social norms (e.g., Gelfand et al., 2021). This pattern, as well as cross-cultural research reviewed later in this paper, suggests that problems posed by tradeoffs between freedom and security may be particularly salient and urgent in cultural contexts like those of the U.S. and Western Europe, where freedom is prized so greatly that people may resist

even seemingly reasonable and effective restrictions during crises and disasters. Our analyses and recommendations may therefore be especially applicable to these more individualistic cultural contexts, though because restricting freedom can have negative effects for well-being and behavior across many societies, we venture that consideration of and research on freedom-security tradeoffs may benefit policymakers in other parts of the world as well.

In what follows, we first consider the consequences of trading some freedom for security, including why such a tradeoff can be so psychologically difficult. We then offer four interlocking principles to help policymakers restore the freedom-security balance, which can both increase the efficacy of freedom-restricting policies and buffer those on the receiving end of such policies from potential negative effects on well-being. We close with a discussion of some caveats and limitations of our proposals, including a consideration of how individual, contextual, and cultural differences may make both our analyses and our suggestions more or less applicable in different circumstances. Throughout, we seek to summarize existing evidence to support our claims in a way that satisfies academic readers, while also maintaining a clear and concise approach that is readily accessible to policymakers and to other non-academic audiences.

### **Positive Consequences of Restricting Freedom**

The most obvious benefit of restricting freedom is that it can increase the security and safety of the public. Indeed, laws that limit what people are free to do are some of the most effective tools to quickly shape the behavior of large populations. Smoking prohibitions reduce smoking-related diseases (Hahn, 2010; Mackay et al., 2010), mandating seat belts makes driving safer (Carpenter & Stehr, 2008; Cohen & Einav, 2003), and regulating financial markets can protect consumers who would otherwise be at risk of making destructive financial decisions (Barr et al., 2009; Campbell et al., 2011). This is no less true during the COVID-19 pandemic:

orders for citizens to shelter in place, wear masks, socially distance, and more have been shown to change behavior and lower rates of infection and death (e.g., Götz et al., 2020; Howard et al., 2021; Kucharski et al., 2020; Schlosser et al., 2020; Wells et al., 2020).

Approaches to increasing security can vary from less coercive (e.g., voluntary social distancing and government-sponsored requests to wear masks) to more coercive (e.g., mandated lockdown with potential legal consequences for those found in violation). Within the context of freedom-restricting policy, laws that are more restrictive can sometimes be more effective at changing people's behavior and increasing public safety. For instance, in the COVID-19 pandemic, researchers have found that more stringent government interventions have been associated with greater control of coronavirus spread (Götz et al., 2020). In the context of other disasters, mandatory evacuations for crises such as hurricanes, wildfires, and chemical spills are more effective at mobilizing citizens than are voluntary evacuations (Cuite et al., 2017; Fu et al., 2007; McLennan et al., 2019). And in everyday life, the lower (i.e., more restrictive) the speed limit, the slower and therefore safer people tend to drive (Elvik, 2012). Yet, overly restrictive or punitive approaches to behavior restriction may fail or even backfire, such as with “scared straight” or harsh misdemeanor prosecution approaches to preventing future criminal behavior (Agan et al., 2021; Petrosino et al., 2000). Whether policies effectively change behavior in desired directions thus often depends on whether they appropriately apply relevant behavioral principles (e.g., Shafir, 2013; Wilson, 2011)—an insight that motivates our present analysis of the psychological importance of freedom in security-focused policies.

Beyond the direct behavioral benefits of policies that restrict people's freedom, there are other psychological effects that may be less obvious—but no less useful or important—to policymakers. For instance, laws can change people's attitudes toward the objects of legal

regulation. The legalization of same-sex marriage has improved explicit and implicit attitudes toward gay people in many different countries (Aksoy et al., 2020; Kreitzer et al., 2014; Ofosu et al., 2019), and smoking bans can cause people to view smokers and secondhand smoke more negatively (Pacheco, 2013). As an example from the COVID-19 pandemic, lockdown measures may increase people's trust in science, a crucial attitude during a global pandemic (Sibley et al., 2020). It also seems plausible that restrictive policies like lockdowns and mandated mask-wearing led people to see the virus as more serious.

Even if they do not change people's attitudes, laws can change people's perceptions of social norms—that is, their understanding of how others behave and how they *should* behave (Tankard & Paluck, 2016). Legalization of same-sex marriage and adoption has caused people to view same-sex marriage and adoption as more normatively acceptable (Eisner et al., 2020; Tankard & Paluck, 2017), whereas smoking bans have caused people to see smoking in public as less normatively acceptable (Luís & Palma-Oliveira, 2016). Because perceptions of social norms can guide people's behavior even when their attitudes have not changed (e.g., because they want to be accepted by those around them), interventions that change norms can still increase desired behaviors regardless of whether they also change attitudes (Paluck, 2009; Tankard & Paluck, 2016).

Legal mandates can also provide cover for those who wish to behave a certain way, but fear rejection or stigma from peers. For example, in the U.S. during the mid-20<sup>th</sup> century, some White business owners pushed for laws requiring that they serve Black customers. They wanted the business, but not the social cost of serving a stigmatized minority group, and a legal mandate “licensed” them to choose profit over prejudice (Lessig, 1995; Miller & Prentice, 2013). Relatedly, in the 1800s, Southern states passed laws outlawing participation in government if one

was caught dueling. Southern gentlemen, lawmakers reasoned, needed the legal cover provided by such laws to avoid accusations of dishonor and cowardice when attempting to escape from deadly duels (Lessig, 1995; Miller & Prentice, 2013).

In the context of COVID-19, freedom-restricting policies may be effective because they change what people view as socially acceptable or because they provide people with an excuse for why they are behaving more safely in situations in which personal attitudes and goals conflict with anti-safety norms. Initial research suggests that governments did indeed change perceived norms in the direction of safer behaviors when they restricted freedom through mandates like lockdowns, and people who perceived preventative behaviors as more normative were more likely to comply with mandates (Casoria et al., 2020; Galbiata et al. 2020; Tunçgenç et al., 2021).

Thus, the benefits of restricting freedom include the direct benefits of behavior change in compliance with laws, as well as the additional potential psychological benefits of attitude change (e.g., realizing that more secure behaviors are necessary), norm perception change (e.g., realizing that more people than previously thought support safety-enhancing restrictions), and licensing (e.g., providing cover to behave safely even when there is potential social stigma attached to doing so). Unfortunately, the benefits of restricting freedom also come with potential negative consequences for well-being and for behavior. We turn to these consequences in the next section.

### **Negative Consequences of Restricting Freedom**

The loss of freedom can have potentially severe consequences. Here we focus on two broad clusters of consequences: impaired well-being and behavioral reactance.

#### **Negative Consequences for Health and Well-Being**

A large literature on the importance of autonomy shows that freedom plays a crucial role in happiness, health, and motivation (Bone et al., 2014; Deci & Ryan, 2000; Fischer & Boer, 2011; Gehring, 2013; Ryan & Deci, 2000; Vansteenkiste et al., 2020). Indeed, people who report feeling that their actions and decisions are more freely determined report better mental health and psychosocial functioning (e.g., Chirkov et al., 2003; Fischer & Boer, 2011; Henning et al., 2019; Reis et al., 2000; Sheldon et al., 1996). Conversely, people who report a greater perception that their freedom has been thwarted—that they do not feel a sense of volition and freedom—report lower subjective well-being and are at greater risk for clinical disorders such as depression, anxiety, and suicidality (e.g., Bartholomew et al., 2011; Britton et al., 2014; Campbell et al., 2017; Cordeiro et al., 2016; Ng et al., 2012). The importance of perceived freedom even extends to physical health: people who report less autonomy also tend to suffer worse physical health (Ng et al., 2012).

The finding that weaker feelings of freedom and autonomy are related to lower well-being appears to generalize across many different cultural contexts. For example, Chirkov et al. (2003) found that people who reported feeling a weaker sense of volition and free choice in their actions reported lower well-being across the U.S., South Korea, Russia, and Turkey. Similarly, Chen et al. (2015) found that people from Belgium, China, Peru, and the U.S. all reported lower well-being when they felt unable to freely determine the course of their lives. In a meta-analysis with over 12,000 participants, Yu et al. (2018) found no difference in the relation between perceived autonomy and subjective well-being in the U.S. compared to in East Asia (i.e., China and Japan). We address potential cultural constraints on the relative importance of freedom in more depth toward the end of this paper, but for now we observe that evidence suggests that at

least some sense of autonomy contributes to well-being across many different cultural contexts, even if there are also cross-cultural differences in how freedom is conceived and valued.

The negative effects of restricting freedom for well-being have been documented across many contexts. Children who feel less free to decide how and with whom they spend their time tend to be less happy and less successful in school (e.g., Brenning et al., 2015; Grolnick et al., 1991); athletes who feel less autonomous perform worse on the field (e.g., Gillet et al., 2010); and employees who feel a weaker sense of free choice in the workplace are both less satisfied and less productive (e.g., Slemp et al., 2018). Perhaps the most compelling demonstrations of the importance of freedom come from research on extreme restrictions of autonomy. One salient example is the context of incarceration—people in prisons report the extreme anguish that comes from losing their freedom while serving time (Ozanne et al., 1998; van der Laan & Eischelsheim, 2013). Indeed, the loss of freedom can be so severe that incarcerated individuals feel that they have essentially been stripped of their humanity (Hill et al., 2016). Other examples of extreme autonomy deprivation include forced hospitalization and court-appointed guardianships or conservatorships for individuals who are deemed unable to care for themselves, both of which are associated with mental health costs because of the extreme restriction on affected individuals' freedom (Monahan et al., 1995; Moye, 2003; Stancliffe et al., 2000).

As governments implemented a variety of freedom-restricting policies during the COVID-19 pandemic, the potentially negative implications of these policies for public health began to emerge. Previous research on quarantines from other pandemics, such as SARS, the H1N1 influenza, and Ebola, has revealed that quarantines can have profoundly negative effects for people's mental health, including exhaustion, anxiety, depression, and post-traumatic stress symptoms (Brooks et al., 2020; Liu et al., 2012; Sprang & Silman, 2013; Wang et al., 2011). In a

review of the quarantine literature, Brooks et al. (2020) found that the lack of freedom perceived in mandated quarantine was a particularly important cause of this psychological distress—people who felt less freedom were more severely harmed by quarantines. Preliminary studies conducted during the COVID-19 have similarly found that quarantines and lockdowns appear to have severe mental health consequences, such as increases in depression and suicidal ideation, across many different cultural contexts (Alzueta et al., 2020; Dagnino et al., 2020; Giuntella et al., 2021; Rossi et al., 2020; Xin et al., 2020).

Of course, quarantines and lockdowns are some of the most extreme tools in policymakers' security-enhancing arsenals. Initial research has also shown that the restricted freedom experienced during the pandemic is associated with impaired subjective well-being in the absence of extreme measures. Indeed, several studies have already found that people in the pandemic feel less autonomy and freedom than they previous did, and these feelings predict lower well-being and worse mental health (e.g., Cantarero et al., 2021; Holingue et al., 2020; Holman et al., 2020; Mutz, 2020; Qiu et al., 2020; Šakan et al., 2020; Tanaka & Okamoto, 2021). In fact, in a nationally-representative study of Italians, Barari et al. (2020) found that the lack of freedom was the negative experience most commonly reported by participants—even compared to job loss, family conflicts, homeschooling, and the lack of socializing. Consistent with a causal effect of restricted freedom, interventions that encourage people to restore a sense of freedom by finding other ways of exercising autonomy have been shown to improve well-being during the pandemic (Behzadnia & FatahModares, 2020; Cantarero et al., 2021).

In summary, a large body of work shows that restrictions on freedom across many different contexts impair health and well-being. Emerging research conducted during the COVID-19 pandemic provides convergent evidence for the harm that losing freedom can have

for people living during an ongoing crisis. Before considering potential strategies for lowering these costs of restricting freedom, we turn to the potential negative behavioral consequences that can also emerge from freedom-security tradeoffs.

### **Negative Behavioral Consequences**

The restriction of freedom can shape behavior in counterproductive and even potentially dangerous ways. When people feel that their freedom is threatened, they experience *reactance*—an aversive motivational state characterized by negative thoughts and emotions such as anger (Brehm, 1966; Dillard & Shen, 2005). Psychologists have long known that reactance drives people to attempt to restore their freedom, and a primary method of accomplishing this goal is by defiantly doing exactly what one has been forbidden to do (Brehm, 1966; Brehm & Brehm, 1981). When attempts at persuasion or coercion are perceived to be too demanding or controlling, they can lead the intended target to adopt stronger *opposing* attitudes (for a review, see Rains, 2013). In the health communication literature, for instance, attempts to increase a wide variety of healthy behaviors (e.g., sunscreen application, flossing, condom use, exercise) or attempts to decrease unhealthy behaviors (e.g., binge drinking, unhealthy eating) have been found to backfire if they threaten freedom too much, ironically reinforcing the very behaviors they are intended to change (De Meyer et al., 2016; Dillard & Shen, 2005; Quick & Considine, 2008; Quick & Stephenson, 2007, 2008; Weinstein et al., 2020).

Similarly, teachers and schools are often less effective at motivating students when they adopt mandatory as opposed to voluntary but encouraged policies (e.g., De Meyer, 2016; Stukas et al., 1999). Children who feel deprived of freedom by controlling parents also tend to behave more defiantly, often feeling more motivated to engage in forbidden behaviors than children with less controlling parents (Brenning et al., 2019; Van Petegem et al., 2015; Vansteenkiste et al.,

2014). Interestingly, people are so sensitive to restrictions of freedom that they can experience reactance in the absence of a material loss of freedom—for instance, a controlling tone of voice can be sufficient to inspire some reactance (Weinstein et al., 2020).

As with the relation between perceived autonomy and well-being, researchers have documented reactance in response to freedom restriction across a variety of cultural contexts. For example, reactance in the face of freedom loss has emerged in studies with participants from Taiwan, South Korea, the Middle East, the U.S., the U.K., Austria, Germany, and Croatia (Graupmann et al., 2012; Jonas et al., 2009; Quick & Kim, 2009; Sittenthaler et al., 2015). Moreover, although individuals in cultural contexts with an emphasis on individual freedom may be more likely to exhibit reactance when their personal choices are limited (e.g., Savani et al., 2008), there are also circumstances when individuals from cultural contexts that prioritize more interdependent values exhibit greater reactance (e.g., when the freedom of close others is restricted; Sittenthaler et al., 2015). We delve into cultural differences in reactance in a later section of this paper; in the meantime, we highlight that people in many different societies have reactant responses when at least some forms of freedom are challenged or restricted. Nonetheless, the majority of reactance research has been conducted in the U.S. and Western Europe and thus its implications are clearer for Western, more individualistic cultural contexts than for other parts of the world.

Early evidence in the context of the COVID-19 pandemic underscores the potential behavioral consequences of reactance. People who report feeling more reactance in response to government recommendations are less likely to comply with them (Soveri et al., 2021), and people who feel reactance in response to campaigns to wear masks are more likely to leave their face uncovered (Taylor & Asmundson, 2021). Both correlational (Soveri et al., 2021) and

experimental (Sprengholz et al., 2020) studies have found that experiencing reactance appears to undermine intentions to get the coronavirus vaccine. Reactance can also undermine pandemic safety policies when collective freedom is threatened—DeFranza et al. (2020) found that religious people were less likely to obey shelter-in-place orders, violating them to reassert their religious freedom to congregate.

Reactance might be particularly strong for crises in which the threat to safety is less visible. For example, negative consequences of the coronavirus, especially during the onset of the pandemic, might be less obvious to the public in comparison to those of natural disasters: there are no destroyed houses, burned forests, or flooded streets. Security and safety might not seem to be in danger, particularly early on, when slowing the spread of the virus is most crucial and when complying with restrictions is most effective. On the other hand, immediate restrictions and loss of freedom are particularly salient in the beginning: staying at home is hard, wearing masks is uncomfortable, and maintaining social distance with friends and family is unnatural. As a result, restrictions on freedom put in place especially during onset of the pandemic might generate even stronger reactance than those introduced in the case of natural disasters like hurricanes or fires that have more pronounced and easily noticed negative consequences.

A particularly extreme manifestation of reactance can emerge in the form of protests. Many laws that aim to increase safety at the expense of freedom have been met with protests in the past—seat belt laws, smoking bans, helmet requirements, and firearm restrictions have all motivated opponents to protest (Aranda & Simons, 2018; Bayer & Colgrove, 2002; Goss, 2006; Jones & Bayer, 2007; Neiman, 2008). People resisting government orders under threat of natural disasters put their lives in danger to defy evacuation orders they perceive to be violating their

freedom (Morss et al., 2016, 2020). History provides many examples of protests against health measures during previous disease outbreaks (Dolan & Rutherford, 2020; Forbes, 2021; Mooney, 2015, 2020), whether from California's Anti-Mask League during the early 20<sup>th</sup> century influenza pandemic (Dolan, 2020) or from Liverpool rioters during England's 19<sup>th</sup> century cholera epidemic (Burrell & Gill, 2005; Gill et al., 2001). As in these historical cases, countries around the world, from Brazil and the U.S. to Japan and the U.K, have seen protests against COVID-19-related behavioral restrictions like lockdowns or mask mandates (Andone, 2020; Bogel-Burroughs, 2020; Rodriguez & Barbancho, 2020; Ryall, 2020; Siegler, 2020; Silva de Sousa & Savarese, 2020; Talmazan, 2020).

Although the mental health consequences of restricted freedom may be straightforward, the psychology behind protests is perhaps less immediately intuitive. People are apparently choosing dangerous freedom in the face of potential health risks to themselves and others, as well as social and sometimes legal sanctions. This is true for protests against many freedom restrictions, but especially so in the case of an ongoing pandemic, where even the act of protesting itself is dangerous. Purely economic motives, such as those resulting from restrictions on businesses, might partially explain some protests, but protesting also carries increased financial risk (e.g., healthcare costs from contracting COVID-19, legal costs of being arrested), so it is not clear that rational self-interest provides a full explanation either. Rather, the psychological pull of freedom explains why behavioral restrictions are so painful that they motivate such risky behavior. As one U.S. anti-mask protester pronounced to a reporter in February 2021, "we're not going to give up fighting for our freedoms" (Carpenter, 2021).

### **Unbalanced Tradeoffs Between Freedom and Security**

Negative, uncooperative, and reactant responses to restricted freedom during crises and disasters can be understood from a psychological standpoint as the costly reaction to a situation in which policymakers must change the calculus involved in balancing freedom with security. What was once safe enough to maintain security while permitting substantial freedom is no longer sufficient; a tradeoff must be made in which some freedom is given up in exchange for increased security. In theory, this tradeoff might seem relatively uncontroversial — people are safer for it, and the restriction of freedom is often temporary. Unfortunately, people do not necessarily experience freedom-security tradeoffs as if they were utility-maximizing agents weighing the safest plan forward. Rather, theories from the literature on judgment and decision-making reveal that freedom-security tradeoffs are likely to feel unbalanced for those who must sacrifice the freedom they have previously cherished. This imbalance emerges because of three central obstacles.

The first obstacle to balancing the freedom-security tradeoff is that freedom is a moral and even *sacred* value (perhaps more so in more individualistic and loose cultural contexts, a possibility we consider further in the final section of our paper; Gelfand, 2018; Markus & Schwartz, 2010; Schwartz, 2000). It is true that freedom is valued instrumentally, for its contributions to well-being—a top priority of the United Nation’s sustainable development goals (United Nations, 2015) and for its potential to fuel creativity and productivity (Ryan & Deci, 2000). But freedom is, more broadly, perceived to be a moral good in itself. Accordingly, restricting freedom is akin to robbing citizens of a fundamental right, and protests reflect the anger inspired by limitations imposed by policymakers.

By virtue of being morally sacred, freedom may not be perceived to be something that even *can* be traded off against something else. The literature on “taboo tradeoffs” (Tetlock, 2003;

Tetlock et al., 2000) reveals that people find it morally reprehensible to exchange sacred values in tradeoffs. One cannot auction off the adoption of a child to the highest bidder, one cannot pay another to die for them, and one cannot exchange sacred freedom to gain another advantage. Even merely *contemplating* such tradeoffs can result in profound moral outrage, distress, and compensatory behaviors (Tetlock et al., 2000). The rigidity with which people resist the taboo exchange of freedom for security is evident in the popular use of Benjamin Franklin's 1755 declaration, "Those who would give up essential Liberty, to purchase a little temporary Safety, deserve neither Liberty nor Safety" (though in historical context Franklin was actually making a different point than is widely assumed; Labaree, 1963; Siegel & Anderson, 2015).

The second obstacle is that, even if this potentially taboo tradeoff is considered, freedom and security will probably not be equally weighted in people's subjective valuation. According to prospect theory (Kahneman & Tversky, 1979), current states are evaluated not as absolute outcomes, but as changes relative to a reference point. And not all changes are equal—losses are felt more deeply than gains. The negative effect of losing \$20 is larger than the positive effect of gaining \$20. As a result, the loss of freedom may be felt more strongly than the gain of security; in terms of subjective valuation, it may hurt more to lose the freedom one once had than it helps to gain additional new security (Kahneman & Tversky, 1979, West et al., 2020).

The third obstacle is that this asymmetrical effect of gains and losses is further exaggerated by the fact that losses and gains are not experienced simultaneously: the loss of freedom is immediate, whereas potential gains in security are typically delayed. When a hurricane is forecasted, people lose freedom immediately upon orders to evacuate, and in exchange receive only the assurance of future safety when the hurricane eventually makes landfall. When governments issue mask mandates, people immediately lose the freedom to

decide whether to wear one, while being promised a decreased likelihood of falling ill in the future. Research on intertemporal choice (i.e., choice across time) shows that trading an immediate loss for a future gain is exactly the opposite of what people would prefer to experience (e.g., Frederick et al., 2002; Loewenstein & Thaler, 1989).

Indeed, the difficulty of the present loss-future gain tradeoff is clear from everyday struggles of self-control and impatience. Future benefits, especially when they are uncertain and abstract (e.g., a lower but non-zero probability of contracting COVID-19), are undervalued relative to immediate gains (Frederick et al., 2002; Loewenstein & Prelec, 1992; Loewenstein & Thaler, 1989). This is true even when immediate gains are smaller—in the terminology of judgment and decision making, people exhibit *temporal discounting*, whereby the value of future gains is “discounted” because they are not immediate. Hence people choose the immediate pleasure of eating a chocolate bar over the delayed health benefit of eating carrot sticks; press the snooze button for the immediate gain of 10 more minutes of sleep over the delayed benefit of a more leisurely commute to work; and forego studying to enjoy the immediate gain of watching TV over the delayed benefit of acing a test. The pull of the present makes people impatient, resistant to experiencing unpleasantness in exchange for the possibility of some future benefit. In sum, the asymmetry of gains and losses combined with a present bias in intertemporal choice unbalances the subjective valuation of freedom and security—the freedom one has feels more valuable than the security one gain.

Finally, balancing the freedom-security tradeoff may be more difficult when the degree of change from the “status quo” (i.e., from the existing state of affairs) is greater. Research suggests that people are often resistant to change, preferring to stick to the status quo if possible (Zeckhauser & Samuelson, 1988). When disasters and crises disrupt the balance of freedom and

security, it may be important to consider the prior status quo to understand the severity of potential negative reactions to new restrictions. For example, the pre-pandemic status quo in the U.S. was a widespread celebration of freedom in all respects (Markus & Schwartz, 2010; Schwartz, 2000)—no masks, countless opportunities for self-expression, and relatively few restrictions on travel. On the other hand, in some countries in Asia, wearing a mask was much more common—thus part of the pre-pandemic status quo—before COVID-19 struck. For example, in South Korea, masks were often used for not only medical but also aesthetic reasons (Wong, 2020).

Because of the importance of the status quo, a mask mandate may more dramatically disrupt the freedom-security balance in countries where it represents a great divergence from everyday life (e.g., the U.S.) while having relatively little effect on perceptions of freedom in countries where people are more accustomed to using them (e.g., South Korea). Even within the same society, people with different reference points for their status quo may well react to freedom restrictions differently—air travel restrictions will be felt more deeply by a frequent flyer than by someone who has never stepped foot on a plane. Accordingly, it is crucial for policymakers to analyze the context in which new restrictions are introduced to fully understand and address the extent to which their actions will change the balance of freedom and security.

### **Restoring the Balance**

Understanding restrictions on freedom during crises and disasters through a psychological lens may help pave the way to addressing people's negative reactions to these restrictions. Indeed, psychological science offers many approaches to help restore the balance between the desire for freedom and the desire for security, thereby helping policymakers better promote and protect public health. Integrating insights from several areas of psychology, we

suggest four “SAFE” principles that can help policymakers more effectively balance the freedom-security tradeoff during crises and disasters:

1. Spell out the benefits of restricted freedom/increased security.
2. Attach moral value to behaviors (both desired and undesired).
3. Frame security as “freedom from.”
4. Encourage freedom in other ways.

The SAFE principles describe broad approaches to helping people adjust to freedom restrictions, and there are many potential strategies that policymakers could adopt to achieve each principle.

We turn now to an elaboration of these principles, and in doing so, we offer some specific suggestions for how to achieve success with each principle, though we readily acknowledge that there are likely many other approaches we do not review that could further help policymakers implement the SAFE principles. The following is thus intended to provide a useful four-part framework on which future work can continue to build.

### **Principle 1: Spell Out Benefits of Restricted Freedom/Increased Security**

One way to restore balance to the freedom-security tradeoff is to increase the perceived value of gaining security. Policymakers can do this by clearly articulating the rationale behind the adoption of new restrictions so that people better understand why they are being asked or forced to give up their freedom. Research on rationale provision has demonstrated that providing explanations about the value of a requested action increases people’s compliance with requests, particularly in the context of unpleasant or unappealing behaviors (Deci et al., 1994; Jousemet et al., 2004; Reeve et al., 2002). In the health domain, people are more likely to make sustained behavioral changes that involve freedom restrictions (e.g., restrictions on the foods they are

allowed to eat) if they better understand *why* these restrictions are beneficial (Dusseldorp et al., 2014).

Relatedly, decision making research on “reason-based choice” shows that people often search for reasons to determine or justify the choices they make (Shafir, 1993; Shafir et al., 1993). Accordingly, providing information about the many reasons why security-enhancing policies are valuable can help people make choices in line with new measures. Having reasons to behave a certain way can be motivating even when people theoretically value doing so, and making these reasons salient (e.g., through public communication) can increase the likelihood that people act in accordance with their values (Maio et al., 2001). An added benefit of providing clear rationales behind new policies is that, by increasing the perceived value of security, people may come to internalize the utility of acting in line with new restrictions. This internalization can then cause people to feel greater freedom because they value following restrictions enough that they would choose to do so even without external mandates (Deci et al., 1994; Moller et al., 2006). In line with previous work on the value of understanding, initial research in the context of the COVID-19 pandemic has found that people who perceive preventative measures as more effective are more likely to adhere to government guidelines like wearing masks (Broomell et al., 2020; Cakanlar et al., 2021; Clark et al., 2020; Sprengholz et al., 2020). Moreover, providing information about the benefits behind pandemic policies reduced reactance in the face of restricted freedom (Sprengholz et al., 2020).

A particularly effective strategy for explaining the benefits of restricting security may be to enumerate many different benefits rather than providing a more general summary. For example, it may be more effective to frame the benefits of masks as increased safety for family *and* friends *and* neighbors *and* high-risk populations *and* service workers than simply “for

others.” This kind of framing involves *disaggregating gains*—that is, separating one larger gain (safety for others) into several smaller gains (Thaler, 1985). Research reveals that people often get more value from disaggregating gains—it can feel better to get two payments of \$20 than one payment of \$40. By enumerating many different benefits of increased security, the gain side of the freedom-security tradeoff can become more valuable, helping to balance out the loss of freedom (Thaler, 1985, 1999).

Another approach to increasing the perceived value of security is to make the risk or threat more salient, thereby helping people recognize the importance of taking action to increase safety and to prevent or mitigate suffering. Often researched under the term “fear appeals” in the communication and persuasion literatures, this approach involves emphasizing the threat to individuals and groups posed by behaviors, disasters, or crises (Rogers, 1975; Sternthal & Craig, 1974; Witte, 1992). Perceived threat can be a strong motivator that indeed increases people’s willingness to give up freedom in the pursuit of security. For instance, the 9/11 terrorist attacks in the U.S. provoked widespread feelings of danger and threat, and these perceptions in turn drove public support for the many security-enhancing policies enacted by the federal government in the following months and years (Davis & Silver, 2004; Gadarian, 2010; Huddy et al., 2005). In fact, high levels of threat perception can minimize political differences in policy support between liberals and conservatives; the desire for security can override the power of partisanship (Davis & Silver, 2004; Nowlan & Zane, 2021).

Terrorism is one extreme context in which the public often perceives high levels of threat, but many other threats can motivate people to give up some of their freedom (for a relevant recent meta-analysis, see Carriere et al., 2020). For example, communicating the dangers of hurricanes or wildfires increases people’s willingness to evacuate (Demuth et al.,

2016; McLennan et al., 2019), and conveying the dangers of climate change increases support for freedom-restricting climate policies (Feldman & Hart, 2018). Similarly, people who perceive greater danger of hacking and other online security violations are more supportive of government cybersecurity policy (Kostyuk & Wayne, 2021), and greater perceptions of risk are associated with increased support for restrictions on the use of nuclear power (Hartmann et al., 2013). There is a large body of work in public health illustrating the potential benefits of making risks and threats salient (Kok et al., 2018; Witte & Allen, 2000), and initial converging evidence in the context of the COVID-19 pandemic suggests that perceiving the coronavirus as more threatening makes people more supportive of and compliant with government policies like mask mandates and lockdowns (Barceló & Sheen, 2020; Broomell et al., 2020; Harper et al., 2020).

Despite the potential for threat to increase the perceived value of security, there are also important limitations to the effectiveness of fear appeals. A substantial body of work across different contexts (e.g., health, cybersecurity, natural disaster evacuation) has shown that fear appeals can backfire when people do not feel a sense of “self-efficacy”—that is, a feeling that they can act in a way to avoid or mitigate an incoming threat (Kok et al., 2018; Lawson et al., 2016; Witte & Allen, 2000). If people feel empowered or knowledgeable, then increasing their sense of threat can be effective. If they do not, they can instead feel hopeless and resigned, and become even less likely to comply with government policies. Consistent with this pattern, people with a more fatalistic perception of the threat of COVID-19 report being less rather than more likely to engage in preventative behaviors (Jimenez et al., 2020). Thus, when policymakers attempt to invoke threat or fear, they must also provide clear, specific, and actionable strategies that the public can adopt.

More broadly, invoking threat is just one of many ways to make the value of security especially salient to people. Personal experience can increase people's understandings of security (Demuth et al., 2016; Weinstein, 1989), as can reminders in the environment (e.g., Weinstein et al., 1986). Encouraging people to feel more connected with their future selves can also make the urgency of valuing longer-term security in the present more apparent (Ersner-Hershfield et al., 2009), and narratives and images can be effective strategies for engaging the public and increasing the salience of present and future threats (e.g., Downs, 2014; Feldman & Hart, 2018; Lawlor & Crow, 2018; O'Neill et al., 2013). In sum, policymakers have many potential tools at their disposal with which to amplify the perceived value of increased security and restricted freedom, providing a wide array of potential approaches to implementing this first SAFE principle.

### **Principle 2: Attach Moral Value to Behaviors**

Whereas our first SAFE principle focuses on changing how people think about the perceived value of increased security (i.e., the utility of new freedom-restricting policies), our second principle is about the *meaning* of increased security. Specifically, we propose that an effective strategy for encouraging behavior change even at the cost of personal freedom is to attach new moral value to behaviors. Moralization occurs when actions that previously had little moral relevance begin to take on deeper meaning—as Rozin (1999) put it, “it is the process through which preferences are converted into values” (p. 218).

Moralization can be beneficial because it has the potential to dramatically shape attitudes and actions (Rozin, 1999; Rhee et al., 2019). Moral attitudes and values are highly accessible and prioritized in attention (Gantman & Van Bavel, 2014; Ray et al., 2021; Skitka et al., 2021; Van Bavel et al., 2012), and framing attitudes as moral increases the strength with which people hold

them (Luttrell et al., 2016). Moralization also constrains behavior: morality is seen as beyond compromise (Skitka, 2010; Skitka et al., 2021) and thus potential immoral actions are not even necessarily considered viable choices (Kouchaki et al., 2018; Mooijman et al., 2018). In this way, self-control problems disappear, because immoral choices are forbidden; they cannot even be considered in the first place. Consistent with these findings, the perceived morality of laws predicts willingness to comply with them (Nadler, 2005), and moral behavior is enforced by strong social norms and by moral outrage at transgressions (Rost et al., 2016; Skitka et al., 2021; Stein et al., 2021; Tetlock, 2003). When behaviors become immoral, people also gain the license to confront violators (e.g., confronting someone who is smoking inside; Rozin, 1999). In short: moralization can fast-track lasting attitude and behavior change.

Moralization also turns both sides of the freedom-security tradeoff into moral issues, which transforms it from a “taboo tradeoff” to a “tragic tradeoff” (Tetlock, 2003). The latter is characterized by tradeoffs between two sacred values or moral rights (e.g., individual freedom to wear what one wants vs. the moral mandate to wear a mask). Because it is immoral to sacrifice either side of the tradeoff, it becomes more acceptable and less outrageous to make a choice between the two, particularly when it is unavoidable (Tetlock et al., 2000). Thus, policymakers will not be committing such a sacred violation when they restrict freedom in the defense of security.

Moralization can be an individual-level process, such as when an individual decides eating meat is immoral because of cruelty to animals (Feinberg et al., 2019), but policymakers can take advantage of the fact that moralization can also happen on the community or societal level through both political messaging and social movements (Rozin, 1999). For instance, mass campaigns to moralize littering changed how people viewed a seemingly innocuous act

(Grasmick et al., 1991), and the U.S. social movement to legalize gay marriage successfully removed much of the moral stigma attached to gay relationships (Solomon, 2014). Public movements have also moralized individual energy conservation (e.g., reducing electricity consumption; Salomon et al., 2017) and drunk driving (Grasmick et al., 1993) in efforts to promote more sustainable behavior and safer driving, respectively.

Initial evidence from research on the COVID-19 pandemic suggests that increased security has already begun to take on moral value in line with what we have described. People have begun to see government interventions to stop the spread of the virus as sacred and may be unwilling to make tradeoffs for other causes (Graso et al., 2021). Consistent with research on moral outrage, people condemn and shun those who do not abide by social distancing or mask policies (Bor et al., 2020; Söderlund, 2020). And the more moralized COVID-19 safety has become for individuals, the more they report adhering to government-advised prevention behaviors (Chan, 2021; Christner et al., 2020). In the future, it will hopefully be possible to study how people and governments were able to more or less effectively moralize security during the pandemic so that insights from this crisis can be applied to help balance future freedom-security tradeoffs as well (Van Bavel et al., 2020).

Finally, moralization can change the dynamics of temporal discounting—the tendency to devalue future consequences relative to present ones. When one fails to resist the temptation to eat meat for health reasons, the benefit is immediate while the cost is delayed. When one fails to do it for moral reasons, the costs is now immediate; the moral transgression occurs with the first mouthful, independent of future health consequences. The same may be true when the issue is being safe during a pandemic. Falling ill is delayed; committing a moral transgression is immediate.

**Principle 3: Frame Security as “Freedom From”**

Thus far we have considered how to increase the perceived utility of greater security by spelling out the benefits and how to change the meaning of greater security by attaching moral value. A third potential strategy for policymakers is to reframe security into a different kind of freedom. The philosopher Isaiah Berlin (1969) distinguished between “positive freedom” and “negative freedom.” The first is freedom *to*—that is, freedom to do what one wants, where, how, and when one wants. Freedom to is typically restricted during freedom-security tradeoffs; the range of behaviors that people are allowed to pursue is narrowed. The second type of freedom is freedom *from*—that is, freedom from external constraints, pressures, and threats. Increasing security can come at the cost of some elements of freedom from, such as freedom from government oversight and imposition. But, crucially, this cost is accompanied by an increase in other elements of freedom from: freedom from disasters, crises, and other threats. Reframing security increases as an increase in freedom from can help restore the balance to freedom-security tradeoffs—indeed, it can minimize the extent to which there is even a tradeoff in the first place.

One focus of the reframing can be one’s own freedom from. Making threats salient increases support for freedom-restricting policies in part because people see these policies as making them freer from disasters and threats. Thus, profound changes in domestic and foreign policy after the 9/11 attacks were accepted by many as a path to regaining the freedom from terrorism they felt they had lost (Davis & Silver, 2004). In the context of the COVID-19 pandemic, Pereira and Stornelli (2021) found that framing mask use as “allowing Americans to exert their individual freedom” by keeping them safe as they left the house, patronized businesses, and contributed to the economy increased mask wearing. This reframing was

particularly appealing for those who placed higher value on individual liberties and were less moved by framing mask use as a way to maintain collective health. Cakanlar et al. (2021) similarly found that framing COVID-19 preventative behaviors as providing protection from the threat of disease effectively increased the perceived impact of the behaviors. And again, the effect of framing security as freedom from was particularly effective for those more concerned about freedom restriction and personal rights and responsibilities. These findings suggest that a “freedom from” framing can help people see increased security as a change that can ultimately maintain or even amplify their freedom from external threats.

A second focus of this reframing can be others’ freedom from. Even those with strong libertarian convictions and a devotion to the right to personal liberty recognize that others are also entitled to freedom from harm or imposition (Iyer et al., 2012). Accordingly, a potentially powerful approach to help people see the necessity of increased security at the cost of individual freedom is to reframe security as a means of preserving others’ freedom from.

Changes in attitudes toward restrictions on smoking are a classic example of how reframing restrictions as freedom from can have potentially powerful effects. The issue of smoking in the mid-20<sup>th</sup> century was largely conceived as a matter of individual freedom—even as evidence emerged about how bad smoking was for smokers, people maintained the right to choose to put their own lives on the line for a cigarette. But when it became more widely known that secondhand smoke can harm others, especially children, public construal of smoking bans in the U.S. changed (Rozin, 1999; Rozin & Singh, 1999). Suddenly, insisting on the right to smoke meant infringing upon others’ rights to freedom from health threats. And with that reframing, public health officials were able to generate the widespread support for policies that restricted people’s freedom to smoke in buildings, on public transportation, and beyond.

Research supports the proposal that reframing security as others' freedom from can effectively change people's attitudes and behaviors across a variety of contexts. Believing that secondhand smoke harms others is one of the strongest predictors of intentions to quit among people who smoke (Glantz & Jamieson, 2000), and anti-smoking campaigns that focus on secondhand smoke are the most effective at turning both teenagers and adults against smoking (Goldman & Glantz, 1998). The belief that others would be harmed by unprotected sex is one of the primary drivers of adopting safer sex practices among people with HIV or AIDS (Farrington et al., 2016; O'Leary & Wolitski, 2009; Walzer et al., 2016). Construing quarantines as an altruistic act for the benefit of others buffers people against the negative mental health effects of giving up so much freedom of movement (Brooks et al., 2020). More broadly, people who are higher in empathic concern for others' rights and well-being are more supportive of paternalistic policies (e.g., Jung & Mellers, 2016) and protective restrictions on rights such as the freedom of speech (e.g., outlawing hate speech; Cowan & Khatchadourian, 2003).

The findings of initial research from the COVID-19 pandemic converges with other work on the effectiveness of emphasizing the importance of others' freedom from. Greater concern for the safety of others and a greater sense of responsibility to keep others free from disease predict increased adherence to recommended safety behaviors like social distancing and mask wearing (Christner et al., 2020; Oosterhoff & Palmer, 2020; Pfattheicher et al., 2020). Some people even report following COVID-19 safety measures more for others than for themselves (Schiffer et al., 2021), and messaging about how preventative behaviors can protect others from the coronavirus can be more persuasive than messages about how the same behaviors can protect oneself (Jordan et al., 2020; Luttrell & Petty, 2020). Mooney (2015, 2020) has also detailed how "freedom from"

framing proved effective in previous pandemics throughout history because of its ability to enable public officials to justify imposing stronger restrictions.

Whether to focus the reframing of security as “freedom from” on one’s own freedom from, others’ freedom from, or both may depend on the specific context of crises and disasters. For instance, individuals who place a higher value on personal liberties (e.g., conservatives) may be more persuaded by appeals to their personal freedom from (Pereira & Stornelli, 2021), whereas those higher in moral concern for social responsibility may be more motivated by appeals about others’ freedom from (Luttrell & Petty, 2020). Additionally, it may not always be clear how a restriction increases others’ freedom from; for example, it may be harder to frame a mandatory evacuation in the face of a hurricane as protecting others. But in such cases, appeals to one’s own freedom from may still be effective.

#### **Principle 4: Encourage Freedom in Other Ways**

Our final recommendation for policymakers is to restore balance to the freedom-security tradeoff by encouraging and even creating choice for those affected by increased security measures. Even under relatively restrictive policies, there are often still many opportunities for people to exercise their freedom to choose, and making these more salient can buffer against well-being costs and help reduce reactance. For instance, in research on the COVID-19 pandemic, Cantarero et al. (2021) found that prompting people to think about the choices they still made on a daily basis improved well-being. Amidst shelter-in-place and social distancing orders, people were still making choices (e.g., what to eat, how to pass the time), and making those choices salient nudged people to attend more to the freedom they still had. Behzadnia and FatahModares (2020) went a step further and provided daily suggestions for new choices people could make, such as deciding to try a new stretch, or exercising with a family member.

Encouraging these new kinds of choices reduced the stress of limitations on freedom during a pandemic.

Governments and other institutions are well-positioned to provide people with information and access to ways of expressing their freedom. For example, social distancing requirements during the pandemic have restricted many of the activities people can pursue, but have not placed as many restrictions on outdoor recreation. The commonwealth of Massachusetts curates a website that provides resources and ideas about outdoor activities, including freely accessible parks, hiking trails, and campsites (<https://www.mass.gov/topics/outdoor-activities>), thereby facilitating choice. Policymakers can also take active steps to build new paths for choice. During lockdowns, many institutions like libraries and museums began to create new online content, and policymakers can facilitate such transitions by subsidizing and assisting these efforts. As new activities (e.g., virtual tours of global museums) become possible, policymakers can then work to increase public awareness of new resources and opportunities, and messaging that emphasizes that these are new options people can choose to take advantage of can further amplify perceptions of freedom. And even if people decide they do not want to choose any of these new options, choosing not to choose may still be an effective way to exercise one's freedom (Sunstein, 2015).

In some cases, policymakers may also be able to build choice directly into the freedom-restricting process. For example, during a drought, states may place new limitations on water usage to conserve scarce resources. These essential policies constrain free choice, but states could counterbalance that constraint by providing a menu of options as to *how* people will change their behavior to conserve water (Moller et al., 2006). For instance, the California Department of Water Resources provides a list of new habits and behaviors people can adopt to

reduce their water usage (<https://water.ca.gov/Water-Basics/Conservation-Tips>). If households are mandated to adopt conservation behaviors but provided choices about which restrictions to follow, freedom is encouraged even as it is restricted.

Finally, partnering with communities to find collaborative ways to encourage freedom may provide policymakers with a particularly fruitful path forward. For example, a growing trend during the COVID-19 pandemic is wearing “anti-mask masks”—face masks that display slogans such as “I’m just wearing this mask so I won’t get fined,” or “This mask is useless and so is yours” (Demopoulos, 2021). These masks provide an elegant solution to the problem of reactance amidst mask mandates by affording the opportunity to practice the freedom of self-expression while nonetheless adhering to safety guidelines and strengthening descriptive norms supporting mask wearing. One could imagine other applications of this approach to safely protesting against other mandates as well, such as bumper stickers with “Only evacuating because the government made me” on them or household recycling bins reading “Only recycling to avoid fines.”

Of course, the motivating power of self-expression (Rifkin et al., 2021) can be harnessed even when not in direct protest against the specific freedom restricting policy, such as when Black Lives Matter protesters wear masks with the names of victims of police violence (“Masked not muzzled,” 2020), when sports fans don masks with team mascots, or when people simply choose from assortments of masks with different designs and colors to match their style. But it provides a particularly effective strategy for channeling policy resistance into a safer outlet. Policymakers can support these efforts, whether directly by leading and sponsoring them or indirectly by connecting with communities, discovering how people feel and how they would like to express frustrations, and subsequently facilitating those expressions.

### **Caveats, Cautions, and Considerations**

Throughout this paper, we have sought to synthesize research on the psychology of freedom and on behavioral public policy (1) to explain how and why restricting freedom can have negative effects for well-being and behavior and (2) to suggest four principles to aid policymakers as they attempt to understand and address the negative consequences of freedom restriction. We turn now to some caveats, cautions, and considerations for future research on and applications of the present ideas.

#### **Individual Differences**

We have argued that people widely value freedom, and react negatively to restrictions on freedom as a result. However, individuals vary in the value they place on freedom, and this variation can have important implications for thinking about the freedom-security tradeoff. Some individuals are more prone to exhibit reactance when their freedom is restricted (Dowd et al., 1991; Hong & Page, 1989), and more dispositionally reactant individuals are less likely to adhere to policies and laws that attempt to constrain their freedom. For example, people higher in reactance are more likely to defy workplace security policies (Wall et al., 2013) and to reject government attempts to improve public health by restricting consumer behavior (Hall et al., 2016). Individual differences in political orientation also matter: conservatives and libertarians typically place a higher value than liberals on individual freedom, and display greater opposition to government infringement upon those freedoms (Iyer et al., 2012; Jost, 2017). As a result, liberals may be more likely to support and comply with restrictions on freedom during crises and disasters.

Individual differences may have implications for how policymakers tailor recommendations for specific contexts. For example, some people, like those relatively low in

reactance, may not resist attempts to increase security by limiting freedom. In those cases, policymakers may not have to worry as much about balancing out freedom restrictions. In other contexts, however, policymakers may need to work much harder, such as when a particular population is more conservative and therefore more resistant to new policies when they perceive them to infringe on their personal liberties. Moreover, some approaches may be more or less effective when targeting different audiences. As we mentioned earlier, framing security as increasing *individual* freedom from (e.g., by emphasizing that masks can restore one's freedom to freely venture outside the home) may be more compelling to conservatives, who are more attuned to their own rights (Cakanlar et al., 2021). Framing security as increasing *others'* freedom from may be less compelling to conservatives, or may even backfire if it inadvertently reinforces the perception that their individual freedom has been restricted to preserve others' freedom. It is also possible that encouraging freedom in other ways may do more to benefit the mental health of those who are more reactant or more conservative, because the amount of freedom they perceive having may be more related to their well-being.

### **Political Trust and Partisanship**

How the public reacts to policies that restrict freedom can be shaped by varying levels of trust in government. When people perceive officials to be less trustworthy, they are less likely to comply with evacuation orders during national disasters (Kim & Oh, 2015), less likely to abide by restrictions on recreational drug use (Lindström, 2008), and just generally less willing to follow the law (Marien & Hooghe, 2011). If political trust is low, even government actions that restrict but do not outlaw a behavior can prompt *increases* rather than decreases in targeted behaviors (e.g., increased smoking after government smoking restrictions; Lindström, 2009). In the context of the COVID-19 pandemic, trust in government similarly predicts attitudes toward

and compliance with freedom restricting policies (Bargain & Aminjonov, 2020; Fetzner et al., 2020; though see Clark et al. 2020). And this was true during previous pandemics as well (e.g., Prati et al., 2011). Because less effective government responses to disasters undermine future trust (e.g., Nicholls & Picou, 2013), low trust can create a potentially devastating downward spiral: low trust leads people to defy policies that aim to increase security, which makes those policies less effective, which further decreases trust.

Political partisanship has a powerful influence on government trust. People are much more likely to trust government officials with whom they share a political party affiliation, and thus people are less likely to support and comply with freedom restricting policies that originate from parties they oppose (Lerman et al., 2017; Krupenkin, 2021). U.S. political partisanship emerged as a crisis in its own right during the COVID-19 pandemic when Republican officials minimized the threat of the coronavirus and opposed policies to mitigate it. Conservatives and Republicans have been more likely to oppose and defy pandemic policies like social distancing, and their defiance subsequently led to higher rates of infection and death (Calvillo et al., 2020; Gollwitzer et al., 2020; Nowlan & Zane, 2021).

Crises and disasters are not necessarily inherently political, but they can take on political meaning when officials and media sources frame them as such. In the U.S., conservative media has downplayed the threat of COVID-19, and greater consumption of right-wing news has been found to predict reduced adherence to social distancing guidelines (Gollwitzer et al., 2020). In a study in the context of U.S. hurricane response, Long et al. (2020) found that conservative politicians and media have recently begun politicizing hurricane threat and evacuation orders. As a result, whereas political party affiliation used to be relatively unrelated to evacuation, areas

with more Trump voters were substantially less likely to evacuate Hurricane Irma in 2017 (Long et al., 2020; see also Chon & Fondren, 2019).

These findings suggest that the success of many of our recommendations will depend on the political context of particular disasters and crises. If policymakers are less trusted, policies themselves will be less effective, and attempts to increase support for policies by providing more information, changing how people think about freedom and security, or providing other ways to exercise freedom will likely also be less successful. An essential priority for policymakers and for the media thus needs to be fostering public trust, perhaps by reducing politicization of crises and disasters whenever possible (Falkheimer & Olsson, 2014), emphasizing scientific consensus when relevant (van der Linden et al, 2018), and maintaining effective, honest, and thorough communication (Carter et al., 2014; Deslatte, 2020). For a deeper discussion of the psychology of crisis leadership, see Haslam et al. (2021).

### **Cultural Differences**

The negative effects of restricting freedom during crises and disasters may vary across different cultural contexts. Cross-cultural research on the desire for freedom and autonomy suggests that people around the world want to feel a sense of volition and to have the ability to behave authentically (Chen et al., 2015; Chirkov et al., 2003; Yu et al., 2018). However, what it *means* to be feel autonomous can vary across cultural contexts. In some cultural contexts, people may be more likely to think of freedom as being able to act independently and make independent choices, whereas in other cultural contexts, feeling autonomous might include acting in line with group norms and in a way that supports relational bonds with close others (e.g., Markus & Kitayama, 1991; Markus & Conner, 2013; Triandis, 1989; Vansteenkiste et al., 2020). In a cultural context with a more individualistic construal of freedom, people may feel more free and

motivated if they personally choose an activity to pursue, rather than do what someone else has chosen. On the other hand, in a cultural context with a more collectivistic construal of freedom, people may instead feel as free or even more free and motivated when doing what someone else has chosen for them, because it is consistent with a relational understanding of autonomy (Iyengar & Lepper, 1999).

Cross-cultural differences in understandings of autonomy and agency also shape reactions to different types of freedom restriction. In more individualistic cultural contexts, restriction of personal choice may be most likely to provoke reactance, whereas people from a more collectivistic context may be less concerned about preserving this type of individual freedom (Jonas et al., 2009; Kim et al., 2017; Savani et al., 2008). On the other hand, threats to a more relational type freedom, such as restrictions on what one's family, friends or ingroup are free to do, may well provoke reactance in people from more collectivistic cultural context—perhaps even more so than in people from more individualistic contexts (Jonas et al., 2009; Sittenthaler et al., 2015). Relatedly, people from more collectivistic contexts may show little reactance in the face of restrictions on freedom that originate from a valued ingroup, because, for instance, the group's preferences and norms are readily incorporated into the self-concept (Graupmann et al., 2012). For individuals from cultural contexts that distinguish personal freedom as an essential value, however, even freedom restrictions from one's own ingroup may be met with reactance (Graupmann et al., 2012).

Because of distinct meanings of freedom, people in more collectivistic cultural contexts may not feel as deprived of freedom when asked or mandated to behave in a way that takes the needs of others into account—for example, to wear a mask to protect those around them. Especially when increased security becomes socially normative, acting in line with group norms

and for the safety of others may not feel like losing freedom to the same extent as it would to people in a more individualistic cultural context. Consistent with this possibility, some initial evidence from the COVID-19 pandemic suggests that higher levels of collectivism were related to greater support of restrictive policies (Pei et al., 2020), greater compliance with mask and social distancing mandates (Bazzi et al., 2021; Huang et al., 2020; Lu et al., 2021), lower rates of mental health distress (Germani et al., 2020; though see also Kowal et al., 2020), and lower rates of virus transmission and death (Pei et al., 2020).

Cultural contexts also vary in the extent to which they have previously experienced threats to security. Historically, societies have sacrificed freedom when it was necessary to protect themselves from threat, developing tighter norms and harsher punishments for deviance as a strategy to ward off disease, disaster, or other destruction (Gelfand, 2018; Gelfand et al., 2011; Harrington & Gelfand, 2014). People in countries with tighter norms because of a greater history of threat may not be as negatively affected when their freedom is reduced to increase security; restricted freedom may be more culturally normative and less aversive (Gelfand, 2018; Gelfand et al., 2011; Van Bavel et al. 2020). In contrast, there may be more resistance when freedom is restricted in cultural contexts that have historically placed less emphasize on tight norms and security. Consistent with this possibility, evidence from the COVID-19 pandemic suggests that countries higher in tightness more effectively contained the spread of the virus (Cao et al., 2020; Gelfand et al., 2021).

Although cultural differences may be important, we emphasize that crises and disasters are extremely stressful experiences for people from all cultural contexts. Our analysis has focused on reactions to restricted freedom, which might be more negative in more individualistic and looser cultural contexts. But other concerns could be greater in more collectivistic and

tighter cultures—for example, people in more collectivistic cultural contexts might experience more psychological distress from watching their ingroup members suffer, and people in tighter cultural contexts may feel more stress if the chaos of a disaster disrupts social order and makes appropriate social norms unclear. The restriction of freedom is only one of many considerations in the context of culture and crises and disasters.

### **The Right Balance of Freedom and Security**

Although we have underlined the potential value of giving the public *more*, both in terms of information (spelling out benefits of increased security) and in terms of choice (encouraging freedom in other ways), policymakers should keep in mind that *too much* information or choice might also have potentially negative consequences if it overwhelms people (e.g., Iyengar & Lepper, 2000; Malhotra, 1982; Schwartz, 2000, 2016; Schwartz & Cheek, 2017). To simplify information and choice presentation, policymakers can look to the literature on “choice architecture,” which provides insights into how best to design, structure, and provide choices (Münscher et al., 2016; Shafir, 2013; Thaler & Sunstein, 2008). For example, providing a large array of options is less overwhelming if a small subset is highlighted as particularly likely to satisfy choosers (Kling et al., 2012). More broadly, the guiding assumption in the present work is that it is important to have a *balance* between freedom and security, because both are important. The ultimate goal of policy should be to provide neither too much security nor too much freedom, but rather a moderate degree of both that leaves the public with both autonomy and safety (Grant & Schwartz, 2011; Harrington et al., 2015; Reutskaja & Hogarth, 2009).

### **Implementation and Evaluation**

Throughout our analysis of freedom-security tradeoffs, we have attempted to draw on a wide range of psychological research, as well as examples from relevant tradeoffs from diverse

contexts and historical periods. We have done so with the goal of synthesizing existing evidence into a framework that is likely to generalize to many future crises and disasters. Nonetheless, as with all attempts to apply psychology and other behavioral science research to policy, there is reason for caution (IJzerman et al., 2020).

Psychological research is still largely conducted within Western, Educated, Industrial, Rich, and Democratic (WEIRD; Henrich et al., 2010) contexts: most studies are conducted by WEIRD researchers who recruit WEIRD participants (Cheek, 2017; Rad et al., 2018). As a result, our discussion has disproportionately relied on research conducted within WEIRD cultural contexts and on theoretical paradigms with a more individualistic understanding of human behavior. Some aspects of our recommendations may therefore be more applicable or more successful in similarly WEIRD contexts, and more basic and applied research is urgently needed from other regions of the world like Africa and Latin America. Disasters and crises have unique features and contexts, and individual, political, and cultural factors will shape how the public responds to freedom-restricting policies. Our work calls for more in-depth research and policy evaluation related to the psychology of freedom and security across different contexts to provide policymakers with the best path forward for their specific set of circumstances.

Finally, because of our broad focus on freedom and security, there are many important features of disasters and crises we did not discuss, such as conspiracy theories (Bierwiazzonek et al. 2020), systemic inequalities in terms of who is most affected by different policies (Bassett et al., 2020; Laster Pirtle, 2020) and who is most punished for violating freedom restrictions (Legal Aid Society, 2020; Yearby & Mohapatra, 2020), and other causes of stress, such as job loss (Crayne, 2020). Thus, as policymakers address future crises and disasters, we hope that our recommendations will prove useful, but it will always be important to (1) consider how best to

implement principles within a specific context and (2) evaluate the efficacy of implementing different principles (Haushofer & Metcalf, 2020).

### **Conclusion**

The psychology of freedom plays an important role in people's reactions to crises and disasters. We suggest that it should also play an important role in policymakers' analyses of policies they aim to introduce, and in developing solutions to problems that can arise as a result of restricting freedom, such as mental health concerns or protests. Without considering how the psychology of freedom shapes emergencies like the COVID-19 pandemic, policymakers cannot fully understand the effects of their actions for public health and safety. We hope our "SAFE" principles are a step forward for improving behaviorally-informed public policy responses to current and future crises and disasters.

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