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Understanding the Pivotal Role of the Perceived Legitimacy of Health Authorities during a Global Pandemic

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Understanding the Pivotal Role of the Perceived Legitimacy of Health Authorities during a Global Pandemic

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M.A., King's College London, 2011
B.A., Southern Methodist University, 2009

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An abstract of
A dissertation submitted to the Faculty of the
James T. Laney School of Graduate Studies of Emory University
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2023

Abstract

Understanding the Pivotal Role of the Perceived Legitimacy of Health Authorities during a Global Pandemic

By Kate Hawks

The COVID-19 pandemic highlighted the importance of perceptions of the legitimacy of health authorities. Legitimate authorities are perceived as appropriate, taken-for-granted, and widely accepted, which engenders feelings of deference and an obligation to comply with authority mandates. Thus, legitimacy is crucial for the effectiveness of authorities. During the pandemic, the success of public health authorities' strategies to curb the spread of the virus hinged on individuals' voluntary compliance with their directives. In Chapter 1 of this dissertation, I investigate how individuals' perceptions of public health officials as legitimate impacted adoption of recommended health behaviors. Alongside legitimacy, I examine the role of values, what people deem desirable and important in life, in shaping behavioral compliance, as values constitute another source of internal motivation to comply with authorities.

In Chapters 2 and 3, I examine different bases by which individuals assess the legitimacy of health authorities during the pandemic and consider the implications of such assessments for intentions to comply with their directives in a future health crisis. I test the assumption that the COVID-19 pandemic, as an environmental jolt, created a context in which individuals more actively evaluated their views of health authorities' propriety. In Chapter 2, I argue that public health values (that people have good health, fewer illnesses, and longer lives) both aligned and clashed with other basic values in the pandemic context and investigate how such values enhance or detract from views of them as legitimate. In Chapter 3, I test an integrative model of legitimacy by examining the relative impact of instrumental, relational, moral, and collective factors on individuals' assessments of the propriety of two distinct authorities: public health officials and doctors/healthcare providers. Analyses in Chapters 2 and 3 also consider how the bases of legitimacy evaluations impact future compliance intentions. Each chapter of my dissertation draws on data from an original survey, collected online from 1,517 U.S. adults in spring 2022. Patterns of results across the three analyses highlight how perceived legitimacy matters for compliance (and intended compliance) and how authorities must attend to multiple aspects of their relationships with subordinates to gain and maintain legitimacy.

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INTRODUCTION

The COVID-19 pandemic highlighted how perceptions and behaviors at the individual level have ramifications for population level health outcomes. Slowing the spread of the virus hinged on individual adoption of health behaviors recommended by public health officials. Yet, adoption of such behaviors varied widely. Why did some people comply with public health directives to wear masks and social distance while others chose not to do so? While many public health studies have investigated predictors of COVID-19 behaviors, I employ a social psychological approach to human behavior and compliance with authorities by investigating the role of perceptions of the legitimacy of public health officials in motivating compliance with health directives during the pandemic.

People perceive legitimate authorities, whether individuals or institutions, as appropriate, taken-for-granted, and widely accepted, which, in turn, engenders feelings of deference and an obligation to comply with authority mandates (Johnson et al. 2006). I argue that views of the legitimacy of public health officials were especially consequential for behavioral (non)compliance during the pandemic when enforcing guidelines (such as social distancing and staying at home) encountered significant challenges. Additionally, perceptions of health authorities' legitimacy in the aftermath of the pandemic have implications for individuals' willingness to comply with them in the future. Thus, I also examine the extent to which views of them as legitimate changed over the course of the pandemic and investigate specific bases by which individuals made such assessments.

Each of the three empirical chapters constituting my dissertation draws on data from an original survey collected online from 1,517 U.S. adults in spring 2022 in partnership with a university-based survey center and Marketing Systems Group. Respondents were recruited from various non-probability, online panels to construct a sample that reflects the national distribution of characteristics of U.S. adults over age 18. My dissertation research received

an internal research grant from Emory Professional Development Competitive Research Funds ($8,000) and an external grant from the American Sociological Association Social Psychology Section's Graduate Student Investigator Award ($1,000).

In Chapter 1, I delve into *why* individuals complied (or did not comply) with public health directives during the pandemic. I consider how two sources of internal motivation to comply with authority directives influenced adoption of recommended health behaviors. I offer a novel comparison of the relative effects of 1) individuals' views of public health officials as legitimate (Dornbusch and Scott 1975; Johnson et al. 2006; Zelditch and Walker 1984) and (2) alignment between the content of the directives and individuals' values (Tyler and Blader 2005; Tyler 2010). Individuals voluntarily comply with legitimate authorities because they personally support the authority (propriety) and/or because they believe that others do so (endorsement) and, thus, perceive an obligation to comply regardless of their personal views (Dornbusch and Scott 1975; Johnson et al. 2006). The influence of propriety versus endorsement on behavior depends on the context and behavior in question (Walker, Thomas, and Zelditch 1986); therefore, I examine the impact of each on compliance behaviors in the pandemic context.

Additionally, I offer a distinctive approach to work on values and compliance by considering the role of values as moral goods, rather than beliefs about right and wrong, in shaping compliance behaviors. Basic values—what people view as desirable, worthy, and important in life—correspond to basic human needs that shape perceptions, evaluations, and behavior, whether consciously or unconsciously (Feather 1995; Hitlin 2008; Kluckhohn 1951; Rokeach 1973; Schwartz 1994; Vaisey and Miles 2014). Thus, the extent to which authority directives facilitate or thwart pursuit of such values likely has implications for (non)compliance with those directives. Public health guidelines during the pandemic facilitated the pursuit of some values (such as protecting health, safety, and security), while

hindering others (maintaining customs and traditions, enjoying life's pleasures, and freedom of action). Drawing from Schwartz and colleagues' Theory of Basic Values (TBV; 1994, 2012), I use a series of Ordinary Least Squares regressions to examine how specific values affect individuals' adoption of behaviors recommended by public health officials, many of which significantly impact daily life and severely restrict people's ability to pursue desired activities.

In Chapters 2 and 3, I examine different bases by which individuals assess the propriety of health authorities after two years of the pandemic and consider the implications of such assessments for intentions to comply with their directives in the case of a future pandemic or health crisis. The COVID-19 pandemic, as a major environmental jolt, provides a unique context in which to examine the criteria by which individuals re-evaluate the legitimacy of longstanding authorities. Established authorities (such as the CDC and U.S. Health Department) are often taken-for-granted and benefit from perceived collective support, which enhances views of them as right, proper, and widely accepted (i.e., legitimate). However, major exogenous shocks or jolts (such as a global pandemic) can disrupt the social environment in such a way that draws heighted awareness and scrutiny to such authorities, thereby prompting individuals to (re)evaluate the legitimacy of authorities they have long taken-for-granted (Bitektine and Haack 2015; Tost 2011). Such individual-level shifts in legitimacy perceptions can lay the groundwork for institutional change. My data allow me to test the assumption that the COVID-19 pandemic provided a jolt that prompted such changes in views of the legitimacy of health authorities.

In Chapter 2, I offer a novel argument connecting basic values to individuals' personal support and approval (propriety) of authorities. Individuals may be especially like to reevaluate legitimacy when jolts result in conflicts between the authority and the individual's value priorities (Seo and Creed 2002; Tost 2011). Public health authorities are value laden in

the sense that they hold a particular vision of the good and desirable—that people have good health, and as a result, live longer lives with fewer illnesses. While shared by many, these values, and the pandemic guidelines put forward to advance them, conflicted with other valued goals (such as enjoying life, seeing friends and loved ones, and maintaining traditions), which may threaten public health authorities' legitimacy. Using the basic values identified by Schwartz et al. (1994, 2012), I propose that certain values are (in)congruent with those espoused by public health officials and test whether these values enhance or detract from their propriety. I use Structural Equation Modeling (SEM) to examine how such values operate through propriety to enhance or diminish intentions to comply with public health authorities in the future. This analysis builds on that of Chapter 1 by examining how tensions between competing values impact assessments of authorities and provides insight into why perceptions of the legitimacy of public health authorities may have increased or decreased in the aftermath of the jolt.

In Chapter 3, I contribute to theoretical work on integrative models of legitimacy by empirically investigating the relative impact of instrumental, relational, moral, and collective bases on individuals' assessments of the propriety of public health officials versus doctors/healthcare providers in the aftermath of the pandemic. Models of legitimacy in social psychology (e.g., Hegtvedt and Johnson 2009; Tyler 2001) and organizations and management (e.g., Bitektine and Haack 2015; Haack, Schilke, and Zucker 2020; Tost 2011) demonstrate that positive assessments of an authority's effectiveness and provision of material benefits (instrumental), fair and respectful treatment of subordinates (relational), and integrity and adherence to ethical standards (moral) enhance views of them as legitimate. Perceived support from others (endorsement) similarly boosts propriety (Zelditch and Walker 1984). Yet, rarely have researchers simultaneously examined the effects of all four factors on propriety or investigated their differing roles in assessments of distinct, though related,

authorities. I use path analysis to scrutinize the relative impact of each base on propriety and to explore whether positive evaluations of health authorities along each enhance future compliance intentions with respect to each authority. I run separate models for public health officials and doctors/healthcare providers.

My work makes the following interrelated contributions to the fields of health research, social psychology, and sociology. I illuminate some of the nuanced reasons and processes undergirding different responses to the COVID-19 pandemic that go beyond political partisanship and accusations of ignorance or selfishness. I also contribute to the health literature by applying theoretical insights and measurement from the sociology of morality and social psychology to understand variation in health behaviors and views of health authorities. Additionally, I use a social psychological approach to empirically examine organizational scholars' theoretical account of the circumstances and bases by which individuals reevaluate the legitimacy of existing authorities, thereby contributing to research on legitimacy processes in both social psychology and organizations literatures.

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CHAPTER 1:

Understanding (Non)compliance with Public Health Directives: The Effect of Legitimacy and Personal Values on Compliance Behaviors during the COVID-19 Pandemic

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INTRODUCTION

Compliance with authority directives is crucial for the effectiveness of authorities (whether law enforcement, judicial, government, or workplace authorities) (Johnson, Dowd, and Ridgeway 2006). The successful functioning of a society, organization, or group hinges on individuals' acceptance of authorities' decisions and adherence to rules, laws, and policies, which allows for smooth operation and achievement of goals (Zelditch and Walker 1984). However, gaining widespread compliance can be "a formidable challenge" (Tyler 2010: 252) for authorities, as seen during the COVID-19 pandemic in the United States. To slow the spread of the virus, public health authorities (such as the Centers for Disease Control and Prevention [CDC] and Health Department) asked individuals to engage in specific behaviors, such as wearing masks, sheltering-in-place, and quarantining after exposure to the virus. Prior to the availability of vaccines, individuals' behavioral compliance was crucial in curbing the spread of the virus, yet compliance varied widely.

The importance of individual behavior during the pandemic stimulated research across the social and behavioral sciences aimed at understanding what motivated behavior, such as risk perceptions (Bruin de Bruin et al. 2020), personality traits (Nofal et al. 2020), political affiliation (Kerr, Panagopoulos, and van der Linden 2021), and self-versus others-orientation (Oosterhoff and Palmer 2020). However, little work casts pandemic behaviors as (non)compliance with authorities or investigates how key predictors of compliance with authorities shaped behavior. Work across disciplines (e.g., sociology, psychology, criminology) contrasts key determinants of compliance that focus on external versus internal sources of motivation. The command-and-control approach involves authorities' use of coercive power (French and Raven 1959) to modify behavior through threat of sanctions and/or promise of rewards. The COVID-19 pandemic highlighted the difficulties inherent in relying on such external motivations as the success of such approaches depend on authorities'

ability to monitor behavior, punish undesirable behavior, and reward desirable behavior. Such efforts are costly and often not feasible (Tyler 2010).

An alternative, "self-regulatory" approach is to gain voluntary compliance through individuals' internal motivation to abide by authority rules and directives. A "value-based model of regulation" (Tyler 2010) rooted in work in social psychology (e.g., Tyler 2006a, 2006b; Tyler and Blader 2005) emphasizes two key sources of internal motivation that derive from individuals' desires to do what they think is right. One source stems from a view of the authority as right, proper, appropriate, and widely accepted (i.e., legitimate) (Dornbusch and Scott 1975; Johnson et al. 2006; Tyler 2006a; Zelditch and Walker 1984). Individuals voluntarily defer to legitimate authorities without the need for external surveillance, sanctions, or rewards because they believe that they have a normative obligation to do so. The second source of internal motivation is perceived congruence between the content of the authority's rules/directives and individuals' own values (Tyler 2010; Tyler and Blader 2005). Perceived value alignment motivates voluntary compliance because people want to behave in line with their values, regardless of external incentives (Hitlin 2007; Miles 2015; Schwartz and Butenko 2014; Tyler 2010). Such "value-based" motivations provide a more stable, more effective, and less costly means to securing compliance and are especially valuable for achieving widespread compliance in cases where enforcement of directives is not possible (Johnson et al. 2006; Tyler 2010; Zelditch and Walker 1984). In contrast, individuals are less likely to comply with authorities' lacking legitimacy or when authority directives contradict their personal values.

As adherence to public health guidelines during the pandemic was largely voluntary, legitimacy perceptions and personal values likely played a role in shaping (non)compliance with public health authorities. Nonetheless, to date, no studies have specifically examined the impact of these internal motivations on compliance in the pandemic context. Moreover, little

research compares more generally the relative impact of the two sources of motivation (with the exception of Tyler and Blader 2005). Thus, here I examine how perceptions of the legitimacy of public health authorities and individuals' values shaped behavioral compliance with public health directives during the COVID-19 pandemic in the U.S. Doing so contributes to research seeking to understand *why* people complied (or did not comply) with public health guidelines and provides insights for public health authorities aiming to gain compliance in the case of future health crises.

I investigate the effects of two key sources of legitimacy at the individual and collective levels: individuals' personal support of public health authorities (propriety) and their beliefs about others' support of public health authorities (endorsement) (Dornbusch and Scott 1975). Propriety motivates compliance and cooperation with authorities because it entails a personal evaluation of authorities as right, proper, and deserving of their position (Feather 2008; Tyler and Jackson 2014). Perceived collective support for authorities engenders a felt obligation to obey authorities' directives, regardless of one's personal views (Zelditch and Walker 1984). Both individual and collective sources of legitimacy are thus valuable to authorities. Their influence on behavior, however, may vary depending on the context and behavior in question (Walker, Thomas, and Zelditch 1986). In considering the role of both propriety and endorsement, my study uniquely investigates the extent to which behavior during the pandemic was motivated more by a positive view of public health authorities or from a perceived obligation to comply due to perceived support from others, thereby delving into the *why* behind (non)compliance.

Alongside legitimacy, I consider the relationship between personal values and compliance with public health authorities. Past work on values and compliance conceptualizes values as individuals' beliefs about right and wrong, reasoning that individuals willingly follow authority directives that align with their values because they

generally want to do what they think is right (e.g., Robinson and Darley 1997; Tyler 2010). However, outside of ethical concerns about right and wrong, people should be more likely to comply with directives that align with who they want to be and how they want to live. I offer a distinctive approach by examining how values as moral goods—what people view as desirable, worthy, and important in life—shape compliance (Feather 1995; Hitlin 2008; Kluckhohn 1951; Rokeach 1973; Schwartz 1994; Vaisey and Miles 2014). Individuals want to behave in line with their beliefs about what constitutes a good and meaningful life (Bardi and Schwartz 2003; Feather 1995; Roccas and Sagiv 2010). Thus, the extent to which authority directives facilitate or thwart pursuit of such values likely has implications for (non)compliance. During the pandemic, many public health directives intended to promote the value of health and safety conflicted with individuals' ability to pursue other valued goals. Using basic human values identified by Schwartz and colleagues (2012), I examine how specific values influence adoption of recommended health behaviors.

Data come from a survey of 1,356 adults living in the U.S. Given their leadership role in the pandemic response, I focus specifically on respondents' views of public health authorities in the U.S. rather than other medical professionals, such as doctors and healthcare providers. I examine reported compliance with behaviors recommended by public health officials from the start of the pandemic in the U.S. (roughly March 2020) until vaccines were available in the respondent's area, as this was arguably when behavioral guidelines were most restrictive and compliance most crucial.

In what follows, I conceptualize legitimacy, delineating individual and collective sources of legitimacy and their effects on compliance with authorities. I propose how propriety and endorsement each likely influenced compliance with public health authorities during the pandemic. I then describe the relationship between values and compliance. Drawing on the Theory of Basic Human Values (TBV; Schwartz 1994; Schwartz et al. 2012),

the dominant approach to values in moral psychology (Schwartz and Cieciuch 2016), I argue that public health directives aligned with some values and conflicted with others and predict how the importance of those values enhanced or diminished (respectively) compliance.

LEGITIMACY AND COMPLIANCE

Legitimacy is "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman 1995:574). Scholars (Bitektine and Haack 2015; Dornbusch and Scott 1975; Johnson et al. 2006) identify two sources of legitimacy, operating at the individual- and collective-levels. Propriety refers to an individual's *personal* approval and support of an authority and view that the authority is right and proper. Perceived support from upper authorities (authorization) and from peers (endorsement) constitute collective sources of legitimacy. Here I focus on the role of endorsement of public health authorities by peers and other members of the public in general, as public health agencies fall under an executive branch of the federal government (implying authorization). Endorsement may also more strongly influence compliance than authorization when upper authorities are further removed than peers (Johnson, Ford, and Kaufman 2000; Johnson et al. 2016).

When individuals personally approve of authorities (propriety), they are likely to accept their decisions and willingly follow their directives. Propriety is accompanied by the belief that authorities deserve their position and have the right to "dictate appropriate behavior," which contributes to the belief that they *should* be obeyed and thus encourages compliance (Dornbusch and Scott 1975; Feather 2008; Tyler and Jackson 2014). For example, personal approval and support of police and legal authorities enhance individuals' likelihood to comply with the law and is more influential in securing compliance than the perceived risk of being caught or punished for breaking the law (Sunshine and Tyler 2003a; Tyler 2006; Tyler, Goff, and MacCoun 2015). In addition to compliance, propriety also

engenders willing cooperation by the public, going beyond a passive acquiescence to include voluntary, "everyday" adherence to rules and regulations and even assistance to authorities carrying out responsibilities (Tyler and Jackson 2014).

Individuals' beliefs about what others think also influence compliance. When people perceive an authority to enjoy wide social acceptance and support, they are likely to view it as taken-for-granted and feel obligated to conform to the social order (Dornbusch and Scott 1975; Johnson et al. 2006; Zelditch and Walker 1984). When individuals believe that others support an authority and follow authority directives, they are likely to do so as well, regardless of their personal views, to avoid formal or informal sanctions from others (Dornbusch and Scott 1975; Zelditch and Walker 1984). For example, individuals are more likely to accept unfair decisions and feel less intense negative emotions about unfair outcome distributions from authorities who enjoy collective support (Johnson and Ford 1996; Johnson et al. 2000; Johnson et al. 2016).

Whether motivated by personal approval or perceived collective support, individuals are likely to regulate their behavior to comply with directives from legitimate authorities, outside of authority surveillance, threats, or rewards, because they feel a normative obligation to do so. Thus, legitimacy is crucial for authorities seeking widespread compliance, especially in times of crisis and uncertainty when they may ask individuals to accept difficult decisions or policies for the greater good (Gibson, Cadleira, and Spence 2005). In such cases, legitimate authorities can draw upon the "reservoir of support or goodwill" entailed by their legitimacy to secure acceptance of and compliance with policies seen as disagreeable or burdensome (Easton 1965, 1975). The belief that others support and will comply with the authority further solidifies compliance even when directives are disagreeable. Additionally, legitimacy entails a perceived obligation to obey even when individuals do not understand or agree with authority directives (Huq, Jackson, and Trinkner 2017) due to a personal belief

that an authority's power is justified (propriety) and/or a belief that others think so (endorsement).

The onset of the COVID-19 pandemic in the U.S. constituted a time of national crisis and uncertainty during which the general population and government looked to public health authorities for guidance. Public health directives put forward from the start of the pandemic until vaccines were made available severely restricted individuals' ability to pursue normal daily activities and required varying levels of personal inconvenience and sacrifice. As a result of restrictions on social interaction and freedom of movement, some suffered from isolation, loss of employment, and declining mental health (Kniffin et al. 2021; Panchal et al. 2023). Due to the nature of the behavioral guidelines, government and health authorities could not surveil individuals' behaviors or realistically offer punishments or incentives to encourage compliance. Moreover, the novelty of the virus meant that there was uncertainty about how best to curb its spread, accompanied by public disagreement about the effectiveness of public health guidelines. Thus, in the pandemic context, individuals' views of public health officials as right and proper (propriety) likely enhanced compliance even with guidelines that were difficult or when individuals may have been uncertain about whether they were the most effective approach. Similarly, perceived endorsement likely boosted compliance, even if individuals privately disapproved of public health authorities or disagreed with their guidelines, as collective support for authorities engenders a felt obligation to obey authority directives to avoid sanctions from others.

Hypothesis 1: Individuals' perceived propriety and endorsement of public health authorities are positively related to their compliance with behavioral directives.

The perception that others support an authority or practice is often more important for subordinates' compliance than their own personal views (Dornbusch and Scott 1975; Walker and Zelditch 1993; Zelditch and Walker 1984). However, contextual aspects of the pandemic

may have diminished the role of perceived endorsement and given more weight to propriety. Many workplaces, schools, and other public gathering places, such as restaurants and gyms, closed during the early months of the pandemic, so individuals were less likely to view others' behavior or be influenced by the possibility of others' viewing their own behavior. Additionally, many recommended behaviors were not necessarily visible to others. For example, people may have been unaware of whether an individual avoided indoor gatherings, stayed at home as much as possible, and avoided non-essential travel, thereby reducing the impact of potential sanctions from peers who endorsed the authority as a motivating factor. Consequently, one's personal view of the legitimacy of public health authorities (propriety) may play a stronger role, as individuals personally decided what to do and not do mostly in the contexts of their own households.

Hypothesis 2: Individual's perceived propriety of public health authorities will have a stronger effect on behavioral compliance than their perceived endorsement.

VALUES AND COMPLIANCE

Another internal motivation to comply with authorities stems from the perception that an authority's actions, decisions, or directives align with one's values. Like compliance derived from legitimacy, perceived value alignment motivates voluntary behavior without need for sanctions and surveillance because people generally want to behave in line with what they think is right. Past work focuses on values as moral beliefs about right and wrong or ethical conduct (e.g., Robinson and Darley 1997; Sunshine and Tyler 2003b; Tyler 2010). For example, when police interact with the public with fairness and respect, they engender a sense of shared values that contributes to the public's view that their police authority is justified and should be obeyed, resulting in increased cooperation with them (Hamm, Trinkner, and Carr 2017). Similarly, people are more likely to obey the law and follow organizational rules when they believe the behaviors that they prescribe are consistent with

their own views about right and wrong (Tyler and Blader 2005; Tyler, Callahan, and Frost 2007). In contrast, decisions and directives, even by legitimate authorities, are more likely to elicit protest and noncompliance when they contradict individuals' moral convictions than when they are inconsistent with non-moral beliefs or preferences (see Skitka, Bauman, and Lytle 2009).

Beyond ethical beliefs about right and wrong, values also capture individuals' beliefs about what constitutes a good life, which should have implications for compliance with authorities. Values, as moral goods, represent desirable goals that "serve as guiding principles in the life of a person" (Schwartz 1994:21) and are central to individuals' self-identities (Feather 1995; Hitlin 2003; Rokeach 1973; Schwartz and Butenko 2014). Values shape behavior as individuals are motivated to embrace or avoid behaviors that enhance or thwart (respectively) their pursuit of valued goals (Schwartz 2012; Schwartz and Butenko 2014; Verplanken and Holland 2002). Thus, individuals may also comply with or resist authority directives based on their implications for such values. For example, someone who values achievement and success may be more likely to comply with a boss's request to work late hours than someone who values enjoying life's pleasures. In contrast, when authority decisions or directives thwart pursuit of valued goals, individuals may avoid or resist them on grounds that compliance runs counter to what they believe truly matters in life. Looking at the extent to which authority directives align with specific values can provide further insight into *why* individuals comply (or choose not to comply) with authorities and the circumstances under which they are likely to do so. However, little work, especially outside the confines of a defined work group or organization (see Arieli, Sagiv, and Roccas 2020), examines the (in)compatibility of authority directives with specific personal values in shaping compliance with authorities.

In the pandemic context, public health authorities sought compliance with directives intended to promote the health and safety of the population, which represents a particular moral good. At the same time, in restricting individuals' activities and social interactions, public health directives also obstructed pursuit of other values outside of health and freedom from disease. Schwartz and colleagues' Theory of Basic Values (TBV) identifies ten basic values that help to illuminate potential (in)congruence between public health directives during the pandemic and different visions of what is good and important in life (Schwartz 1994; 2012). Each value expresses goals relating to fundamental requirements for human survival and flourishing that influence behavior.[1] The ten values, which have been tested and validated across cultures, include *security, conformity, tradition, benevolence, universalism, self-direction, stimulation, hedonism, achievement, and power* (Table 1). While all values are desirable, individuals vary in the importance they ascribe to each, and the motivational goals underlying specific values may conflict with each other in a given context. For example, the value of health and safety (captured by *security*) may at times be incompatible with taking risks that make life exciting (captured by *stimulation*). Therefore, in determining modes of action, individuals engage in tradeoffs among values depending on their importance and their salience in the situation. The tensions among the values help to guide predictions about the relationships between the values and behaviors.

[Table 1 about here]

A circular continuum (see Figure 1; Schwartz 2012) illustrates the relationships among the ten values with more compatible values nearer and competing values opposite each other. The orthogonal positioning of the four higher-order values (conservation versus openness to change and self-transcendence versus self-enhancement) depicts the tensions inherent in the motivational goals underlying the values. Conservation values, emphasizing safety and stability, upholding social order, and preserving traditional customs/ideas

(*security*, *conformity*, and *tradition*), oppose openness to change values, emphasizing desires for independence in thought and action and new and varied experiences (*self-direction* and *stimulation*). Self-transcendence values, expressing concern for the wellbeing of friends and family (*benevolence*) and the welfare of all people (*universalism*), oppose self-enhancement values, expressing goals related to personal success (*achievement*) and control over resources and people (*power*). *Hedonism*, which emphasizes pleasure and enjoying life, overlaps with both openness to change and self-enhancement values.

[Figure 1 about here]

In the pandemic context, public health directives aligned with some basic values and thus conflicted with others, with implications for compliance. The underlying goals of public health directives (to prevent disease and mitigate the national health crisis) are most congruent with conservation values relating to *security* and *conformity*. These values, therefore, should positively relate to compliance with health guidelines. In contrast, health guidelines, such as lockdowns and directives to avoid travel and social gatherings, prioritized conservation values over openness to change values by restricting freedom of movement (*self-direction*) and hindering opportunities for new experiences and risk taking (*stimulation*) and enjoying life (*hedonism*). Individuals who value *self-direction* may resist authority commands if perceived to impinge upon individual autonomy. Similarly, those who view experiences and pleasure as central to a good life may prefer to risk infection to pursue living life to the fullest. Thus, openness to change values likely inhibited compliance with public health directives.

Hypothesis 3a: Conservation values of *security* and *conformity* are positively associated with compliance behaviors.

Hypothesis 3b: Openness to change values of *self-direction*, *stimulation*, and *hedonism* are negatively associated with compliance behaviors.

For many, compliance with public health directives entailed some level of inconvenience and personal sacrifice. To encourage compliance, public health and government officials often appealed to self-transcendent values by casting directives as aimed at safeguarding the health and wellbeing of others. Individuals' concern for the wellbeing of loved ones (*benevolence*) and the welfare of the broader population (*universalism*) may thus have stimulated compliance with directives that were inconvenient and burdensome. Indeed, some work indicates that social responsibility values (considering others' needs) positively related to handwashing among U.S. adolescents in the early days of the pandemic (Oosterhoff and Palmer 2020) and social- (as opposed to personal-) focus values were associated with social distancing among Australian adults (Lake et al. 2021). In contrast, *achievement* and *power* values may be negatively related to compliance with directives that thwart self-enhancement such as those that interfere with work and/or school, such as avoiding indoor gatherings, avoiding non-essential travel, and staying at home.

Hypothesis 4a: Self-transcendence values of *benevolence* and *universalism* are positively associated with compliance behaviors.

Hypothesis 4b: Self-enhancement values of *achievement* and *power* are negatively associated with compliance behaviors.

As *tradition* is a conservation value, its underlying goals are typically compatible with those of *security* and *conformity* which should enhance compliance. However, directives to stay home, avoid social gatherings, and avoid non-essential travel prevented observation of many family, cultural, and religious customs (such as weddings, holidays, and religious services). Thus, in the context of the pandemic, importance of *tradition* may hinder compliance.

Hypothesis 5: *Tradition* is negatively associated with compliance behaviors.

In the absence of situational constraints, values generally drive behaviors in the direction of the goals they express and hinder behaviors in opposition to those goals. However, contextual factors are likely to affect the strength of the relationship between values and behavior (Bardi and Schwartz 2003; Roccas and Sagiv 2010). In the pandemic context, several other factors likely shaped behavior such as perceived threat of the virus, the presence of underlying conditions that make one vulnerable, or living with someone who is over the age of 65 and/or has underlying conditions. Additionally, many aspects of the pandemic (including the public health response, behaviors, and beliefs about the virus) became politicized, with implications for compliance (Kerr et al. 2021). Thus, I consider the role of such contextual factors alongside propriety, endorsement, and values.

METHODS

Data

Data for this study come from a survey of 1,356 U.S. adults collected online in spring 2022 in partnership with a university-based survey center and the Marketing Systems Group. Respondents were recruited from various non-probability online panels to construct a sample that reflects the national distribution of characteristics of U.S. adults over age 18.

Study Participants

Table 2 provides the descriptive characteristics of the sample, consisting of U.S. residents between the ages of 18-91. The sample consists of 684 women (49.45%) and 669 men (50.55%). Most respondents identified as white (84.80%), and the average age of respondents is 53 (*SD*=15). Median annual income was between $50,000 - $74,999 based on seven response categories. Median education level was some college or associate degree based on six response categories.

[Table 2 about here]

Dependent Variables

Table 3 includes the means (standard deviations) of key dependent and independent variables. To capture compliance behaviors, I created an additive scale (averaged by the number of items) including 7 items measuring the frequency of self-reported behaviors over time, following the act-frequency approach, which tends to provide accurate representations of behavioral tendencies (Buss and Craik 1983; Gosling et al. 1998) and is used in other work examining the relationship between values and behavior (e.g., Schwartz and Butenko 2014; Lee et al. 2022). All behaviors constituting the scale were recommended by public health officials with the purpose of curbing the spread of the virus and protecting self/others.

[Table 3 about here]

Respondents were asked: "Thinking about the COVID-19 recommendations and mandates, how often did you engage in each of the following from the start of the pandemic to the time that vaccines were available in your area (relative to the number of times that you had an opportunity to do so)?"[2] Respondents reported whether they engaged in the following seven behaviors never (1), rarely (2), sometimes (3), fairly often (4), very often (5), or always (6): "wearing a face mask;" "practicing social distancing (staying 6 feet away from other people);" "staying at home as much as possible;" "avoiding going out to bars/pubs/restaurants;" "avoiding social gatherings of more than 10 people;" "avoiding indoor social gatherings;" and "avoiding any non-essential travel."[3] The alpha reliability for the scale is .92.

Independent Variables

I use multiple items to capture propriety, endorsement, and personal values. For each multiple item scale, items were added and averaged. The following three items measure respondents' perceptions of the propriety of public health authorities.[4] First, "To what extent do you see public health officials (such as the Centers for Disease Control and Prevention

[CDC] or Health Department) as the right and appropriate people to look after the health and wellbeing of the population in general?" Second, "To what extent do you support decisions by public health officials (such as the [CDC] or Health Department) even when you don't understand the reasons?" Third, "To what extent do you believe that you should comply with directives from public health officials (such as the [CDC] or Health Department)?" Response categories range from 1 = Not at all to 7 = A great deal. Alpha reliability for the propriety scale is 0.93.

Three items measuring perceived endorsement of public health authorities mirror the propriety items. Items use the same response scale but ask about respondents' beliefs about what other people think. For example, "To what extent do you believe that other people in general see public health officials (such as the [CDC] or Health Department) as the right and appropriate people to look after the health and wellbeing of the population in general?" Alpha reliability for the endorsement scale is 0.88.

The values measures include 22 items drawn (and adapted) from the Schwartz Portrait Values Questionnaire (PVQ-RR; Schwartz et al. 2012). PVQ items are statements describing an individual's goals, desires, or preferences that "point implicitly to the importance of a value" and are matched to the respondent's self-identified gender (Schwartz 2012: 11). Sample portrait items include: "It is important to him to take risks that make life exciting," and "It is important to her to make her own decisions about her life" (see Appendix for full list of items). For each statement, respondents then indicate, "How much like you is this person?" (1 = not like me at all; 2 = not like me; 3 = a little like me; 4 = moderately like me; 5 = like me; 6 = very much like me). Respondents' values are then deduced from those of the individuals they rate as similar (or dissimilar) to their own. For instance, "It is important to him to be the one who tells others what to do" depicts someone who values power, and "It is

important to her to be tolerant toward all kinds of people and groups" portrays someone who values universalism.

The 22 portrait items are formed into 10 scales (consisting of 2-3 items per scale) representing the 10 basic values. In constructing the values, I employ within-person mean centering to eliminate potential bias introduced by social desirability and respondents' differential use of the response scales. For example, some respondents may tend to rate themselves as very similar to most portraits, while some may tend to use the middle or lower ends of the scale in assessing their similarity. Regardless, each individual will produce variation across their own responses, indicating their personal value priorities. To get at these priorities, I calculate each respondent's mean scores across all items and then subtract the respondent's mean rating from each of their individual value scores to produce their unbiased value hierarchy (Schwartz and Cieciuch 2016).

Table 3 includes means, standard deviations, and alpha reliabilities for scales representing each of the values. The alphas range from 0.64 to 0.79, falling within the typical ranges received using the PVQ items (Schwartz, Sagiv, and Boehnke 2000).

Contextual factors

I measure factors within the pandemic context likely to influence behaviors. Two items capture perceived threat of the virus: respondents were asked, "How much of a threat, if any, is the COVID-19 pandemic for your personal health?" as well as "for the population in general?" (1 = Not a threat, 2 = A minor threat, 3 = A moderate threat, 4 = A major threat). The Pearson correlation coefficient between these indicators is 0.68. Respondents also reported whether they have any underlying health conditions that increase the risk of severe illness from COVID-19 (1 = No, 2 = Maybe, 3 = Yes) and whether they live with anyone who is over the age of 65 or who has any health conditions (at any age) that increase the risk of severe illness from COVID-19 (1 = No, 2 = Maybe, 3 = Yes).

Study participants indicated their political orientation with the following response options: 1 = extremely liberal, 2 = fairly liberal, 3 = somewhat liberal, 4 = lean more toward the liberal side, 5 = don't lean to either side, 6 = lean more toward the conservative side, 7 = somewhat conservative, 8 = fairly conservative, and 9 = extremely conservative.[5] Respondents also reported whether they live in a large city (1), suburbs of a large city (2), small city (3), town or village (4), or rural area (5).

Demographic Controls

Demographic controls include sex, age, race, income, and education (see Table 2 for specific categories).

Analysis Strategy

To assess my hypotheses, I first examine Pearson correlations between propriety, endorsement, values, controls, and compliance, following the common analytical approach used to test hypotheses about relationships between Schwartz values and behaviors (e.g., Schwartz et al. 2017). The bivariate correlation coefficients are useful in revealing the strength and direction of the relationships between each value and behavior, indicating whether values have significant relationships with compliance in the expected directions.

I next perform a series of ordinary least squares regressions (OLS) examining the effects of propriety, endorsement, and values on compliance behaviors, including contextual factors and controls. I run a separate model for each individual value that had a significant correlation with compliance behaviors. Because the values are interdependent, all ten values cannot be included in a single regression model, as the coefficients will be uninterpretable (regardless of whether multicollinearity is an issue) (Schwartz 2012). Thus, I run separate regression models to investigate the effects of each variable on compliance.

RESULTS

I first report bivariate correlations presented in Table 4, indicating whether they provide preliminary support for my hypotheses, in line with prior research using Schwartz values (see Schwartz 2017). The positive and significant correlations between propriety and endorsement and compliance behaviors provide preliminary support for *Hypothesis 1*. Propriety also more strongly correlates with compliance than endorsement, lending initial support for *Hypothesis 2*. The bivariate correlations also reveal that values do have associations with compliance. *Security* and *conformity* reveal positive and significant associations with the behaviors (*Hypothesis 3a*). Of the openness to change values, *self-direction* is negatively but not significantly related to compliance, while both *stimulation* and *hedonism* reveal significant negative correlations (*Hypothesis 3b*). Among the self-transcendent values, *universalism* positively and significantly correlates with compliance behaviors; however, *benevolence* does not have a significant association (*Hypothesis 4a*). The self-enhancement values negatively correlate with compliance, but only *achievement* has a significant correlation (*Hypothesis 4b*). Finally, *tradition* has a significant, negative correlation with behaviors (*Hypothesis 5*).

[Table 4 about here]

Among contextual factors and controls, perceived threat of the virus, presence of underlying conditions, and the status of living with someone over 65 or with underlying conditions are each positively and significantly correlated with compliance. Living in a rural area (in comparison to urban) and conservative political orientation are both negatively related to compliance behaviors. Older age positively correlates with compliance, and female and non-white respondents (in comparison to male and white respondents, respectively) are more likely to comply.

Table 5 reports the results of the OLS analysis. In support of *Hypothesis 1*, propriety positively and significantly affects the frequency of engaging in compliance behaviors. Across all models, effects of propriety range from $\beta = 0.36$ to $\beta = 0.38$ ($p < .001$). Inconsistent with *Hypothesis 1*, endorsement has a significant negative effect on compliance (effects range from $\beta = -0.08$ to $\beta = -0.10$, $p < .01$). Propriety, overall, has a stronger effect on behaviors than endorsement, confirming *Hypothesis 2*.

[Table 5 about here]

When taking legitimacy, contextual factors, and demographic controls into account, only a subset of values maintains a significant effect on behaviors. Additionally, the associations between values and behaviors are weaker than suggested by the correlations, as expected (Bardi and Schwartz 2003). The significant regression coefficients reveal which values played a role in shaping behaviors; however, the magnitude of the effect sizes is much smaller in comparison to the effects of propriety and other contextual factors on compliance.

As predicted in *Hypothesis 3a*, conservation values enhance frequency of compliance behaviors. *Security* positively affects compliance (Model 1: $\beta = 0.11$, $p < .001$), and conformity has a weak positive effect (Model 2: $\beta = 0.05$, $p < .05$). In partial support of *Hypothesis 3b*, openness to change values of *stimulation* (Model 3: $\beta = -0.10$, $p < .001$) and *hedonism* (Model 4: $\beta = -0.10$, $p < .001$) have negative effects on compliance.

Although I expected that self-transcendence values would enhance compliance (*Hypothesis 4a*), *universalism* (Model 5) has no effect on the behaviors. Additionally, *achievement* does not affect compliance (Model 6), disconfirming *Hypothesis 4b* predicting self-enhancement values to have a negative impact. Finally, although *tradition* significantly correlates with behaviors, when considered alongside legitimacy, contextual factors, and demographic controls, *tradition* has no effect on compliance (Model 7), disconfirming *Hypothesis 5*.

Among contextual factors, perceived threat of the virus has a strong positive effect on frequency of compliance with public health recommendations (effects range from $\beta = 0.34$ to $\beta = 0.36$, $p < .001$). Reported presence of an underlying condition or the status of living with someone over 65 or with an underlying condition does not significantly contribute to frequency of compliance behaviors (in comparison to respondents without an underlying condition or those not living with someone over 65 or with an underlying condition, respectively). A more conservative political orientation has a negative effect on compliance behaviors (effects range from $\beta = -0.08$ to $\beta = -0.09$, $p < .001$). In comparison to those living in a large city, respondents living a town or village were slightly less likely to comply with health authorities (effects range from $\beta = -0.05$ to $\beta = -0.06$, $p < .05$).

Some demographic characteristics have small positive effects on compliance behaviors. Older age is positively associated with a higher frequency of behaviors (effects range from $\beta = 0.06$ to $\beta = 0.09$, with significance levels ranging from $p<.05$ to $p < .001$). In comparison to male respondents, females are also slightly more likely to comply more often (effects range from $\beta = 0.05$ to $\beta = 0.07$, with significance levels ranging from $p<.05$ to $p < .01$). Finally, individuals who report an annual income of $50,000-$74,999 are more likely to comply than those reporting an income of <$25,000 (effects range from $\beta = 0.06$ to $\beta = 0.07$, $p<.05$).

DISCUSSION

The COVID-19 pandemic in the U.S. highlighted the challenge of gaining widespread compliance with authority directives. Even in the face of a novel and highly contagious virus, individuals' compliance with public health directives aimed at slowing its spread varied widely. I examined how two key internal sources of motivation that drive compliance outside of authority surveillance, rewards, and/or sanctions contributed to adoption of recommended health behaviors during the pandemic: public health authorities' legitimacy and alignment

between basic values and the behaviors prescribed by public health directives. In doing so, this study contributes to research aimed at understanding *why* individuals followed or did not follow public health guidelines and thus provides insights for public health authorities seeking to gain compliance in the case of future health crises. Finding reveal that both legitimacy and personal values have implications for compliance during the pandemic.

First, perceptions of public health authorities as right and proper (i.e., legitimate) mattered for behavioral compliance during the pandemic, a finding that aligns with work demonstrating the positive effects of legitimacy on compliance with workplace, legal, and law enforcement authorities (Feather 2008; Tyler and Blader 2000; Tyler et al. 2015). Distinctively, however, my study reveals the differing effects of legitimacy at the individual versus collective levels on compliance in the context of the pandemic. In partial support of *Hypothesis 1*, individuals' *personal* support and approval (propriety) of public health authorities significantly enhanced compliance, while beliefs about *others*' support (endorsement) did not. Because many compliance behaviors (such as staying home and social distancing) were likely not often observed by others, I expected individuals' personal support of public health authorities, rather than fear of sanctions due to others' support, to more strongly shape behavior (*Hypothesis 2*).

That endorsement did not enhance compliance, and instead significantly diminished it, is surprising as much social psychological research has demonstrated the influence of others' opinions on individuals' own opinions and behaviors (e.g., Asch 1951; Erb et al. 2006; Sherif 1936). Public debates and disagreements about the effectiveness of an authority can reduce perceived taken-for-grantedness and collective support for an authority (Bitektine and Haack 2015), which may in turn weaken the effects of collective support on compliance. Thus, in the pandemic context, conflicting opinions about the effectiveness of public health guidelines in the news and social media, as well as a wide array of information (and

"misinformation") about the virus (Pan American Health Organization 2020) may have diminished the weight people placed on "what others think" about public health authorities in determining their own behavior.

The unexpected negative effects of endorsement on behaviors may reflect a potential view that others' support for (and thus assumed compliance with) public health authorities lessens one's own responsibility to follow the guidelines. Understanding more clearly the relationship between endorsement and behavior requires additional research. Given the negative effects of endorsement, the positive correlation between endorsement and behaviors also presents a puzzle. In addition to its effects on compliance, past work has shown that perceived collective support can also enhance individuals' personal views of an authority's propriety (Yoon and Thye 2011). Thus, propriety may mediate the positive effects of endorsement on behaviors. Future work might investigate this potential pathway. Overall, this work indicates the importance of considering separately the roles of individual and collective sources of legitimacy in shaping compliance and the circumstances under which beliefs about what others think fail to matter.

Second, values, as moral goods, also constitute a source of internal motivation that shape compliance with authorities. Significant correlations between values and behaviors (mostly in the anticipated directions per *Hypotheses 3a & b, 4a & b, and 5*) reflect the tensions between conservation versus openness to change values, with *security* and *conformity* positively and *stimulation* and *hedonism* negatively associated with compliance, as well as self-transcendent versus self-enhancement values, with *universalism* positively and *achievement* negatively associated with compliance. These patterns provide support for the assertion that authority directives that facilitate specific basic values (in this case health, safety, and order) are likely to conflict with or hinder pursuit of other values whose underlying motivations they oppose. Furthermore, alignment or contradiction between

individuals' value priorities and authority directives should enhance or diminish (respectively) compliance with those directives. Thus, future work on internal motivations for compliance with other types of authorities might benefit from a broader conception of values beyond beliefs about right and wrong.

The values that maintained significant effects on behaviors alongside legitimacy and key contextual factors (such as perceived threat of the virus) provides insight into *why* people complied (or did not comply) with public health authorities during the pandemic that runs counter to some popular explanations. Values that maintain significance are *security* and *conformity* (positive), as well as *stimulation* and *hedonism* (negative). This pattern makes sense given the structure of value relations (see Figure 1) and the nature of the directives that aimed to protect health and uphold order during a crisis, but necessarily restricted individuals' ability to experience new things and engage in many activities that make life enjoyable.

In contrast, values along the self-transcendent versus self-enhancement dimension did not affect compliance when taking contextual factors into account. The lack of *benevolence*, *universalism*, *achievement*, and *power* effects is striking given that adherence to public health guidelines became "moralized" during the pandemic, with compliance cast as demonstrating altruistic concern for the welfare of others and non-compliance as indicating a selfish disregard for others (Bor et al. 2023; Prosser et al. 2020). Similarly, popular narratives pitting individual liberty against preventing harm to others (e.g., Authers 2021) may have been missing the point as results suggest that neither *self-direction* nor *benevolence/universalism* significantly shaped behaviors when controlling for legitimacy and other contextual factors.

Results from this study indicate the importance of perceived propriety of authorities and specific human values for compliance with public health authorities. However, while propriety significantly enhanced compliance during the pandemic, individuals' personal

support and approval of public health authorities likely changed over the course of the pandemic, as it brought increased attention to and scrutiny of public health authorities. Future work should examine the extent to which individuals re-evaluated the propriety of public health officials, which has implications for future compliance. Another pathway for future study includes investigation of the bases by which individuals re-evaluated propriety, providing insight into how public health authorities can *gain* propriety in the eyes of individual citizens, amid concerns about the imminence of a future pandemic or health crisis (Haileamlak 2022; Marani et al. 2021), and thus secure compliance.

Additionally, while findings suggest that specific values contributed to or reduced compliance, the effects of contextual factors other than those measured here should be considered alongside basic values to understand more fully how and when values shaped behavior. For example, the intensity of state-level COVID-19 restrictions likely influenced the strength of value-behavior relationships. However, because the relative restrictiveness of different states significantly varied throughout the pandemic (see McCann 2021), accounting for such situational constraints poses a challenge, as (to my knowledge) no longitudinal surveys tracking COVID behaviors also measured values.[6] While this study makes a theoretical contribution to the relationships between internal motivations and compliance with authorities, future work examining compliance with health behaviors should ideally draw upon longitudinal data measuring values, behaviors, and situational constraints over time.

In examining internal motivations underlying (non)compliance with public health directives during the pandemic, this study provides insights for public health authorities seeking to gain compliance in the case of future health crises. Although public health authorities are long-established in the U.S. and thus have likely benefited from perceived collective support, propriety, rather than endorsement, was central in motivating compliance.

To ensure future cooperation, public health authorities must gain and maintain legitimacy at the individual-level and should be wary of taking collective legitimacy for granted. Additionally, while all individuals share the public health values of health and safety to some extent, variation in individuals' value priorities will affect the likelihood that people will adopt behaviors that prioritize these values over those they oppose. In the future, public health authorities should consider how their directives are likely to hinder or facilitate specific values and explicitly acknowledge these in their appeals for compliance and cooperation. The role of legitimacy and values (as well as their dependence on context and the nature of authority directives) may also be useful for other authorities, such as the government or law-enforcement agents, looking to gain widespread compliance in other crisis situations such as economic crises, natural disasters, or other non-health-related threats to national safety.

ENDNOTES

1. These include “the needs of individuals as biological organisms, requisites of coordinated social interaction, and survival and welfare needs of groups” (Schwartz 2012:1).
2. Respondents were instructed “If you did not have the need or opportunity to engage in a behavior select ‘Not Applicable.’”
3. Because behaviors are measured through self-reports, the data could suffer from social desirability bias. However, self-reports of behavioral tendencies tend to have high accuracy rates (see Miles 2015). Self-administered (rather than interviewer administered) surveys also mitigate social desirability bias, with self-administered web surveys more likely to obtain accurate self-reports about potentially sensitive (socially desirable or undesirable) topics than telephone interviews or self-administered interactive voice response (IVR) surveys (Tourangeau, Rips, and Rasinksi 2000; Kreuter, Presser, and Tourangeau 2008). Additionally, because the efficacy and morality of these behaviors as means to curb the spread of the virus were highly contested, the perceived social desirability of each of behavior likely varies among individuals. Finally, these items were adapted from public health surveys, such as the Johns Hopkins Bloomberg School of Public Health’s COVID-19 Community Response Survey, which asked respondents to report on their own behaviors.
4. Propriety and endorsement items are adapted from Hegtvedt et al. 2022 and Hamm et al. 2017.
5. In this analysis, I treat political orientation as a control. However, political orientation also likely affects assessments of the propriety of public health authorities and operates through propriety to affect compliance. Additionally, basic values also shape political beliefs (see Baker and Boudens 2009; Graham, Haidt, and Nosek 2009; Hunter 1991;

Miles and Vaisey 2015; Schwartz, Caprara, and Vecchione 2010). Thus, some values (especially universalism and tradition) may operate through political orientation to affect propriety and, in turn, compliance. Preliminary analyses indicate that this is the case. However, such analysis (and accompanying theoretical argument) is currently outside the scope of this paper. A future version of this paper may incorporate this.

6. I explored the effects of state restrictiveness on behaviors using McCann's (2020) ranking of states in April 2020 from least to most restrictive. However, respondents' state did not affect their reported behaviors in this sample.

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TABLES AND FIGURES

Table 1.1 Ten Basic Human Values and Definitions

Security. Safety, harmony, and stability of society, of relationships, and of self
Conformity. Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms
Tradition. Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide the self
Benevolence. Preserving and enhancing the welfare of those with whom one is in frequent personal contact
Universalism. Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature
Self-direction. Independent thought and action; choosing, creating, exploring.
Stimulation. Excitement, novelty, and challenge in life.
Hedonism. Pleasure and sensuous gratification for oneself
Achievement. Personal success through demonstrating competence according to social standards
Power. Social status and prestige, control or dominance over people and resources

Note. Definitions drawn from Schwartz 2012.

Table 1.2 Sample Characteristics

Variable	N	Mean/Median/%	Std. dev.	Min	Max
Perception of COVID-19 Threat	1,352	2.88	0.87	1	4
Presence of underlying conditions	1,291	1		1	3
No		52.59%			
Maybe		9.91%			
Yes		37.49%			
Living with someone 65+ or with underlying conditions	1,339	1		1	3
No		70.87%			
Maybe		2.76%			
Yes		26.36%			
Political Orientation	1,239	5		1	9
Extremely liberal		11.14%			
Fairly liberal		12.03%			
Somewhat liberal		4.76%			
Lean more toward the liberal side		11.54%			
Don't lean to either side		12.76%			
Lean more toward the conservative side		11.38%			
Somewhat conservative		5.73%			
Fairly conservative		16.23%			
Extremely conservative		14.45%			
Area	1,352	2		1	5
Large city		27.96%			
Suburbs of a large city		31.58%			
Small city		14.72%			
Town or village		8.58%			
Rural area		17.16%			
Female	1,353	49.45%		0	1
Age	1,347	53.02	15.37	18	91
Non-white	1,355	15.20%		0	1
Income	1,351	4		1	7
< $25,000		21.54%			
$25,000-34,999		11.55%			
$35,000-49,999		12.36%			
$50,000-74,999		16.58%			
$75,000-99,999		13.10%			
$100,000-149,999		16.14%			
> $150,000		8.73%			
Education	1,355	4		1	5
Less than high school		2.14%			
High school grad		21.40%			
Technical/vocational school		3.17%			
Some college / associate degree		23.76%			
Bachelor's degree		25.24%			
Graduate or professional degree		24.28%			

Table 1.3 Means, Standard Deviations, and Alpha Reliabilities of Key Variables

Variable	N	Mean/%	Std. dev.	Alpha[a] Reliability
Compliance behaviors[b]	1,218	4.94	1.19	
Legitimacy				
Propriety[d]	1,356	5.11	1.63	0.93
Endorsement[e]	1,355	4.84	1.45	0.88
Values[f]				
Security	1,356	4.92	0.83	0.64
Conformity	1,356	4.62	1.11	0.79
Self-direction	1,356	5.18	0.75	0.74
Stimulation	1,356	3.75	1.24	0.69
Hedonism	1,356	4.36	1.07	0.71
Benevolence	1,356	5.28	0.82	0.72
Universalism	1,356	4.85	0.91	0.72
Achievement	1,356	4.34	1.17	0.72
Power	1,356	3.08	1.37	0.72
Tradition	1,356	4.07	1.33	0.74

[a]Alpha reliability measures the internal consistency of the items used to form a scale.
[b]Compliance is an additive scale, averaged by the number of items making up the scale, measuring the frequency of compliance with behaviors recommended by public health authorities. Response categories for each item include never (1), rarely (2), sometimes (3), fairly often (4), very often (5), or always (6).
[c]Respondents may have had opportunities to isolate and quarantine multiple times as this data was collected two years into the pandemic. However, I do not capture whether they did so more than once, only the frequency with which they did so relative to the number of times they had the opportunity to do so.
[d]Propriety is an additive scale, consisting of 3 items, that measures perceptions of the propriety of public health authorities. Response categories range from Not at all (1) to A great deal (7).
[e]Endorsement is an additive scale (also made up of 3 items) that measures perceptions of endorsement of public health authorities by others. Response categories range from Not at all (1) to A great deal (7).
[f]Values are additive scales (consisting of 2-3 items per scale and averaged by the number of items making up the scale). Items (drawn from the Schwartz et al. (2021) PVQ-RR) are statements describing the importance of a particular value. Respondents indicate how much each statement is like them on a scale from not like me at all (1) to very much like me (6). Means are based on raw values scores. The alpha reliabilities fall within the average alpha reliability of the values range for the Portrait Values Questionnaire (Schwartz 2021).

Table 1.4 Correlations of Propriety, Endorsement, Values and Controls with Compliance Behaviors

	Compliance Behaviors
Legitimacy	
Propriety	0.52***
Endorsement	0.24***
Values	
Security	0.21***
Conformity	0.09**
Self-direction	-0.02
Stimulation	-0.12***
Hedonism	-0.15***
Benevolence	-0.01
Universalism	0.21***
Achievement	-0.11***
Power	-0.04
Tradition	-0.12***
Contextual Factors	
Perceived threat of the virus	0.55***
Presence of underlying conditions	0.12***
Live with someone 65+ and/or with underlying conditions	0.07*
Political orientation (Conservative)	-0.33***
Area (urban - rural)	-0.08**
Demographic Controls	
Age	0.07*
Female	0.08**
Non-white	0.07*
Income	0.02
Education	0.05

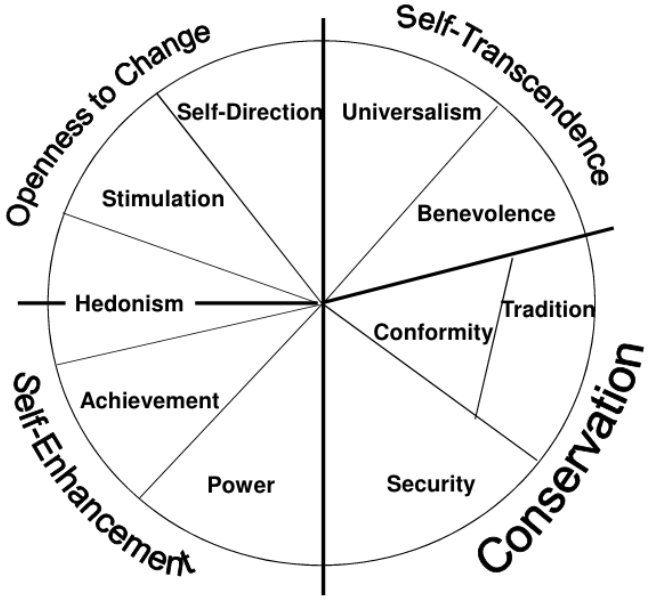
*p<.05, **p<.01, ***p<.001

Table 1.5 Ordinary Least Squares Regression Coefficients (Standard Errors) for Effects of Legitimacy & Values on Compliance

	Compliance Behaviors						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Propriety	0.36***	0.37***	0.36***	0.37***	0.37***	0.37***	0.38***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Endorsement	-0.09**	-0.10**	-0.08**	-0.09**	-0.09**	-0.10**	-0.10**
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Security	0.11***						
	(0.04)						
Conformity		0.05*					
		(0.03)					
Stimulation			-0.10***				
			(0.03)				
Hedonism				-0.10***			
				(0.04)			
Universalism					0.03		
					(0.04)		
Achievement						-0.04	
						(0.04)	
Tradition							-0.01
							(0.03)
Perceived virus threat	0.34***	0.36***	0.35***	0.35***	0.35***	0.36***	0.35***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Underlying conditions (no)							
Maybe	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Yes	0.01	0.01	0.00	0.00	0.01	0.00	0.01
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Living with someone 65+ (no)							
Maybe	0.03	0.02	0.03	0.02	0.02	0.03	0.02
	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)
Yes	0.01	0.00	0.01	-0.00	0.00	0.00	0.00
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Conservative	-0.10***	-0.10***	-0.10***	-0.10***	-0.08**	-0.09**	-0.09**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Area (large city)							
Suburbs	-0.03	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Small city	-0.05	-0.05	-0.06*	-0.05	-0.05	-0.05	-0.05
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Town/village	-0.05*	-0.06*	-0.06*	-0.06*	-0.06*	-0.06*	-0.06*
	(0.11)	(0.12)	(0.11)	(0.11)	(0.12)	(0.12)	(0.12)
Rural area	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)	(0.10)	(0.10)
Constant	2.382***	2.381***	2.325***	2.369***	2.266***	2.310***	2.267***
	(0.29)	(0.30)	(0.29)	(0.29)	(0.29)	(0.29)	(0.30)
Observations	1052	1052	1052	1052	1052	1052	1052
Adjusted R-squared	0.44	0.43	0.43	0.44	0.43	0.43	0.43

Note. All models control for age, sex, race, income, and education.
*p<.05, *p<.01, ***p<.001

Figure 1.1 Theoretical Model of Relations among Ten Motivational Values
Source: Schwartz 2012



APPENDIX

Value Items

Benevolence
It is important to him to take care of people he is close to.
It is very important to him to help the people dear to him.

Universalism
It is important to him that the weak and vulnerable in society be protected.
It is important to him that every person in the world have equal opportunities in life.
It is important to him to be tolerant toward all kinds of people and groups.

Tradition
It is important to him to maintain traditional values and ways of thinking.
It is important to him to follow his culture or family's customs or the customs of a religion.

Conformity
It is important to him to never violate rules or regulations.
It is important to him to obey all the laws.

Security
It is important to him to be personally safe and secure.
It is important to him to avoid anything dangerous.
It is very important to him to avoid disease and protect his health.

Self-direction
It is important to him to develop his own opinions.
It is important to him to make his own decisions about his life.
It is important to him to be free to choose what he does by himself.

Stimulation
It is important to him always to look for different things to do and have all sorts of new experiences.
It is important to him to take risks that make life exciting.

Hedonism
It is important to him to have a good time and enjoy life's pleasures.
It is important to him to take advantage of every opportunity to have fun.

Achievement
It is important to him to have ambitions in life.
It is important to him to be very successful.

Power
It is important to him to be the one who tells others what to do.
It is important to him to have the power that money can bring.

CHAPTER 2:

The Role of Personal Values in Shaping Perceptions of the Legitimacy of Public Health Authorities during a Global Pandemic

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INTRODUCTION

Long established authorities, such as public health officials in the United States, often benefit from perceived collective support, which enhances views of them as right, proper, and widely accepted (i.e., legitimate). Legitimacy is valuable for authorities because it engenders a perception that one should comply with authority directives and thereby ensures authority effectiveness (Tyler 2001; Zelditch and Walker 1984). However, even when authorities enjoy perceived legitimacy at the collective level, certain circumstances may prompt individuals to turn a critical eye toward authorities they have long taken for granted. Changes in individual-level legitimacy perceptions—termed perceived propriety (Dornbush and Scott 1975)—can lead to changes in compliance with authority directives, threatening authorities' effectiveness and continuation. Thus, the circumstances under which individuals reevaluate their personal views of existing authorities, as well as the bases by which they do so, are increasingly of interest to institutional scholars who recognize individual-level legitimacy judgments as the micro-level foundations of institutional change (Bitektine and Haack 2015; Haack, Schilke, and Zucker 2020; Tost 2011).

Such reevaluation potentially unfolds when a major environmental "jolt" or disruption to the status quo amplifies contradictions between the values, goals, and practices (i.e., "logics") of an authority and those of other spheres of social life (Clemens and Cook 1999; Friedland and Alford 1991). Heightened awareness and experience of such clashes can reduce the taken-for-grantedness of established authorities, opening them up to scrutiny and challenge (Chung and Luo 2008; Clemens and Cook 1999; Seo and Creed 2002). Because individuals are embedded in multiple institutions and social spheres with divergent logics, contradictions that do not interfere with individuals' needs, interests, and goal pursuits may not prompt reevaluation of the legitimacy of existing authorities (Seo and Creed 2002; Tost 2011). Yet, when a jolt amplifies contradictions such that they intrude upon individuals' daily

lives and affect their "ability to pursue valued goals, such as the achievement of desired outcomes or the promotion of closely held values," such reevaluation is likely (Bitektine and Haack 2015; Seo and Creed 2002; Tost 2011: 702). The bases fueling reevaluation under such circumstances, however, have received little attention. Here I address that shortcoming by examining how individuals' personal values shape evaluations of an authority's legitimacy in the aftermath of a jolt. Additionally, I consider the implications of such values, in turn, for future compliance.

The COVID-19 pandemic in the U.S. constituted a major environmental jolt that highlighted contradictions between the values of public health authorities and other basic values important for human flourishing. Public health, as a discipline, is driven by a particular set of values—prevention of disease, protection and improvement of health, and prolonging the lifespan of populations (CDC Foundation; Gatseva and Argirova 2011). While shared by many, these values, as well as how public health authorities advance them, exist in tension with other values important to individuals (Bayer and Fairchild 2004; Häyry 2006; Petrini 2010). For example, public health strategies and policies to improve life-expectancy and reduce population-level illness rates can clash with individual-level autonomy and preferred lifestyle choices.

The onset of the COVID-19 pandemic amplified such contradictions, as public health directives intended to protect the health and safety of the population also significantly interfered with normal activities of daily life. To curb the spread of the virus, public health authorities recommended lockdowns, closing of non-essential businesses and schools, avoiding social gatherings, and cancelling important social events. As pursuit of population-level health outcomes took precedence over other areas of life, individuals experienced more acutely the tensions between public health values and other personal values, which may have prompted reevaluations of the extent to which public health authorities are right, proper, and

appropriate (i.e., legitimate), depending on individuals' value priorities. Amid concerns about the imminence of a future pandemic (Haileamlak 2022; Marani et al. 2021), potential changes in views of the legitimacy public health authorities and intentions to comply with their directives gains importance.

My study first tests the underlying assumption that the COVID-19 pandemic provided a jolt with implications for public health legitimacy. I examine whether individuals' views of the legitimacy of public health authorities changed (increased or decreased) during the first two years of the pandemic. I then investigate how specific personal values that align with or contradict those of public health authorities in the context of the pandemic affect evaluations of their legitimacy and, in turn, intentions to comply with their directives in the case of a future pandemic. I draw from work in social psychology demonstrating that perceived value (in)congruence with an authority shapes views of their legitimacy (e.g., Skitka, Bauman, and Little 2009; Tyler and Jackson 2014). Past work in this area focuses on general perceptions of value congruence (i.e., "My supervisor shares my values") and conceptualizes values as individuals' beliefs about right and wrong (e.g., Robinson and Darley 1997; Tyler 2010). I offer a novel approach by examining how congruence and contradictions between values as moral goods—what people view as desirable, worthy, and important in life—that arise in the aftermath of a jolt shape evaluations of authorities' legitimacy and intentions to comply with them in the future (Feather 1995; Hitlin 2008; Kluckhohn 1951; Rokeach 1973; Schwartz 1994; Vaisey and Miles 2014). Drawing on the Theory of Basic Values (TBV; Schwartz 1994; Schwartz et al. 2012), the dominant approach to values in moral psychology (Schwartz and Cieciuch 2016), I argue that certain basic values are (in)congruent with those espoused by public health officials and describe how the pandemic amplified such (in)compatibilities. I examine how the importance of such values, then, shape evaluations of public health authority's legitimacy two years into the pandemic.

In addition to their effects on legitimacy, I also investigate how these values operate through legitimacy to enhance or diminish intentions to comply with public health authorities in the case of a future health crisis. Changes in legitimacy matter because of its subsequent implications for compliance. Yet, little work examines how factors that affect legitimacy after a jolt in turn influence future compliance intentions. Behavioral intentions are a key predictor of actual behaviors (Ajzen 1991; Fishbein and Ajzen 1975), and in the case of public health authorities, compliance intentions may ultimately translate into concrete population health outcomes. Investigation into the (mis)alignment of basic values as operating through legitimacy to affect compliance intentions provides insight into *how* value contradictions after a jolt shape behavior that results in institutional change.

In what follows, I theorize how jolts and subsequent value contradictions can disrupt the legitimacy of authorities, affecting future compliance. I draw upon data from U.S. residents collected in March 2022 to empirically examine the impact of values on the perceived propriety of public health authorities and anticipated behavioral intentions to comply with such authorities in the future.

LEGITIMACY & LEGITIMACY CHANGE

Legitimacy is "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman 1995:574). Legitimated authorities enjoy approval, acceptance, and support from subordinates, who view the authority as natural and taken-for-granted (Johnson, Dowd, and Ridgeway 2006; Weber [1924] 1978; Zelditch and Walker 1984). Legitimacy is valuable for authorities, whether individuals, groups, or institutions, because it engenders a perception that one should voluntarily comply and cooperate with decisions, rules, or directives of the authority (Tyler 2001; Zelditch and Walker 1984). In

contrast, authorities who lack legitimacy are less effective and are more likely to face challenges or resistance from subordinates.

Scholars delineate sources of legitimacy at the collective- and individual-levels (Bitektine and Haack 2015; Dornbusch and Scott 1975; Johnson et al. 2006). At the collective level, beliefs that others, whether peers or upper authorities, support an authority creates a sense of collective support for and acceptance of an authority and view of them as taken-for-granted. At the individual level, propriety refers to one's *personal* approval and support of an authority and assessment that the authority is right and proper. Perceived collective support creates a feeling of obligation to comply with authority directives, regardless of an individual's own views, to avoid sanctions from others (Dornbusch and Scott 1975). Individuals also often rely on beliefs about what others think to inform their own perceptions of an authority (Johnson et al. 2006). Because of this, institutional theorists and organization scholars have largely focused on legitimacy at the collective, rather than individual, level (Haack et al. 2020; Zelditch 2004).

Such scholars' interest in individual-level propriety evaluations, however, has recently increased owing to their implications for institutional change (e.g., Bitektine and Haack 2015; Haack et al. 2020; Tost 2011). Beyond beliefs about what others think, individuals assess propriety based on certain criteria to determine whether they personally approve of and support the authority. When they do so, they are likely to comply with directives because they view the authority as deserving of the position and justified in making decisions and executing directives (Hamm, Trinkner, and Carr 2017). Beyond compliance, perceived propriety can motivate voluntary cooperation and assistance in helping authorities to achieve their goals (Tyler and Jackson 2014). In contrast, when individuals personally disapprove of an authority, they may withdraw support, resist, or offer open opposition, even if others support the authority (Haack et al. 2020; Huy et al. 2014). Changes in propriety

evaluations of an existing authority, then, may be accompanied by changes in compliance with that authority's directives, with consequences for the effectiveness and ultimate endurance of the authority.

According to institutional scholars, individuals may more critically examine the propriety of established authorities when a major exogenous "jolt" to the social environment brings to light and intensifies contradictions between the "logic" of an authority and those of other spheres of social life (e.g., Clemens and Cook 1999; Friedland and Alford 1991; Sine and David 2003). Logics refer to the values, beliefs, and assumptions that define the goals and priorities of a social entity (such as an authority), as well as informing and providing justification for the strategies and practices used to achieve those goals (Alford and Friedland 1985; Besharov and Smith 2014; Thornton, Ocasio, and Lounsbury 2012). Increasing salience of major incompatibilities (i.e., contradictions) between the logic of an established authority and other valued goals and priorities can prompt reflexive and critical (re)examination of existing social arrangements, thereby reducing the taken-for-grantedness of the authority (Chung and Luo 2008; Seo and Creed 2002).

Because individuals are embedded in multiple institutions and social spheres with divergent logics, contradictions in general may not necessarily provoke doubts about an authority's legitimacy. Yet when a jolt reveals incompatibilities between the values of the authority and those of an individual, people may be especially likely and motivated to reevaluate their view of the authority as right, proper, and appropriate, especially if the contradictions affect individuals' ability to pursue and live according to their value priorities (Tost 2011). Work on values in social and moral psychology lends support to this proposition. Values specify what individuals view as desirable and worthy in life and constitute core aspects of individuals' identity (Feather 1995; Hitlin 2003; Kluckhohn 1951; Schwartz 1994; Rokeach 1973; Verplanken and Holland 2002). Thus, contradictions between

an authority's and individuals' value priorities that interfere with the individuals' value pursuits are likely to attract attention to and provoke critical examination of those authorities.

Despite organizational scholars' theoretical emphasis on how value contradictions bring scrutiny to existing authorities, no theoretical or empirical work considers how those values might then constitute a basis by which individuals evaluate the legitimacy of those authorities after a jolt. When individuals construe a situation as relevant to their values (i.e., when values are activated), values provide a standard by which to evaluate components of the situation such as other people, behaviors, and other social objects, including authorities (Schwartz 2012; Verplanken and Holland 2002). Thus, when a jolt amplifies value contradictions, individuals are likely to perceive those values as relevant to their assessments of the authority as right and proper and thus base their propriety assessments (to some extent) on those values. Previous work in social psychology indicates how perceived value congruence between subordinates and authorities affects perceptions of legitimacy. In what follows, I build on this work to theorize how values, as moral goods, contribute to views of authorities as right and proper.

Values and Legitimacy

Social psychological work indicates that one basis by which individuals evaluate the legitimacy of authorities, whether individuals or institutions, is the extent to which they perceive them to share their values. For example, individuals perceive police to be legitimate when they believe that the goals and values of the police align with their own (Tyler and Jackson 2014). Such value alignment indicates that authorities "have moral solidarity with the group," which inspires individuals to identify with authorities and thus support them (Sunshine and Tyler 2003a: 155). Similarly, organizations attain and keep legitimacy to the extent that their actions and the values they espouse are congruent with the broader values held by the culture or society in which they exist (Dowling and Pfeffer 1975; Sagiv,

Schwartz, and Arieli 2011). A lack of such congruence can significantly undermine legitimacy.

Individuals also change or re-evaluate their views of propriety when established authorities or organizations fail to uphold their values. Skitka and colleagues (2002, 2008, 2009) find that individuals use authority decisions that align with or contradict their values as evidence of authorities' legitimacy or illegitimacy. For example, in a natural experiment, Skitka et al. (2009) measured individuals' views of the legitimacy of the U.S. Supreme Court before and after a 2006 ruling regarding physician assisted suicide (PAS). For individuals whose support for or opposition to PAS was based on their values concerning right and wrong, the Court's ruling resulted in an increase or decrease, respectively, of individuals' views of their legitimacy.

Most of the work on the impact of value alignment with authorities on legitimacy focuses on general value alignment (i.e., "this organization shares my values" or "police stand up for values that are important to me") rather than specific values, relating to moral goods. Additionally, this work conceptualizes value (mis)alignment narrowly, as similarities or differences in beliefs about right and wrong (e.g., Robinson and Darley 1997; Sunshine and Tyler 2003b; Tyler 2010). However, beyond beliefs about right and wrong, individuals' values, as moral goods, may clash or align with those held or expressed by an authority with implications for legitimacy.

Values, in this sense, are "desirable, transsituational goals, varying in importance, that serve as guiding principles in the life of a person or other social entity" (Schwartz 1994:21). In specifying one's views of what is desirable and important in life, values provide a means by which to evaluate other people, organizations, or outcomes. Schwartz (2012:4) suggests that "people decide what is good or bad, justified or illegitimate, worth doing or avoiding, based on possible consequences for their cherished values." Values shape appraisals such that

aspects of a situation appear attractive or aversive, positive or negative, depending on their relationship to valued goals (Feather 1992; Feather 1995). Thus, an authority that shares one's view of the desirable and facilitates the pursuit of that goal may be viewed as legitimate, while the legitimacy of an authority that contradicts or thwarts the pursuit of one's values may be threatened. Additionally, personal values that are tied to the self, in contrast to social norms or values that stem from a social group (Schwartz 1977; Schwartz 2012), may be especially relevant to evaluations of one's personal approval and support for an authority. For example, an authority that conforms to societal values may seem to enjoy collective support, while an individual may assess the authority privately based on their own personal values.

Few studies, however, consider how the perceived congruence between specific, personal values and those of authorities shape perceptions of the legitimacy of authorities. Finch, Deephouse, and Varella's (2015) analysis of factors shaping evaluations of the legitimacy of the Canadian oil sands industry provides a notable exception. The Canadian oil sands industry significantly contributes to the Canadian economy through job creation and revenue, but it faces criticism due to its detrimental effects on the environment. Finch and colleagues find that (mis)alignment between the actions of the oil sands companies and individuals' views about what is good for society affect their evaluations of the industry's legitimacy. For example, individuals who highly value economic stability (maintaining economic growth and availability and stability of jobs) view the oil sands industry as more legitimate, whereas highly valuing environmentalism (preventing pollution and protecting nature) detracts from legitimacy. Finch and colleagues reason that legitimacy evaluations based on these values, in turn, have implications for individuals' voting behavior, which shapes the future of the industry.

Little work examines how (mis)alignment in specific values after a jolt shape subsequent assessment of authorities' propriety. I turn now to how such value (mis)alignment enhances (or diminishes) individuals' views of the propriety of public health authorities in the context of the COVID-19 pandemic.

PUBLIC HEALTH VALUES & BASIC VALUES DURING THE PANDEMIC

The U.S. Public Health Service (PHS) traces its origins close to the country's founding in 1798. Since their inception, agencies constituting the PHS, such as the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH), have operated according to a specific logic, focused on improving the health and lifespan of the population. Public health values, that people have good health, fewer illnesses, and longer lives, shape specific goals like disease prevention and general adoption of healthy behaviors, which specify and justify strategies and practices used to achieve those goals, such as health interventions, vaccine requirements, and smoking bans (CDC Foundation; Gatseva and Argirova 2011).

The values of health and safety, freedom from disease and injury, and long life are all desirable and connected to basic human needs. However, even in non-crisis times, these values, as well as the policies and interventions put forward to advance them, can clash with other values relevant to human flourishing, a tension recognized within public health ethics (Bayer and Fairchild 2004; Häyry 2006; Petrini 2010). For example, while absence of disease is theoretically a universal good, "people may value their self-made lifestyle choices more than disease prevention when these conflict with each other" (Häyry 2006: 520). For some individuals, promotion of health and safety may come at the cost of behaviors that bring meaning and enjoyment to life but that negatively impact health, such as relishing certain foods and beverages or engaging in sports or activities that come with a risk of injury. Additionally, the strategies employed by public health authorities may conflict with values,

such as freedom and autonomy, when public health interventions require surveillance or restrictions on individuals' privacy, choices, and behaviors (Petrini 2010).

The COVID-19 pandemic, as a major environmental jolt, increased the relevance of these tensions in individuals' lives. Schwartz and colleagues' Theory of Basic Values (TBV; 1994, 2012) specifies basic values and the relationships among them that help to illuminate potential alignment and conflicts between public health values and other basic values during the pandemic. They identify ten values recognized by individuals across cultures that are universal based on their connection to three needs of basic human existence and flourishing: biological requirements, successful navigation of social interaction, and the survival and wellbeing of groups (Schwartz 1994). In addition to health and safety (captured by *security*), other basic values include: *conformity, tradition, benevolence, universalism self-direction, stimulation, hedonism, achievement,* and *power* (see Table 1 for definitions). While all values are desirable, the underlying goals they express may conflict with each other in a given context. As pursuit of one value may come at a cost to another value, individuals must make trade-offs among values based on their value priorities when making evaluations and planning behavior. For example, the value of health and safety (captured by *security*) may at times be incompatible with taking risks that make life exciting (captured by *stimulation*).

[Table 1 about here]

The values form a circular structure that reveals the relationships among them, with more compatible values nearer each other on the circular continuum and competing values occupying opposite sides of the circle (see Figure 1). The orthogonal positioning of the four higher-order values (conservation versus openness to change and self-transcendence versus self-enhancement) depicts the tensions inherent in the motivational goals underlying the values. Conservation values, emphasizing safety and stability, upholding social order, and preserving traditional customs/ideas (*security, conformity,* and *tradition*), oppose openness to

change values, emphasizing desires for independence in thought and action and new and varied experiences (*self-direction* and *stimulation*). Self-transcendence values, expressing concern for the wellbeing of friends and family (*benevolence*) and the welfare of all people (*universalism*), oppose self-enhancement values, expressing goals related to personal success (*achievement*) and control over resources and people (*power*). *Hedonism*, which emphasizes pleasure and enjoying life, overlaps with both openness to change and self-enhancement values.

[Figure 1 about here]

The overarching public health values of health and disease prevention, and the directives and guidelines put forward during the pandemic to curb the spread of the virus, align most closely with conservation values relating to *security* and *conformity*. Thus, importance of health and safety (*security*) and following rules and regulations to uphold social order (*conformity*) likely enhanced support and approval of public health authorities during the pandemic. In contrast, public health values of health and safety took precedence over openness to change values as lockdowns and directives to avoid travel and social gatherings impinged upon individuals' freedom to make their own decisions about how to live (*self-direction*). Public health guidelines similarly restricted opportunities to enjoy life (*hedonism*) and pursue adventures and take risks that make life exciting (*stimulation*). Propriety of public health authorities may thus have suffered among individuals who prioritize autonomy, new experiences, and pleasure over safety and freedom from disease. Therefore, I predict:

> *Hypothesis 1a*: Conservation values of *security* and *conformity* are positively related to assessments of the propriety of public health authorities.

Hypothesis 1b: Openness to change values of *self-direction*, *stimulation*, and *hedonism* are negatively related to assessments of the propriety of public health authorities.

Public health goals to protect people from infection and save lives (and the pandemic guidelines put forward toward that end) align with self-transcendent values that express a concern for the welfare of all society, especially the weak and vulnerable (*universalism*), as well as a desire to help and care for the needs of close friends and loved ones (*benevolence*). To encourage compliance with guidelines requiring personal sacrifice and inconvenience, public health and government officials often appealed to self-transcendent values by casting directives as aimed at safeguarding the health and wellbeing of others. Thus, importance of others focused values likely enhanced individuals' support for and approval of public health authorities.

Although self-enhancement values (*achievement* and *power*) typically oppose self-transcendent values (see Figure 1), under normal circumstances, public health priorities of improving health and wellbeing need not conflict (and might even align) with values prioritizing personal growth and success. However, under the extreme circumstances brought on by the pandemic jolt, many public health directives significantly thwarted individuals' ability to pursue success (*achievement*) and maintain control over people and resources (*power*). For example, school and non-essential business closures hindered academic advancement for many students and came at cost to employment and productivity for many workers. Restrictions on in-person social interaction also reduced the control that supervisors, teachers, or other leaders typically maintain over subordinates. Thus, I predict:

Hypothesis 2a: Self-transcendence values of *benevolence* and *universalism* are positively related to assessments of the propriety of public health authorities.

Hypothesis 2b: Self-enhancement values of *achievement* and *power* are negatively related to assessments of the propriety of public health authorities.

Finally, as *tradition* is a conservation value, its underlying goals are typically compatible with those of *security* and *conformity* which align with public health values. However, during the pandemic, public health authorities prioritized health and safety concerns over maintaining family, cultural, and religious customs (*tradition*). Directives to social distance, avoid gathering indoors and with more than ten people, and avoid travel hindered observance of holidays, religious services, weddings, funerals, and other cultural and family gatherings. Individuals who highly value *tradition* may thus view public health authorities as opposing their values, which may detract from views of them as right and proper. I predict:

Hypothesis 3: *Tradition* is negatively related to assessments of the propriety of public health authorities.

VALUES, LEGITIMACY, AND COMPLIANCE INTENTIONS

As mentioned previously, institutional scholars are increasingly interested in instigators of changes in individual-level propriety evaluations because of their implications for changes in behavioral compliance with those authorities (Bitektine and Haack 2015; Haack et al. 2020; Tost 2011). However, few studies look at how propriety evaluations of an authority after a jolt affect intentions to comply with the authority in the future or how factors contributing to those evaluations operate through propriety to affect compliance intentions. Much theoretical and empirical work in social and health psychology examines factors contributing to behavioral intentions because of the relationship between intentions and actual behavior (e.g., Ajzen 1991; Fishbein and Ajzen 1975; for meta-analyses see Godin and Kok 1996; Sheeran 2002; Webb and Sheeran 2006). Health researchers often evaluate the

effects of health interventions on enhancing intentions to perform health behaviors, as such intentions then contribute to behavioral change (e.g., Gagnon and Godin 2000; Steffen 1990).

For authorities like public health officials for whom compliance is crucial in crisis situations, factors shaping intentions to comply in the case of a future crisis may be especially important, as such intentions may translate into concrete population health outcomes. Given that propriety affects compliance (Johnson et al. 2006), in the aftermath of a jolt prompting individuals to assess more critically the propriety of public health authorities, those assessments are likely to then shape intentions to comply with them in the future. Thus, I predict:

> *Hypothesis 4*: Propriety of public health authorities is positively related to intentions to comply with public health authorities in the case of a future pandemic or health crisis.

Values relevant to propriety evaluations of an authority after a jolt are also likely to influence intentions to comply with the authority in the future, and, I argue, to do so through propriety. In general, values drive behaviors in the direction of the goals they express and hinder behaviors in opposition to those goals (Bardi and Schwartz 2003; Feather 1995; Schwartz and Butenko 2014). Values also affect behavioral intentions, as individual want to behave in line with what they view as important in life (Bardi and Schwartz 2003; Feather 1995; Roccas and Sagiv 2010). Thus, even alongside other factors influencing behavioral intentions such as attitudes about the behavior, social norms, and perceived control (Ajzen 1991), values contribute to individuals' intentions to engage in or refrain from certain behaviors (Eyal et al. 2009; Harland, Staats, and Wilke 1999).

Work on values and compliance demonstrates that individuals are more likely to comply with authorities who share (and whose directives align with) their beliefs about right and wrong (Hamm, Trinkner, and Carr 2017; Tyler and Blader 2005; Tyler 2010), whereas

lack of value alignment may elicit protest and noncompliance (Skitka, Bauman, and Lytle 2009). This work, like the previously mentioned work on values and legitimacy, focuses on perceptions of general value alignment (about right and wrong) rather than alignment between specific basic values. However, I expect that (mis)alignment in specific values between subordinates and authorities have similar consequences for (non)compliance, such that individuals are more likely to comply with authorities who share their views of what is good and important in life but may resist authorities whose values (as moral goods) compete with their own.

Values influence behaviors (and intentions) when they are activated and perceived as relevant to the situation (Schwartz 2012). In the context of value (mis)alignments contributing to propriety evaluations of an authority after a jolt, individuals are likely to view those same values as relevant to behavioral intentions with respect to that authority. Thus, the importance of specific values that align with public health values in the context of the pandemic (which I have argued are *security*, *conformity*, *benevolence*, and *universalism*) should enhance intentions to comply with them in the future. In contrast, the importance of values conflicting with those of public health authorities (*self-direction*, *stimulation*, *hedonism*, *achievement*, *power*, and *tradition*) should reduce such intentions.

> *Hypothesis 5a*: Conservation (*security* and *conformity*) and self-transcendence (*benevolence* and *universalism*) values are positively related to intentions to comply with public health authorities in the case of a future pandemic or health crisis.
>
> *Hypothesis 5b*: Openness to change (*self-direction*, *stimulation*, and *hedonism*), self-enhancement (*achievement* and *power*), and *tradition* values are negatively related to intentions to comply with public health authorities in the case of a future pandemic or health crisis.

Furthermore, individuals view authorities who share their values as deserving of their positions and justified in exercising their authority (Hamm et al. 2017) and likely anticipate that authorities who share their values will make decisions in the future that align with their values. Thus, values that enhance propriety after a jolt likely operate through propriety to enhance future compliance intentions. Conversely, values that detract from an individual's support and approval of an authority likely, in turn, lessen their future compliance intentions.

Hypothesis 6: Propriety of public health authorities mediates the effects of values on intentions to comply with public health authorities in the case of a future pandemic or health crisis.

METHODS

Data

Data for this study come from an original online survey designed to understand the link between values, legitimacy, and compliance in the context of the COVID-19 pandemic. Data were collected from 1,356 U.S. adults in spring 2022 in partnership with a university-based survey center and Marketing Systems Group. Respondents were recruited from various non-probability online panels to construct a sample that reflects the national distribution of characteristics of U.S. adults over age 18.

Study Participants

Data consists of responses from U.S. residents between the ages of 18-91. Table 2 provides demographic information on the respondents' characteristics. The sample consists of 684 women (49.45%) and 669 men (50.55%). Most respondents identified as white (84.80%), and the average age of respondents is 53 (*SD*=15). Median annual income was between $50,000 - $74,999 based on seven response categories. Median education level was some college or associate degree based on six response categories.

[Table 2 about here.]

Measures

Table 3 includes means and standard deviations for independent and dependent variables. I assess whether the pandemic constituted a jolt stimulating legitimacy reassessments of public health authorities by asking respondents the following: "Thinking back to the start of the COVID-19 pandemic (March 2020) compared to now, has your view of the legitimacy of Public Health officials (such as the CDC or Health Department) decreased, stayed about the same, or increased?" (1 = Decreased a lot; 2 = Decreased somewhat; 3 = Stayed about the same; 4 = Increased somewhat; 5 = Increased a lot).

To capture basic values, I use 22 items drawn (and adapted) from the Schwartz Portrait Values Questionnaire (PVQ-RR; Schwartz et al. 2012). PVQ items are statements describing an individual's goals, desires, or preferences that "point implicitly to the importance of a value" and are matched to the respondent's self-identified gender (Schwartz 2012: 11). Sample portrait items include: "It is important to him to take risks that make life exciting," and "It is important to her to make her own decisions about her life" (see Appendix for full list of items). For each statement, respondents then indicate, "How much like you is this person?" (1 = not like me at all; 2 = not like me; 3 = a little like me; 4 = moderately like me; 5 = like me; 6 = very much like me). Respondents' values are then deduced from those of the individuals they rate as similar (or dissimilar) to their own. For instance, "It is important to him to be the one who tells others what to do" depicts someone who values power, and "It is important to her to be tolerant toward all kinds of people and groups" portrays someone who values universalism.[1]

[Table 3 about here.]

The 22 portrait items are formed into 10 scales (consisting of 2-3 items per scale) representing the 10 basic values. In constructing the values, I employ within-person mean centering to eliminate potential bias introduced by social desirability and respondents'

differential use of the response scales. For example, some respondents may tend to rate themselves as very similar to most portraits, while some may tend to use the middle or lower ends of the scale in assessing their similarity. Regardless, each individual produces variation across their own responses, indicating their personal value priorities. To get at these priorities, I calculate each respondent's mean scores across all items and then subtract the respondent's mean rating from each of their individual value scores to produce their unbiased value hierarchy (Schwartz and Cieciuch 2016).

Table 3 includes means, standard deviations, and alpha reliabilities for scales representing each of the values. The alphas range from 0.64 to 0.79, falling within the typical ranges received using the PVQ items (Schwartz, Sagiv, and Boehnke 2000).

I measure evaluations of the propriety of public health authorities with three items. First, "To what extent do you see public health officials (such as the Centers for Disease Control and Prevention [CDC] or Health Department) as the right and appropriate people to look after the health and wellbeing of the population in general?" Second, "To what extent do you support decisions by public health officials (such as the Centers for Disease Control and Prevention [CDC] or Health Department) even when you don't understand the reasons?" Third, "To what extent do you believe that you should comply with directives from public health officials (such as the Centers for Disease Control and Prevention [CDC] or Health Department)?" Response categories range from 1 = Not at all to 7 = A great deal. These indicators create a one-factor latent measure.

To capture future compliance intentions, respondents indicated how likely they would be to comply with directives from Public Health officials (such as the CDC or Health Department) in the case of a future pandemic or threat to national public health (1 = Extremely unlikely; 2 = Moderately unlikely; 3 = Slightly unlikely; 4 = Neither likely nor unlikely; 5 = Slightly likely; 6 = Moderately likely; 7 = Extremely likely).

Demographic controls include respondents' sex, age, race, education, and income (see Table 2 for specific categories). I also include some health-related variables relevant to the COVID-19 pandemic that may influence individuals' behavioral intentions in the case of a future health crisis. Respondents reported whether they have any underlying health conditions that increase the risk of severe illness from COVID-19 (1 = No, 2 = Maybe, 3 = Yes) and whether they live with someone over the age of 65 and/or has underlying health conditions that increase the risk of severe illness from COVID-19 (1 = No, 2 = Maybe, 3 = Yes).[2]

Analysis Strategy

I first present a univariate analysis examining whether the pandemic jolt stimulated changes in people's perceptions of the legitimacy of public health officials. I next describe Pearson correlations between values and propriety and future compliance intentions, a common analytical approach used to assess relationships between Schwartz values, perceptions, and behaviors (e.g., Schwartz et al. 2017). The bivariate correlation coefficients are useful in revealing the strength and direction of the relationships between each value and propriety and future compliance intentions, indicating whether values have significant relationships with each in the expected directions.

I use structural equation modeling (SEM) in Stata 15.1 to test my hypotheses. I first assess a measurement model, which includes the relationship between the latent construct of propriety its indicators. I then fit the structural model, which includes paths between exogenous and endogenous variables (Kline 2016). SEM allows examination of both direct effects of values on propriety and future compliance intentions along with the indirect effects of the values on future compliance intentions through propriety. To assess *Hypotheses 1-3*, I estimate the direct effects of values on propriety. To assess *Hypothesis 4*, I examine the direct effect of propriety on intentions to comply with public health authorities in the future.

Finally, I examine the presence of significant indirect effects of the values on future compliance intentions through propriety to assess *Hypotheses 5a, 5b,* and *6*.

Because the values are interdependent, all ten values cannot be included in a single regression model, as the coefficients will not be interpretable (regardless of whether multicollinearity seems to be an issue) (Schwartz 2012). Thus, I run separate structural equation models for each value (ten in total), including controls (see Schwartz and Butenko 2014). I fit the measurement and structural models using maximum likelihood estimation with missing values and report standardized parameter estimates with standard errors. To assess model fit, I use the following indices: model chi-square, Bentler Comparative Fit Index (CFI; Bentler, 1990), Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), and Steiger-Lind Root Mean Square Error of Approximation (RMSEA; Steiger, 1990). A model provides a good fit to the data with a model chi-square with a *p* value greater than .05, CFI greater than .90, TLI greater than .95, and RMSEA less than .05.

RESULTS

As shown in Table 4, 69.3% of respondents reported that their views of public health authorities changed since the start of the pandemic in March 2020, whereas 30.7% reported that it stayed about the same. Such a pattern indicates that individuals did reevaluate legitimacy during the pandemic. Specifically, 16.46% of respondents reported that their perceived legitimacy of health authorities decreased a lot while 12.50% reported that it decreased somewhat. In contrast, 24.50% of respondents reported that their perceived legitimacy of health authorities increased somewhat, and 15.94% reported that it increased a lot.

[Table 4 about here]

Table 5 presents correlations between each of the values and propriety and future compliance intentions. Many studies that examine relationships between the Schwartz values

and various outcomes use only Pearson correlations to test hypotheses (e.g., Schwartz et al. 2017). I thus describe the correlations, indicating whether they provide preliminary support for my hypotheses, before presenting results of the mediation analysis. Column 1 presents the hypothesized relationships between values and propriety, and columns 2 and 3 present the correlations. Bivariate correlations reveal that values have associations with propriety evaluations and future compliance intentions, providing preliminary support for *Hypotheses 1a & b* and *2a & b*. In support of *Hypothesis 1a*, *security* and *conformity* have significant positive correlations with propriety. *Self-direction* negatively correlates with propriety, partially confirming *Hypothesis 1b*; however, correlations between *stimulation* and *hedonism* values and propriety are not significant. While *universalism* correlates positively and significantly with propriety (*Hypothesis 2a*), *benevolence* reveals an unexpected significant *negative* correlation with propriety. In partial support of *Hypothesis 2b*, *achievement* negatively correlates with propriety, while *power* reveals an unexpected positive correlation. Finally, *tradition* negatively and significantly correlates with propriety, providing preliminary support for *Hypothesis 3*.

[Table 5 about here.]

Before fitting the full structural model, I first analyzed a measurement model for the latent construct of propriety using confirmatory factor analysis involving the three indicators. Because the model has 0 degrees of freedom, it is just-identified and cannot be tested for model fit (as fit statistics will indicate perfect fit) (Acock 2013). However, as shown in Table 6, each item has a significant and sizable loading in the expected direction. Additionally, the scale reliability is ρ=0.90, indicating that the items capture the latent construct of propriety. I then fit ten separate structural equation models to assess the effects of each of the ten values on propriety and future compliance intentions (see Schwartz and Butenko 2014). Each model

includes controls. Fit statistics presented in Table 7 indicate good model fit for each model. Table 8 presents the direct, indirect, and total effects represented in each model.

[Table 6, 7, and 8 about here.]

To assess *Hypotheses 1-3*, I examine the direct effects of each value on propriety evaluations. In support of *Hypothesis 1a* regarding conservation values that align with those of public health authorities, *security* (Model 1: $\beta = 0.11$, $p < .001$) and *conformity* (Model 2: $\beta = 0.10$, $p < .01$) have significant positive effects on propriety. Among openness to change values predicted to clash with public health values and thus detract from propriety (*Hypothesis 1b*), *self-direction* (Model 3: $\beta = -0.14$, $p < .001$) negatively affects propriety, while *stimulation* and *hedonism* have no effect. Of the self-transcendent values predicted to enhance propriety (*Hypothesis 2a*), *universalism* (Model 7: $\beta = 0.21$, $p < .001$) has a significant positive effect. However, contrary to *Hypothesis 2a*, *benevolence* has a significant negative effect on propriety (Model 6: $\beta = -0.11$, $p < .001$). In partial support for *Hypothesis 2b*, one self-enhancement value, *achievement*, negatively affects propriety (Model 8: $\beta = -0.12$, $p < .001$), while *power* has no effect. Finally, *tradition* negatively affects propriety evaluations, confirming *Hypothesis 3* (Model 10: $\beta = -0.13$, $p < .001$).

Consistent with *Hypothesis 4,* perceived propriety of public health officials positively affects intentions to comply with them in the case of a future pandemic. Across all ten models, effects of propriety range from $\beta = 0.81$ to $\beta = 0.82$ ($p < .001$).

Hypotheses 5a and *5b* predicted that values that positively and negatively affect propriety would in turn positively and negatively (respectively) affect compliance intentions. *Hypothesis 6* further predicted that such effects operate through propriety. Indirect effects in Table 8 examine the mediation predicted in these *Hypotheses*. In support of *Hypothesis 5a* and *6*, *security* (Model 1: $\beta = 0.09$, $p < .001$), *conformity* (Model 2: $\beta = 0.08$, $p < .01$), and *universalism* (Model 7: $\beta = 0.17$, $p < .001$) have positive indirect effects on future compliance

intentions through propriety. *Benevolence*, however, has a negative indirect effect on future compliance intentions, in contrast to *Hypothesis 5a* (Model 6: $\beta = -0.09$, $p < .001$). In partial confirmation of *Hypothesis 5a* and *6, self-direction* (Model 3: $\beta = -0.12$, $p < .001$), *achievement* (Model 8: $\beta = -0.10$, $p < .001$), and *tradition* (Model 10: $\beta = -0.10$, $p < .001$) negatively affect future compliance intentions indirectly through propriety, whereas *stimulation* and *hedonism* have no effects.

In addition to their indirect effects mediated by propriety, some values maintain small direct effects on future compliance intentions. Of the conservation values, *security* (Model 1: $\beta = 0.09$, $p < .001$) maintains a positive direct effect on compliance, while *conformity* is fully mediated by propriety. Regarding openness to change values, in addition to its effect through propriety, *self-direction* has a positive direct effect on future compliance intentions (Model 3: $\beta = 0.04$, $p < .05$), indicating inconsistent mediation (Mackinnon, Krull, and Lockwood 2000; McFatter 1979). *Stimulation*, while having no effect on propriety, has a small negative direct effect on future compliance intentions (Model 4: $\beta = -0.04$, $p < .05$).

Both self-transcendent values, *benevolence* and *universalism*, also maintain positive direct effects on compliance (Model 6: $\beta = 0.05$, $p < .01$ and Model 7: $\beta = 0.06$, $p < .001$, respectively). In light of its negative effect on compliance intentions through propriety, the positive direct effect of *benevolence* indicates inconsistent mediation. Of the self-enhancement values, *achievement* is fully mediated by propriety, whereas *power* has a direct negative effect on future compliance intentions despite having no effect on propriety (Model 9: $\beta = 0.06$, $p < .01$). Finally, *tradition* maintains a significant negative direct effect on future compliance intentions, outside of its effect through propriety (Model 10: $\beta = -0.06$, $p < .01$).

Total effects reveal the combined direct and indirect effects of the values on future compliance intentions. Both *security* (Model 1: $\beta = 0.15$, $p < .001$) and *conformity* (Model 2: $\beta = 0.08$, $p < .01$) have positive and significant total effects. Among the openness to change

values, *self-direction* has a significant total effect (Model 3: $\beta = -0.08$, $p < .01$), while *stimulation and hedonism* are in the expected (negative) direction but also not significant. Among the self-transcendence values, *universalism* has a positive total effect (Model 7: $\beta = 0.23$, $p < .001$), and the total effect of *benevolence* is negative but not significant, due to its negative indirect effect but positive direct effect on future compliance. Of the self-enhancement values, *achievement* has a negative total effect (Model 8: $\beta = -0.12$, $p < .001$), and *power* is in the expected (negative) direction but also not significant. Finally, *tradition* (Model 10: $\beta = -0.16$, $p < .001$) has a significant, negative total effect.

DISCUSSION

Changes in individual-level legitimacy evaluations (propriety) of established authorities can prompt changes in individuals' deference to and compliance with those authorities with implications for authorities' effectiveness and longevity. Thus, understanding when and by what bases individuals reevaluate propriety is of interest to organizational scholars of institutional change, as well as social psychologists interested micro-level processes that have macro-level implications. I examined whether the COVID-19 pandemic jolt spurred changes in individuals' assessments of the legitimacy of public health authorities. Building on theoretical work by institutional scholars who propose that contradictions in logics between an authority and other social spheres can threaten authority legitimacy, I investigated how individuals' basic values that aligned or conflicted with those of public health authorities in the context of the pandemic enhanced or diminished (respectively) evaluations of their propriety. Furthermore, I explore how such values operate through propriety evaluations to affect intentions to comply with public health authorities in the case of a future pandemic or other health crisis. Study results highlight three patterns, which contribute to understanding implications of the pandemic as well as fundamental legitimacy processes.

First, individuals' views of the legitimacy of public health authorities *did* change over the course of the pandemic, both for better and for worse. Prior theorizing about the consequences of jolts for established authorities implies that amplified contradictions in the aftermath of a jolt will reduce individual-level legitimacy perceptions through diminishing the taken-for-grantedness of an authority and increasing awareness of alternative logics (practices, goals, and values) to that of the authority (Chung and Luo 2008; Clemens and Cook 1999; Friedland and Alford 1991; Seo and Creed 2002). In this context, individuals may be motivated to seek changes to the status quo, threatening the endurance of established authorities (Seo and Creed 2002). However, my findings reveal that while 28.86% of respondents reported a decrease in their views of the legitimacy of public health authorities during the pandemic, 44.44% reported an increase. This indicates that jolts and contradictions may also benefit existing authorities when increased scrutiny results in positive evaluations, thereby facilitating a boost to propriety.

Second, values, as moral goods, are a basis by which individuals evaluate the propriety of authorities. Findings suggest that, in the aftermath of a jolt highlighting tensions between competing values, alignment or contradiction between individuals' value priorities and those of an authority have implications for the nature of propriety evaluations. Significant effects of values on propriety (mostly in the anticipated directions) reflect the tensions between conservation versus openness to change values, with *security* and *conformity* positively and *self-direction* negatively associated with propriety, as well as self-transcendent versus self-enhancement values, with *universalism* positively and *achievement* negatively associated with propriety (partially supporting *Hypotheses 1a & b* and *2a & b*). Understanding the relationship between the importance of specific basic values and individuals' views of public health authorities' propriety provides insight into the reasons undergirding such evaluations. Thus, future work on individual-level legitimacy evaluations

of other authorities might benefit from a broader conception of values beyond beliefs about right and wrong.

Additionally, findings reveal how, in addition to exacerbating existing contradictions, major jolts may give rise to tensions between values not typically in competition, with implications for propriety evaluations. For example, the importance of *tradition*, though usually compatible with *security* and *conformity* values (those most closely related to public health values), negatively affected propriety evaluations of public health officials in the aftermath of the pandemic jolt (*Hypothesis 3*). While values relating to safety and security are typically compatible with maintaining customs and traditions, in the specific pandemic context, protecting safety and stability meant sacrificing upholding meaningful religious, cultural, and family customs. Because of this, individuals for whom tradition is highly important view public health officials as less legitimate, with implications for their future compliance with them.

The post-jolt context also produced an unexpected finding regarding *benevolence*, which I argued aligns with public health values, as it relates to concern and care for close friends and loved ones. However, unlike *universalism* (concern for the welfare of the broader population) which enhanced propriety, *benevolence* diminished views of public health authorities as right and proper. This contrast is especially striking as public health and government officials often appealed to concern for friends and family with pre-existing conditions to encourage compliance with health directives. While *benevolence* may align with public health values in general, during the pandemic, public health guidelines severely restricted individuals' ability to see loved ones by restricting social gatherings and travel, as well as visits to hospitals and nursing homes, even when loved ones were dying. The negative effect of benevolence on propriety may thus highlight a context in which the public health

concern for health and wellbeing at the population level clashed in some cases with wellbeing at the individual level.

Third, values activated by amplified contradictions after a jolt affect future behavioral intentions, largely through their effects on propriety (*Hypothesis 5a*, *5b*, and *6*). The theoretical and empirical link between personal values, propriety evaluations, and compliance intentions is novel and may be useful to organizational theorists studying the individual-level foundations of broader institutional change. Some values also influence future compliance intentions outside of their effects through propriety. For example, although *stimulation* and *power* do not diminish propriety as expected, they do directly (although minimally) diminish future compliance intentions. Additionally, while *benevolence* and *self-direction* both detract from future compliance intentions through propriety, both values also have small *positive* direct effects on future compliance intentions. This finding may point to how personal values can be expressed through divergent behaviors, depending on the individual and social context (Schwartz 2012). For example, during the pandemic, some may have demonstrated care for loved ones (*benevolence*) by being near them and others by staying away from them (per public health guidelines). Similarly, some may have exercised their individual autonomy (*self-direction*) by defying public health guidelines and others by complying with them. In-depth interviews may provide better insight into how individuals enacted their values during the pandemic.

In addition to personal values, other factors may contribute to legitimacy evaluations of existing authorities after a jolt. While jolts may destabilize the taken-for-grantedness of an authority, perceived collective support, "what others think" can profoundly influence individuals' evaluations and behavior (Johnson et al. 2006; Zelditch and Walker 1984). Future work should examine the effects of others' views on propriety evaluations and compliance intentions after a jolt, even when perceived collective support is not unanimous.

Additionally, my sample consists of residents in the U.S. and measures their perceptions of U.S. public health officials. In other contexts, directives of public health authorities may have aligned or clashed with other values than those in this sample. Furthermore, cultures vary in the extent to which internal attributes, dispositions, or values actually guide behavior. In "loose" cultures with fewer social constraints or binding norms, values may more strongly shape intentions to comply with authorities in comparison to "tight" cultures characterized by stronger social norms/expectations (Gelfand, Nishii, and Raver 2006). Thus, the patterns of relationships between values, propriety assessments, and compliance intentions may differ in other cultural contexts than those observed here.

My study reveals social psychological processes by which logic contradictions in the aftermath of a jolt contribute to micro-level shifts with potential macro-level implications. While findings from this study are especially relevant for public health authorities seeking to gain legitimacy and compliance in advance of a future, potentially even more serious, health crisis, this approach may shed light on how specific values held by individuals influence the perceived legitimacy of and compliance with a wide array of social authorities.

ENDNOTES

1. Schwartz's rating approach to values measurement allows respondents to evaluate values individually, in contrast to ranking approaches that require respondents to rank the relative importance of values. Instead of forcing respondents to artificially order the values in terms of their importance (which precludes respondents from ranking some values as equally important or unimportant), the rating approach allows respondents to rate multiple statements as very much like them or not like them. Schwartz also uses an indirect approach to measuring values to capture respondents' values by using statements about what they view as important in life rather than asking explicitly about values (Schwartz and Cieciuch 2016).
2. Because aspects of the pandemic response became increasingly politicized, political orientation is also likely to affect propriety evaluations and future compliance intentions. However, it is not appropriate to include political orientation as a control because values shape political beliefs (see Baker and Boudens 2009; Graham, Haidt, and Nosek 2009; Hunter 1991; Miles and Vaisey 2015; Schwartz, Caprara, and Vecchione 2010). Thus, political orientation must be considered as a mediating mechanism by which values affect propriety and/or future compliance intentions. Preliminary analyses indicate that political orientation does mediate these effects; however, such analysis (and accompanying theoretical argument) is currently outside the scope of this paper. A future version of this paper may incorporate this.

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TABLE AND FIGURES

Table 2.1 Ten Basic Human Values and Definitions

Security. Safety, harmony, and stability of society, of relationships, and of self
Conformity. Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms
Tradition. Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide the self
Benevolence. Preserving and enhancing the welfare of those with whom one is in frequent personal contact
Universalism. Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature
Self-direction. Independent thought and action; choosing, creating, exploring.
Stimulation. Excitement, novelty, and challenge in life.
Hedonism. Pleasure and sensuous gratification for oneself
Achievement. Personal success through demonstrating competence according to social standards
Power. Social status and prestige, control or dominance over people and resources

Note. Definitions drawn from Schwartz 2012.

Table 2.2 Means and Standard Deviations for Sample Characteristics

Variable	N	Mean/Median/%	Std. dev.	Min	Max
Presence of underlying conditions	1,291	1		1	3
No		52.59%			
Maybe		9.91%			
Yes		37.49%			
Living with someone 65+ or with underlying conditions	1,339	1		1	3
No		70.87%			
Maybe		2.76%			
Yes		26.36%			
Female	1,353	49.45%		0	1
Age	1,347	53.02	15.37	18	91
Non-white	1,355	15.20%		0	1
Income	1,351	4		1	7
< $25,000		21.54%			
$25,000-34,999		11.55%			
$35,000-49,999		12.36%			
$50,000-74,999		16.58%			
$75,000-99,999		13.10%			
$100,000-149,999		16.14%			
> $150,000		8.73%			
Education	1,355	4		1	6
Less than high school		2.14%			
High school grad		21.40%			
Technical/vocational school		3.17%			
Some college / associate degree		23.76%			
Bachelor's degree		25.24%			
Graduate or professional degree		24.28%			

Table 2.3 Means, Standard Deviations, and Alpha Reliabilities of Key Variables

Variable	N	Mean/%	Std. dev.	Alpha Reliability[a]
Future compliance intentions[b]	1,356	5.41	1.90	
Propriety[c]	1,356	5.11	1.63	0.93
Values[d]				
Security	1,356	4.92	0.83	0.64
Conformity	1,356	4.62	1.11	0.79
Self-direction	1,356	5.18	0.75	0.74
Stimulation	1,356	3.75	1.24	0.69
Hedonism	1,356	4.36	1.07	0.71
Benevolence	1,356	5.28	0.82	0.72
Universalism	1,356	4.85	0.91	0.72
Achievement	1,356	4.34	1.17	0.72
Power	1,356	3.08	1.37	0.72
Tradition	1,356	4.07	1.33	0.74

[a]Alpha reliability measures the internal consistency of the items used to form a scale.
[b]Response categories range from (1) extremely unlikely to (7) extremely likely.
[c]Descriptive information for propriety as an additive scale (averaged by the number of items making up the scale [3]). See Table 6 for measurement model of propriety.
[d]Values are additive scales (consisting of 2-3 items per scale and averaged by the number of items making up the scale). Items (drawn from the Schwartz et al. (2021) PVQ-RR) are statements describing the importance of a particular value. Respondents indicate how much each statement is like them on a scale from not like me at all (1) to very much like me (6). Means are based on raw values scores. The alpha reliabilities fall within the average range of alpha reliabilities of values using the Portrait Values Questionnaire (Schwartz 2021).

Table 2.4 Univariate Analysis of Change in Views of Legitimacy of Public Health Authorities since the Start of the COVID-19 Pandemic

Variable	N	Median/%	Std. dev.	Min	Max
Legitimacy change	1,515	3	1.29	1	5
Decreased a lot		15.41%			
Decreased somewhat		11.55%			
Stayed about the same		30.69%			
Increased somewhat		23.89%			
Increased a lot		18.35%			

Table 2.5 Bivariate Correlations of Values, Propriety, and Future Compliance Intentions

Variables	Predicted	Propriety	Intended Future Compliance
Values			
Security	+	0.05*	0.11***
Conformity	+	0.06*	0.06*
Self-direction	-	-0.17***	-0.09***
Stimulation	-	0.05	-0.01
Hedonism	-	-0.01	-0.05
Benevolence	+	-0.15***	-0.07**
Universalism	+	0.18***	0.21***
Achievement	-	-0.06*	-0.07**
Power	-	0.10***	0.02
Tradition	-	-0.12***	-0.16***
Propriety	+		0.78***

Note. * p<.05, ** p<.01, *** p<.001

Table 2.6 Estimates for a One-Factor Model of Propriety

	Unstandardized		Standardized	
Parameter	Estimate	SE	Estimate	R^2
		Pattern Coefficients		
Propriety→prop1	1.00	–	.88***	.78
Propriety→prop2	1.07***	.02	.93***	.87
Propriety→prop3	1.04***	.02	.90***	.82

Note. * p<.05, ** p<.01, *** p<.001

Table 2.7 Goodness of Fit Statistics for Structural Equation Models

Fit Statistics	**χ2 (df)**	**p-value**	**CFI**	**TLI**	**RMSEA**	**CI LB**	**CI UB**
Model 1	27.009 (19)	0.104	0.998	0.997	0.018	0.000	0.032
Model 2	23.733 (19)	0.207	0.999	0.998	0.014	0.000	0.029
Model 3	31.941 (18)	0.022	0.997	0.994	0.024	0.009	0.037
Model 4	25.907 (19)	0.133	0.999	0.997	0.016	0.000	0.031
Model 5	25.342 (19)	0.150	0.999	0.997	0.016	0.000	0.030
Model 6	33.899 (19)	0.019	0.997	0.994	0.024	0.010	0.037
Model 7	24.740 (19)	0.169	0.999	0.998	0.015	0.000	0.030
Model 8	28.255 (18)	0.058	0.998	0.995	0.020	0.000	0.034
Model 9	33.494 (18)	0.015	0.997	0.993	0.025	0.011	0.038
Model 10	29.677 (19)	0.056	0.998	0.996	0.02	0.000	0.034

Table 2.8 Structural Equation Model Results of Effects of Values on Propriety of Public Health Authorities and Future Compliance Intentions

	Model 1 Security	Model 2 Conformity	Model 3 Self-direction	Model 4 Stimulation	Model 5 Hedonism
Direct Effects					
→ *Propriety*					
Value	0.11***	0.10**	-0.15***	-0.00	-0.02
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
→ *Future compliance*					
Propriety	0.81***	0.81***	0.82***	0.82***	0.82***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Value	0.09***	0.00	0.04*	-0.04*	-0.03
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Indirect Effects					
→ *Future compliance*					
Value	0.09***	0.08**	-0.12***	-0.00	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Total Effects					
→ *Future compliance*					
Value	0.15***	0.08**	-0.08**	-0.05	-0.05
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)

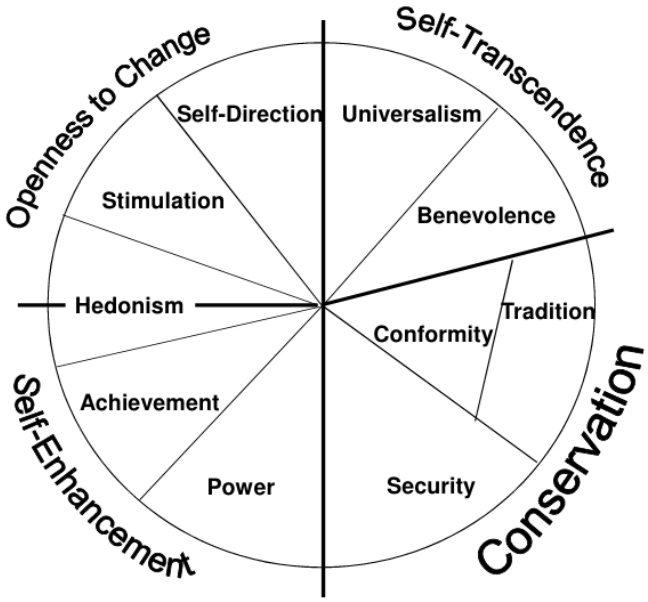
Note. All models control for respondent sex, race, age, income, education, presence of underlying conditions, and status of living with someone over the age of 65 or who has underlying conditions.

* p<.05, ** p<.01, *** p<.001

Table 2.8 continued.

	Model 6 Benevolence	Model 7 Universalism	Model 8 Achievement	Model 9 Power	Model 10 Tradition
Direct Effects					
→ *Propriety*					
Value	-0.12***	0.21***	-0.12***	0.03	-0.13***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
→ *Future compliance*					
Propriety	0.82***	0.81***	0.82***	0.82***	0.81***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Value	0.05**	0.06***	-0.03	-0.06**	-0.06**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Indirect Effects					
→ *Future compliance*					
Value	-0.10***	0.17***	-0.09***	0.03	-0.10***
	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)
Total Effects					
→ *Future compliance*					
Value	-0.05	0.23***	-0.12***	-0.03	-0.16***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)

Figure 2.1 Theoretical Model of Relations among Ten Motivational Values
Source: Schwartz 2012



APPENDIX

Value Items

Benevolence
It is important to him to take care of people he is close to.
It is very important to him to help the people dear to him.

Universalism
It is important to him that the weak and vulnerable in society be protected.
It is important to him that every person in the world have equal opportunities in life.
It is important to him to be tolerant toward all kinds of people and groups.

Tradition
It is important to him to maintain traditional values and ways of thinking.
It is important to him to follow his culture or family's customs or the customs of a religion.

Conformity
It is important to him to never violate rules or regulations.
It is important to him to obey all the laws.

Security
It is important to him to be personally safe and secure.
It is important to him to avoid anything dangerous.
It is very important to him to avoid disease and protect his health.

Self-direction
It is important to him to develop his own opinions.
It is important to him to make his own decisions about his life.
It is important to him to be free to choose what he does by himself.

Stimulation
It is important to him always to look for different things to do and have all sorts of new experiences.
It is important to him to take risks that make life exciting.

Hedonism
It is important to him to have a good time and enjoy life's pleasures.
It is important to him to take advantage of every opportunity to have fun.

Achievement
It is important to him to have ambitions in life.
It is important to him to be very successful.

Power
It is important to him to be the one who tells others what to do.
It is important to him to have the power that money can bring.

CHAPTER 3:

Bases of Legitimacy: How Moral, Relational, Instrumental, and Collective Concerns Shape Propriety of Health Authorities and Intentions of Future Compliance

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INTRODUCTION

The onset of the COVID-19 pandemic brought public health authorities and healthcare providers to the forefront of public attention. For example, media coverage of topics relating to public health and epidemiology increased by more than 1000% during the months of January through June 2020 in comparison to January to June 2019 (Brownson et al. 2020). Because of their respective roles to address public health threats and care for the health of individuals, people looked to public health officials and healthcare providers for information on the nature of the novel virus, its spread, and guidance on its prevention and treatment. Increased attention also brought increased scrutiny as many individuals, including politicians, journalists, and other social commentators, debated and criticized various aspects of the pandemic response. In this context, individuals may have begun to question the legitimacy of both public health authorities and individuals' own doctors or other healthcare providers.

People view legitimate authorities as appropriate, taken for granted, and widely accepted, and thus perceive themselves as obligated to voluntarily comply with their directives (Johnson, Dowd, and Ridgeway 2006; Zelditch and Walker). The COVID-19 pandemic highlighted the importance of the perceived legitimacy of health authorities because the success of many directives to curb the spread of the virus depended on individuals' voluntary compliance. Prior to the pandemic, individuals likely took public health officials and healthcare providers for granted as legitimate, as both are long established fixtures in the U.S. healthcare system, broadly speaking. However, significant disruptions to the status quo can weaken the taken-for-grantedness of an existing authority, prompting individuals to evaluate more critically their legitimacy (Bitektine and Haack 2015; Tost 2011). Such evaluations tend to unfold when a major environmental "jolt," such as a social upheaval, a technological advancement, or a global pandemic, disrupts the social

environment in such a way that draws new attention to and invites scrutiny of an existing authority (Greenwood, Suddaby, and Hinings 2002; Meyer 1982).

The context of the pandemic jolt raises questions about what matters in assessments of the legitimacy of health authorities. Although scholars have long recognized that legitimacy is crucial for the effectiveness of judicial authorities, law enforcement, and leaders in the workplace (e.g., Feather and Boeckmann 2013; Tyler and Jackson 2014; Hegtvedt et al. 2022), little work investigates factors shaping individuals' personal assessments of health authorities as right and proper (i.e., propriety) or their intentions to comply with health authorities in the future. Furthermore, potential changes in views of the legitimacy of health authorities and intentions to comply with their directives gains importance in light of concerns about a future pandemic (Haileamlak 2022; Marani et al. 2021). Thus, I first assess descriptively whether individuals' views of the legitimacy of health authorities changed over the course of the pandemic. I then investigate theoretically and empirically the impact of specific bases of legitimacy assessments on individuals' assessments of the propriety of health authorities in the aftermath of the pandemic, and, in turn, their intentions to comply with their directives in the case of a future health crisis.

I draw from work in social psychology (e.g., Hegtvedt and Johnson 2009; Tyler 2001) and organizations and management (e.g., Bitektine and Haack 2015; Haack, Schilke, and Zucker 2020; Tost 2011) to highlight three bases contributing to how people assess the legitimacy of authorities. These bases capture instrumental, relational, and moral considerations. Past empirical work has typically focused on the contribution of only one of these bases to legitimacy assessments (see Tost 2011). Integrative models of legitimacy (see Hegtvedt and Johnson 2009; Tost 2011), however, stress multiple bases as contributing to individual's assessment of the propriety of an authority. Considering all three and the relative

impact of each sheds light on what matters most to individuals in assessing propriety. Still, little empirical work examines these bases together and the relevant impact of each.

While all three bases can shape propriety, the specific evaluator, authority, and social context determine which bases (all three or a subset) are most salient for propriety judgements (see Hegtvedt and Johnson 2009; Schoon 2022; Tost 2011). Depending on the nature of the relationship between the evaluator and authority, individuals are likely to have different expectations about what authority characteristics and behaviors are right, proper, and appropriate (see Schoon 2022; Author citation). Yet, rarely have researchers simultaneously examined assessments of distinct, though related, authorities. Here I distinguish between public health officials and doctors/healthcare providers, who play different roles in the field of health. Whereas public health officials focus on preventing disease and protecting health at the population level, doctors and healthcare providers see and treat individual patients in the context of a personal relationship (Petrini 2010). Thus, my investigation uniquely examines how instrumental, relational, and moral concerns contribute to individuals' propriety assessments of public health officials (such as the Centers for Disease Control and Prevention [CDC] or Health Department) versus that of their own doctors and other healthcare providers.

In addition to evaluating an authority based on specific criteria, individuals consider what they think others think when forming their own opinions. Perceptions that others support an authority constitutes a collective source of legitimacy (Dornbusch and Scott 1975; Johnson et al. 2006; Zelditch and Walker 1984). Throughout the pandemic, health authorities and their response to the crisis were a prominent topic of discussion in the media and on social media platforms, with many people publicly stating their support or lack thereof. Though jolts might weaken perceived consensus about an authority by stimulating debate, individuals may still look to others' support for the authority as evidence to consider

alongside instrumental, relational, and moral assessments. However, few studies examine the extent to which beliefs about what others think, alongside the three bases, shape propriety. Furthermore, to my knowledge, none do so in the aftermath of a jolt when views of and support for an authority are mixed. Thus, I examine how perceived endorsement (i.e., support by others/peers) of health authorities also contributes to propriety assessments.

As legitimacy is crucial for authorities because of its implications for compliance, I ultimately assess how propriety evaluations of public health officials and doctors/healthcare providers in the aftermath of the pandemic contribute to individuals' intentions to comply with each in the case of a future health crisis. While much work demonstrates the legitimacy and compliance link (e.g., Tyler 1997, 2002, 2010), less work examines intentions to comply with an authority in the aftermath of a jolt and subsequent (re)evaluation of propriety.

Figure 1 depicts my theoretical model, which uniquely brings together hypothesized pathways from instrumental, relational, moral, and collective considerations to propriety and from propriety, in turn, to future compliance intentions. Few studies, if any, have offered such an encompassing model. Data to test my hypotheses come from a survey of 1,516 adults living in the U.S collected online in March 2022.

[Figure 1 about here.]

LEGITIMACY AFTER AN EXOGENOUS JOLT

Long established authorities often benefit from perceived collective support and acceptance. Individuals typically view such authorities as natural, taken-for-granted, and as "just the way things are," and the authorities benefit from a lack of questions and general deference to their decisions that presumed collective support provides (Suchman 1995). Furthermore, because individuals are motivated to conserve cognitive energy, they are likely to passively adopt the view they believe is most widely shared by others (Bitektine and Haack 2015). Unless prompted to do so, individuals tend to rely on their beliefs about others'

support for an authority to inform their own view (i.e., propriety) of the authority as right and proper (Bitektine and Haack 2015; Tost 2011; Zelditch and Walker 1984).

However, when confronted with unexpected, conspicuous, or conflicting information, individuals transition from quick, automatic information processing based on pre-existing schemas and categories to more effortful, data-driven evaluations (Fiske and Taylor 2017). Thus, major changes to the status quo potentially create a context in which individuals are likely to move from passive acceptance of existing authorities based on perceived collective support to critical assessment of their propriety based on certain standards (Bitektine and Haack 2015; Tost 2011). As "sudden and unprecedented events," environmental jolts disrupt the social environment and established ways of doing things in ways that prompt individuals to more actively examine the existing social order (Meyer 1982: 515).

Jolts also generate instability and change to which existing authorities, whether individuals or institutions, must adapt (Meyer 1982). As authorities adapt to jolts, they may violate expectations, thereby gaining new attention and raising questions about their own legitimacy (Greenwood et al. 2002; Meyer 1982; Sine and David 2003). For example, as leaders in the pandemic response, public health officials' interference with individuals' daily lives shifted dramatically from that of non-crisis times. To curb the spread of the virus, they put forward behavioral guidelines and mandates that significantly restricted social activities, including those relating to work and education. Physicians and other healthcare practitioners also had to adapt to the pandemic in ways that violated expectations about how they normally interact with patients. For example, at the start of the pandemic, most healthcare providers quickly transitioned from in-person to telehealth appointments and access to care was diminished and delayed for many patients (Hoff and Neff 2023). Additionally, some medical practices adapted to financial struggles (due to patients' fear of visiting a doctor's office) by

proactively calling patients to convince them to be seen to keep their practice afloat (Hoff and Neff 2023).

In the aftermath of a jolt that draws attention to an authority as it adapts to new challenges, conflicting opinions about the authority may also arise, stimulating public debates and disagreements among "validating bodies" such as the news media, government or judicial officials, and other relevant experts (Bitektine and Haack 2015). During the pandemic, the effectiveness of health guidelines recommended by public health officials and doctors/healthcare providers, as well as the trustworthiness of their information, were the source of constant debate among politicians, journalists, and other social commentators, as well as the public. Such processes reduce the taken-for-grantedness and perceived collective support of an authority. Faced with uncertain and conflicting views of the authority at the collective level, individuals will rely less on their beliefs about what others think and turn a more critical eye to authorities they may have long taken for granted. (Bitektine and Haack 2015; Tost 2011). In doing so, they may evaluate their personal support and approval (i.e., propriety) of authorities based on specific criteria.

Bases of Propriety Assessments

Previous work identifies three bases by which individuals assess propriety of authorities. People evaluate propriety based on instrumental concerns when considering the extent to which an authority provides the individual with desired outcomes or promotes the individual's interests (e.g., Hollander and Julian 1970). According to resource-based models of legitimacy (Blau 1964; Dansereau, Graen, and Haga 1975), authorities that provide value to the individual through favorable resources or material benefits are more likely to be viewed as legitimate. Individuals are also more likely to accept and support an authority when they believe the authority will meet the needs and enhance the wellbeing of the individual (Dowling and Pfeffer 1975). A component of instrumental evaluations pertains to

the perceived competence and effectiveness of authorities—qualities indicating the extent to which an authority will be able to provide individuals with desired outcomes and resources.

Relational (identity-based) models of legitimacy (e.g., Tyler 1997, 2001) theorize that individuals evaluate propriety based on how authorities treat them. Individuals want to be well-regarded within their groups. Thus, when authorities convey to individuals that they are valued members of the group, they boost their sense of self-worth, strengthening their social identities and sense of belonging in the group. The resulting increased commitment to and identification with the group, in turn, enhances the individual's assessment of the authority's propriety. Much work on relational models of legitimacy focuses on authorities' procedural and interactionally just treatment of subordinates (Hegtvedt, Johnson, and Watson 2016). For example, individuals assess the extent to which authorities use fairness in decision-making procedures by listening and allowing them to voice their concerns (Leventhal, Karuza, and Fry 1980), as well as the extent to which they treat them with dignity and respect (Bies 2015). Both behaviors indicate authority care and concern for subordinates, which enhances propriety (Hegtvedt et al. 2022; Tyler 1997, 2001).

Individuals also assess propriety based on whether authorities operate with integrity and abide by ethical standards and culturally shared moral values (Scott 2001; Suchman 1995). Authorities gain propriety on moral grounds when their actions, goals, and characteristics are deemed right and good within the social context. For example, organizations (Dowling and Pfeffer 1975), judicial authorities (Feather and Boeckmann 2013), and law enforcement agents (Hamm, Trinkner, and Carr 2017) gain propriety when their values align with those held by the broader society in which they operate. Misalignment in values, in contrast, can significantly undermine propriety. Additionally, in contrast to instrumental and relational evaluations about whether the authority benefits the evaluator,

moral evaluations center on whether the authority benefits society in general and promotes the common good (Suchman 1995).

Most work on factors shaping legitimacy focuses on only one of these bases. Recent empirical work, however, illustrates how individuals simultaneously assess authority legitimacy on multiple bases. For example, Hegtvedt et al. (2022) find that subordinates evaluate the legitimacy of workplace authorities on relational and instrumental grounds by assessing the extent to which they use fairness in decision-making procedures and power benevolently by providing workers with resources and opportunities to help them do their jobs. Similarly, in a qualitative study of a company undergoing major organizational change, Huy, Corley, and Kraatz (2014) found that middle managers (MMs) negatively assessed their new top management team (TMT) along all three bases, which then diminished their views of the TMT's legitimacy. The MMs viewed the new TMT as ineffective and incompetent (instrumental), unappreciative and disrespectful toward MMs (relational), and failing to uphold the company's ethical standards (moral), signaling that the new leaders lacked legitimacy and fueling resistance to their change efforts.

While individuals may assess propriety on each of these bases, *which* bases are present and matter most in propriety assessments depends on the dyad in question (Hegtvedt and Johnson 2009; Schoon 2022; Tost 2011). The expectations embedded in the relationship between a particular subordinate and authority will inform the extent to which individuals view each base as core to their support and approval of the authority (see Schoon 2022). For example, relational concerns may be more pertinent to propriety evaluations of an individual's immediate supervisor with whom one personally interacts, while moral or instrumental concerns may weigh more heavily in evaluations of a company's board of directors. Similarly, the nature of the social context (for example, whether characterized by change or stability) may influence which bases are relevant. In what follows, I offer specific

arguments about the impact of each base in propriety assessments of health authorities based on the expectations embedded in the relationships between public health officials and doctors/healthcare providers and the public, as well as the unique circumstances of the pandemic context.

BASES SHAPING THE PROPRIETY OF HEALTH AUTHORITIES DURING THE COVID-19 PANDEMIC

During the pandemic, instrumental concerns likely played a prominent role in propriety assessments of both public health officials and individuals' doctors and other healthcare providers, as individuals evaluated health authorities based on their perceived effectiveness and the extent to which they served or failed to serve individuals' valued interests and goals. For example, the pandemic brought to center stage the ability (or inability) of public health officials to competently protect the health of the population through providing accurate information about the virus, recommending effective policies and behavioral strategies to prevent its spread, and developing and disseminating vaccines. The effectiveness of public health officials was especially crucial to individual interests as the virus had implications for the health and survival of self and close others. Additionally, the public health response to the crisis produced variation in the (un)favorability of outcomes relating to employment, education, and other valued interests and goals.

Individuals also likely evaluated their own doctors and healthcare providers based on their competence and effectiveness in delivering care during the pandemic. In general, patients evaluate how well their healthcare providers do their jobs. For example, they consider whether they are thorough in examinations, careful and competent in administering treatment, able to explain things clearly to patients, and accessible to patients in need (LaVeist and Nuru-Jeter 2002; Pescosolido, Tuch, and Martin 2001). As avenues for treatment changed during the pandemic (such as in-person to telehealth), individuals likely

assessed the extent to which their providers continued to effectively deliver the care that they needed. Furthermore, while public health officials provided general guidance and information about the virus, individuals looked to their own doctors for treatment for infection and advice based on their personal health status. Thus, I predict:

> *Hypothesis 1*: Individuals' evaluations of public health officials and their doctors and other healthcare providers on instrumental bases are positively related to assessments of the propriety of the authorities.

Relational elements also form a component of the expectations embedded in the relationship between health authorities and the communities and individuals whose health they promote. Beyond absence of disease, a central goal of public health as a discipline is to enhance the mental, physical, and social wellbeing of the population, which indicates their concern and care for members of the population (Gatseva and Argirova 2011). Additionally, a principle within public health ethics is the provision of opportunities for input ("voice") by community members on public health policies and programs that will affect them, a key element of procedurally just treatment (Public Health Leadership Society 2002). Furthermore, the CDC "pledge" to the American people to "treat all persons with dignity, honesty, and respect" illustrates public health officials' commitment to interactionally just treatment (CDC 2018). In the pandemic context characterized by instability and uncertainty, the American public looked to public health officials to care for their wellbeing, thus increasing the salience of relational concerns. Much public health messaging encouraging individuals to comply with behavioral guidelines also appealed to values relating to caring for the safety and wellbeing of others.

Similarly, explicit in the role of healthcare providers is the duty to care for the wellbeing of patients. However, unlike relationships between individuals and public health officials, relationships between patients and their doctors/healthcare providers are personal.

Additionally, patients often seek care from healthcare providers when they are vulnerable and suffering due to illness or other chronic conditions, which likely heightens the importance of relational concerns in shaping evaluations of their propriety. In general, patients consider the extent to which physicians treat them with dignity, respect, and sensitivity, listen well to their health problems, and involve them in discussions and decision-making about their treatments (Cooper-Patrick et al. 1999; LaVeist and Nuru-Jeter 2002). During the pandemic, such relational considerations may have been even more salient to individuals as they sought treatment from their healthcare providers for COVID-19 infections and advice for care of close others. Furthermore, due to the central relational component in the doctor/patient relationship, individuals likely place a higher weight on relational considerations when evaluating the propriety of doctors/healthcare providers as opposed to public health officials.

> *Hypothesis 2a*: Individuals' evaluations of public health officials and their doctors and other healthcare providers on relational bases are positively related to assessments of the propriety of the authorities.
>
> *Hypothesis 2b*: Relational bases matter more in evaluations of the propriety of individuals' doctors and other healthcare providers than in evaluations of public health officials.

Public health officials in the U.S. view the "mandate to assure and protect the health of the public [as] an inherently moral one" (Public Health Leadership Society 2002: 5) and pledge to "place…benefits to society above…benefits to our institution*"* (CDC 2019), which highlights the potential impact of the moral base of propriety evaluations. Moreover, public health agencies commit to holding themselves to ethical standards and accountability regarding their research methods, services, information sharing, and their use of power (CDC 2018; Public Health Leadership Society 2002; USPHS n.d.). To earn the public's trust, public health authorities and organizations especially prioritize providing true and accurate

information to the public, and evaluating policies based on unbiased use of the scientific method. Similarly, the American Medical Association's *Code of Medical Ethics* recognizes physicians' care for patients as "fundamentally a moral activity," rooted in physicians' "ethical responsibility to place patients' welfare above the physician's own self-interest or obligations to others" (American Medical Association. n.d.). The historic commitment of healthcare providers to care for all patients in need, regardless of personal risk to themselves, has contributed to the public respect and esteem of the medical profession (Huber and Wynia 2004). Furthermore, in receiving care, patients must trust that their providers are acting with integrity, i.e., not taking unnecessary risks and not recommending surgery unless there are no other treatment options (Pescosolido, Tuch, and Martin 2001).

The pandemic likely heightened the importance of evaluations of both public health officials' and healthcare providers' honesty and integrity, as individuals looked to them for information about the novel virus and guidance on how to avoid or handle infection. A wide array of information (and "misinformation") about the virus created what the World Health Organization termed an "infodemic" that "makes it hard for people to find trustworthy sources and reliable guidance when they need it" (Pan American Health Organization 2020). Thus, individuals likely assessed the integrity and honesty of health authorities in sifting through information sources. Public debates about the effectiveness of health guidelines and their implications for other areas of life (such as jobs, education) may have also prompted moral evaluations regarding the extent to which health guidelines promoted social welfare.

> *Hypothesis 3*: Individuals' evaluations of public health officials and their doctors and other healthcare providers on moral bases are positively related to assessments of the propriety of the authorities.

THE ROLE OF PERCEIVED ENDORSEMENT IN SHAPING PROPRIETY ASSESSMENTS

In evaluating an authority, individuals also consider the extent to which others support the authority. Perceived support by others (endorsement) is a source of collective legitimacy that reinforces the idea that the existing social order is widely accepted, appropriate, and natural (Weber [1924] 1978; Yoon and Thye 2011; Zelditch and Walker 1984). Observations of others' support for an authority can, in turn, can enhance individuals' personal view of the authority as right and proper (Yoon and Thye 2011). Furthermore, individuals may readjust their assessment of an authority based on what they think others around them think because they want to be accepted by others and/or because others' opinions cast doubt on their own (Asch 1951; Albarracin and Shavit 2018). For example, when individuals believe that others support an authority, they may be more willing to accept unfair behavior by an authority and be less certain about their own view of the behavior as unfair (Hegtvedt and Johnson 2000; Johnson et al. 2016). Experimental studies show that perceived endorsement for authorities by peers reduces subordinates' negative emotions toward authorities with whom they disagree or who unjustly distribute outcomes (Johnson et al. 2016; Johnson, Ford, Kaufman 2000).

As mentioned previously, jolts can diminish the taken-for-grantedness of established authorities, especially when conflicting opinions arise that undermine perceptions that endorsement of the authority is unanimous (Bitektine and Haack 2015). Although the effect of endorsement on propriety assessments may be weakened in such cases (thus prompting people to assess propriety along certain criteria), individuals often consider what others think when forming their own judgements, especially under conditions of uncertainty (Albarracin and Shavit 2018; Sherif 1935). For example, when unsure about how to interpret or behave in a situation, individuals often look to social norms and the behavior of others to determine

what is appropriate (Cialdini 2001). Similarly in the absence of an objective measure by which to evaluate one's opinion, individuals compare their own views with those of others to gauge the accuracy of and validate their own view (Cialdini and Goldstein 2004; Festinger 1954).

Because of the plethora of conflicting information and misinformation (characteristic of the "infodemic") during the pandemic, individuals likely observed others' support (or lack of support) and opinions about health authorities as evidence to consider in forming their own views. Additionally, the effectiveness of the pandemic response (including health guidelines and protocols) and the trustworthiness of information provided by health authorities were the source of constant media debate. In this context, individuals likely took perceived collective support for health authorities into account when assessing their own views of those authorities as right and proper. However, they may have given more weight to their personal evaluations of health authorities along instrumental, relational, and moral bases, as endorsement was highly mixed.

> *Hypothesis 4*: Perceived endorsement of public health officials and individuals' doctors and other healthcare providers by others will enhance assessments of the propriety of such authorities.
>
> *Hypothesis 4a*: The impact of instrumental, relational, and moral bases on individuals' assessments of the propriety of health authorities is greater than perceived endorsement of those authorities.

While previous work suggests that the relevance of instrumental, relational, and moral considerations may vary depending on the specific evaluator and authority in question, little work investigates how the dyad might shape the importance of perceived collective support in individuals' propriety evaluations. Who or what someone is evaluating may determine how much weight they give to their beliefs about what other think. For example, in contrast to

public health officials, individuals interact personally with their own doctors and other healthcare providers. They may thus rely more on such interpersonal experiences with their healthcare providers to inform their propriety assessments than others' opinions. Conversely, as personal contact with public health officials is less common, individuals may give more consideration to perceptions of others' support.

> *Hypothesis 5*: The impact of perceived endorsement on individuals' propriety assessments of public health officials is greater than the impact of perceived endorsement on individuals' propriety assessments of their doctors or other healthcare providers.

LEGITIMACY OF HEALTH AUTHORITIES AND COMPLIANCE INTENTIONS IN A FUTURE HEALTH CRISIS

Factors contributing to behavioral intentions are of interest to social and health psychologists due to the theoretical and empirical links between intentions and actual behavior (e.g., Ajzen 1991; Fishbein and Ajzen 1975; for meta-analyses see Godin and Kok 1996; Sheeran 2002; Webb and Sheeran 2006). For example, studies in health research often focus on the impact of interventions on attitudes about and intentions to perform (or avoid) health behaviors, as these intentions in turn affect behavioral change (e.g., Gagnon and Godin 2000; Steffen 1990). Though a number of studies demonstrate the links between perceived legitimacy of authorities and compliance with authorities' directives (see Johnson et al. 2006), studies rarely investigate how evaluations of an authority's legitimacy after a jolt inform intentions to comply with the authority in the future.

In general, legitimated authorities enjoy compliance with their directives and deference to their decisions, which contributes crucially to their effectiveness (Tyler 2010). Propriety enhances the belief that complying with an authority is not only an obligation, but also the right and appropriate thing to do (Dornbusch and Scott 1975). Furthermore, when

individuals personally support and approve of an authority as right and proper, they are more likely to voluntarily help and cooperate with authorities (Tyler and Jackson 2014), whereas lack of propriety can motivate noncompliance and open resistance (Huy et al. 2014). Assessments of authorities' propriety after a jolt, then, are likely to shape intentions to comply with them in the future. I predict:

> *Hypothesis 6*: Positive propriety assessments of public health officials and individuals' doctors and other healthcare providers is positively related to intentions to comply with each in the case of a future pandemic or health crisis.

Perceived collective support for an authority also enhances compliance and may do so regardless of one's personal views, because people want to avoid sanctions from upper authorities or peers (Dornbusch and Scott 1975; Zelditch and Walker 1984). Thus, perceived endorsement may independently affect intentions to comply with authorities outside of its effect through enhancing propriety. Additionally, individuals may enact behaviors that they think others accept in order to gain social approval, even if they do not personally agree with those behaviors (Cialdini and Goldstein 2004). Perceptions that others endorse health authorities may enhance future intentions to comply with health guidelines regardless of propriety, as behavioral compliance with health guidelines during the pandemic became increasingly moralized (Bor et al. 2023; Kraaijeveld and Jamrozik 2022).

> *Hypothesis 7*: Perceived endorsement of public health officials and individuals' doctors and other healthcare providers is positively related to intentions to comply with each in the case of a future pandemic or health crisis.

When individuals critically evaluate authorities' propriety after a jolt, they may view the bases by which they do so (instrumental, relational, and/or moral) as relevant to behavioral intentions with respect to that authority. For example, assessments of public health officials' as competent and effective in their response to the COVID-19 pandemic likely

enhance individuals' intentions to comply with their directives in a future crisis because they expect public health officials to be similarly effective in facing another health threat. In contrast, individuals who negatively assess public health officials on instrumental grounds may not plan to cooperate with them in the future because they doubt their capability to offer directives that effectively protect population health. This same logic also applies to evaluations of individuals' doctors and other healthcare providers.

Similarly, individuals may be more likely to intend to comply with health authorities who listen to them and treat them with dignity and respect (relational). Such positive treatment, in conveying authorities' concern for the wellbeing of the population and individual patients (for public health officials and doctors/healthcare providers, respectively), may boost individuals' willingness to cooperate with those authorities in the future. Individuals may also assume, based on positive relational assessments, that the authorities' future directives will be put forward with the intention to further care for their wellbeing. Finally, if individuals perceive that health authorities abide by ethical standards and act for the welfare of society, they may also expect them to operate with similar integrity in the future. Thus, positive moral evaluations likely enhance future compliance intentions, whereas negative evaluations based on moral considerations may reduce them.

Given these potential linkages, I explore two relationships. The first pertains to whether positive evaluations of health authorities along each of these three bases enhance future compliance intentions with respect to those authorities. The second scrutinizes propriety as a mediating mechanism in this process.

METHODS

Data

Data for this study come from an original survey collected online from 1,516 U.S. adults in spring 2022 in partnership with a university-based survey center and Marketing

Systems Group. Respondents were recruited from various non-probability online panels to construct a sample that reflects the national distribution of characteristics of U.S. adults over age 18.

Study Participants

Respondents include U.S. residents between the ages of 18-91. As shown in Table 1, the sample consists of 737 women (48.71%) and 776 men (51.29%). The average age of respondents is 52 with a standard deviation of 15. Most respondents identified as white (83.23%). The median annual income was between $50,000-$74,999 based on seven response categories. The median education level was a bachelor's degree based on six response categories.

[Table 1 about here]

Measures

To capture the focal dependent variable, propriety, respondents indicated the extent to which they see "public health officials (such as the Centers for Disease Control and Prevention [CDC] or Health Department)" or "your doctors or other healthcare providers" as "the right and appropriate people to look after the health and wellbeing of the population in general." They also indicated the extent to which they "support decisions by" public health authorities and doctors/providers "even when you don't understand the reasons" and "believe that you should comply with directives from" public health authorities and doctors/healthcare providers. Response categories range from 1 = Not at all to 7 = A great deal. Alpha reliabilities for the three-item propriety scales for public health officials and doctors/healthcare providers are 0.94 and 0.89 respectively.[1]

To assess respondents' intentions to comply with health authorities in the future, respondents were asked, "In the case of a future pandemic or threat to national public health, how likely would you be to comply with directives from public health officials (such as the

CDC or Health Department)?" or "Your doctors or other healthcare providers?" Response categories include 1 = Extremely unlikely; 2 = Moderately unlikely; 3 = Slightly unlikely; 4 = Neither likely nor unlikely; 5 = Slightly likely; 6 = Moderately likely; and 7 = Extremely likely.

I use multiple items to capture respondents' evaluations of public health authorities on instrumental, relational, and moral bases. Respondents indicated the extent to which they disagree or agree with a series of statements about public health officials with the following response categories: 1=Strongly disagree, 2=Disagree, 3=Somewhat disagree, 4=Neither agree nor disagree, 5=Somewhat agree, 6=Agree, and 7=Strongly agree. Three items form the instrumental scale (alpha reliability = .92): Public health officials "do their jobs in an effective manner," "meet the real needs of the community," and "protect and improve the health of the community." The relational scale consists of the following three items (alpha reliability = .91): Public health officials "care about the well-being of people in the community," "treat individuals in the community with dignity and respect," and "genuinely listen to members of the community." Finally, public health officials "approach their job with integrity and honesty," "promote the common good through their work," and "abide by ethical principles" constitute the moral scale (alpha reliability = .90).

To capture respondents' evaluations of their doctors and healthcare providers, I adapt some of the above items to reflect more accurately the nature of a patient/doctor relationship. The items forming the instrumental scale include (alpha reliability = .92): Your doctor or other healthcare providers "do their jobs in an effective manner," "meet your real needs as a patient," and "protect and improve your health." I similarly adapt items in the relational scale (alpha reliability = .92): Your doctor or other healthcare providers "care about your well-being," "treat you with dignity and respect," and "genuinely listen to you." I use the same items to assess the moral basis of propriety for both authorities (alpha reliability = 0.90).

Items to assess perceived endorsement parallel the propriety items but ask about respondents' perceptions about what *other people* think. On the same 7-point scale, study participants responded to: "To what extent do you believe that other people in general…?" see public health officials (doctors/healthcare providers) as the right and appropriate people to look after the health and wellbeing of the population, support decisions by public health officials (doctors/healthcare providers) even when they don't understand the reasons, and believe that they should comply with directives from public health officials (doctors/healthcare providers). The alpha reliabilities for the endorsement scales for public health officials and doctors/healthcare providers are 0.89 and 0.85, respectively.

I also include a measure to assess generally whether the pandemic jolt prompted individuals to reevaluate their views of the legitimacy of health authorities during the pandemic. Respondents were asked, "Thinking back to the start of the COVID-19 pandemic (March 2020) compared to now, has your view of the legitimacy of Public Health officials (such as the CDC or Health Department) [your doctors or other healthcare providers] decreased, stayed about the same, or increased?" (1 = Decreased a lot; 2 = Decreased somewhat; 3 = Stayed about the same; 4 = Increased somewhat; 5 = Increased a lot).

Demographic controls include gender (0 = man, 1 = woman), age in years, and race (0 = white; 1 = non-white). Respondents indicated their highest level of education and income brackets (see Table 1 for specific categories). Respondents also reported whether they have any underlying health conditions that increase the risk of severe illness from COVID-19 (1 = No, 2 = Maybe, 3 = Yes) and whether they live with someone over the age of 65 and/or has underlying health conditions that increase the risk of severe illness from COVID-19 (1 = No, 2 = Maybe, 3 = Yes).

Because many aspects of the pandemic in the U.S. were politicized, I also control for respondents' political orientation to isolate the real effects of instrumental, relational, and

moral evaluations, as well as endorsement, on propriety outside of the potential effects of political partisanship. The response categories include: 1 = extremely liberal, 2 = fairly liberal, 3 = somewhat liberal, 4 = lean more toward the liberal side, 5 = don't lean to either side, 6 = lean more toward the conservative side, 7 = somewhat conservative, 8 = fairly conservative, and 9 = extremely conservative.

Analysis Strategy

I first perform univariate analysis to examine the assumption that the pandemic jolt instigated changes (increase or decrease) in people's perceptions of the legitimacy of public health officials and their doctors/healthcare providers. I then use path analysis with observed variables in Stata 15.1 to assess my hypotheses. Path analysis allows examination of the presence of significant direct effects of instrumental, relational, and moral bases and endorsement on propriety (*Hypotheses 1-5*), as well as direct effects of propriety and endorsement on future compliance intentions (*Hypothesis 6 and 7*). I also examine significant indirect and total effects of the independent variables on future compliance intentions to explore whether these operate through propriety to shape such intentions. I run separate models for public health officials and doctors/healthcare providers, both of which include controls.

I use the following indices to assess overall model fit: model chi-square, Bentler Comparative Fit Index (CFI; Bentler, 1990), Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), and Steiger-Lind Root Mean Square Error of Approximation (RMSEA; Steiger, 1990). A model provides a good fit to the data with a model chi-square with a *p* value greater than .05, CFI greater than .90, TLI greater than .95, and RMSEA less than .05. I estimated the models using maximum likelihood estimation with missing values and report standardized parameter estimates.

RESULTS

Univariate Analyses

Table 2 presents means and standard deviations of key independent and dependent variables. The table also includes the measure for the extent to which individuals' views of the legitimacy of health authorities have changed since the start of the pandemic in March 2020. A majority of respondents reported that their views of public health officials and their doctors/healthcare providers either increased or decreased during the pandemic (69.3% and 58.11%, respectively), indicating that the pandemic jolt did stimulate legitimacy (re)assessments of both authorities. Specifically, 18.35% reported that their view of public health officials' legitimacy increased a lot, and 23.89% reported that it increased somewhat. Conversely, 15.51% of respondents reported that their view of public health officials decreased a lot whereas 11.55% reported that it decreased somewhat. A minority (30.7%) reported that their views of the legitimacy of public health officials stayed about the same.

[Table 2 about here.]

Regarding the legitimacy of individuals' doctors and other healthcare providers, only 2.84% of respondents reported that their views reflect a decrease of a lot, and 6.07% report somewhat of a decrease. In contrast, 26.72% reported that their views of their doctors/healthcare providers' legitimacy increased somewhat, and 22.49% reported that it increased a lot. In comparison to public health officials, a larger minority of respondents reported that their views of the legitimacy of their doctors/healthcare providers stayed about the same (41.89%). These patterns indicate that individuals actively (re)evaluated the legitimacy of both health authorities following the pandemic jolt and that overall legitimacy perceptions improved.

Path Analysis

Table 3 presents the results of the path analyses, with structural path coefficients for public health officials and doctors/healthcare providers presented in Models 1 and 2, respectively. Fit indices for Model 1 (public health officials) indicate a good fit between the model and the data: $\chi 2$ (6) = 11.230, p=0.082, CFI=0.999, TLI=0.994, RMSEA=0.024 [CI: 0.000-0.045]. Similarly, Model 2 (doctors/healthcare providers) fits the data well: $\chi 2$ (6) = 5.872, p=0.438, CFI=1.000, TLI=1.000, RMSEA=0.000 [CI: 0.000-0.033]. Table 3 includes standardized path coefficients for the direct, indirect, and total effects in each model.

[Table 3 about here.]

In support of *Hypothesis 1*, positive evaluations of public health officials and doctors/healthcare providers on instrumental grounds have positive and significant effects on propriety (β=.27, p<.001 and β=.23, p<.001, respectively). While relational evaluations do not significantly contribute to propriety of public health officials, they do significantly enhance views of doctors/healthcare providers' propriety (β=.12, p<.01), partially confirming *Hypothesis 2*. This pattern also confirms *Hypothesis 2b*, predicting that relational bases matter more in evaluations of doctors/healthcare providers than public health officials. Moral evaluations positively and significantly affect propriety of both public health officials and doctors/healthcare providers, providing support for *Hypothesis 3* (β=.35, p<.001 and β=.18, p<.001, respectively).

Hypotheses 4, *4a*, and *5* offer predictions about the effect of perceived endorsement on propriety for which I find partial support. First, endorsement positively and significantly shapes propriety for both authorities indicating support for *Hypothesis 4* (public health officials: β=.32, p<.001 and doctors/healthcare providers: β=.40, p<.001). *Hypothesis 4a* predicted that endorsement would have a lesser effect on propriety than instrumental, relational, and moral bases. For public health officials, the effect of endorsement on propriety is greater than that of instrumental and relational evaluations but lesser than that of moral

evaluations. The effect of endorsement on propriety assessments of doctors/healthcare providers is greater than the impact of instrumental, relational, and moral bases, disconfirming *Hypothesis 4a*. Finally, results also disconfirm *Hypothesis 5* as endorsement has a stronger effect on propriety assessments of doctors/healthcare providers than public health officials.

I additionally investigated how propriety and endorsement each directly contribute to future compliance intentions with health authorities (*Hypotheses 6* and *7*). In support of *Hypothesis 6*, propriety significantly enhances future compliance intentions with public health officials (β=.70, p<.001) and doctors/healthcare providers (β=.59, p<.001). Endorsement also has a significant direct effect on compliance intentions, but in contrast to *Hypothesis 7*, the effect is negative for both public health officials and doctors/healthcare providers (β=-.10, p<.001 and β=-.08, p<.001, respectively).

To explore whether positive evaluations of authorities on instrumental, relational, and moral bases affect future compliance through propriety, I examine the presence of significant indirect and total effects. For public health officials, instrumental and moral bases have significant indirect effects (β=.19, p<.001 and β=.24, p<.001, respectively) on future compliance intentions through propriety, as well significant total effects (β=.30, p<.001 and β=.31, p<.001, respectively). The instrumental base also maintains a smaller direct effect on future compliance intentions (β=.11, p<.05), outside of its effect mediated by propriety, whereas propriety full mediates the effects of the moral base. Instrumental, relational, and moral bases have significant indirect effects on intentions to comply with doctors/healthcare providers (β=.13, p<.001; β=.07, p<.01; and β=.23, p<.001, respectively), all of which are fully mediated by propriety. The instrumental and moral bases also have significant total effects on future compliance intentions with doctors/healthcare providers (β=.21, p<.01 and β=.11, p<.001, respectively), while the total effect of relational evaluations is not significant.

Endorsement also indirectly enhances compliance intentions with both public health officials (β=.22, p<.001) and doctors/healthcare providers (β=.23, p<.001) through propriety. The opposite mediated and direct effects of endorsement on compliance intentions indicates inconsistent mediation (MacKinnon, Krull, and Lockwood 2000). Despite the negative direct effects of endorsement, its total effects on future compliance intentions are positive for both public health officials (β=.13, p<.001) and doctors/healthcare providers (β=.15, p<.001). Overall, the models explain about 64 percent of the variance in individuals' intentions to comply with public health officials (Adjusted R^2 =.64) and 46 percent of the variance in individuals' intentions to comply with doctors/healthcare providers (Adjusted R^2 =.46).

I also present path coefficients for political orientation in Table 3, as it may be of interest owing to the politicized nature of the pandemic response. A more conservative political orientation is associated with lower assessments of the propriety of public health officials (β=-.15, p<.001) and doctors/healthcare providers (β=-.11, p<.001). Political orientation also negatively affects future compliance intentions with both public health officials and doctors/healthcare providers directly (β=-.11, p<.001 and β=-.19, p<.001, respectively) and indirectly through diminishing views of their propriety (β=-.10, p<.001 and β=-.07, p<.001, respectively). These patterns indicate that a more conservative political orientation reduces the likelihood of future compliance.

DISCUSSION

The COVID-19 pandemic brought U.S. health authorities leading the response to the health crisis under increased attention and scrutiny. Though both public health officials and doctors/healthcare providers are longstanding fixtures in American society, environmental jolts of such magnitude can prompt individuals to evaluate more actively the legitimacy of authorities they have long taken for granted (Bitektine and Haack 2015; Tost 2011). I examined whether the pandemic jolt had such an effect on individuals' perceptions of health

authorities by producing changes in their views of them as legitimate. My study then focused on the bases by which individuals evaluated the propriety of health authorities two years into the pandemic and explored the implications of these bases for intentions to comply with them in the case of a future pandemic or health crisis. I uniquely investigate how factors shaping propriety differ for public health officials and individuals' doctors/healthcare providers. Additionally, my data indicate the relative impact of the bases of propriety compared to "what others think." Study results provide insight on the consequences of a "jolt" for legitimacy, the importance of an integrative model of legitimacy, the extent to which endorsement matters, and the way propriety evaluations mediate behavioral intentions.

Findings reveal that views of health authorities' legitimacy *did* change during the pandemic and that changes in such views were, overall, more positive than negative. Views of the legitimacy of public health officials improved among 44% of respondents in comparison to 28.86% of respondents who reported a decrease in legitimacy. An even greater majority reported an increase in views of the legitimacy of their doctors and healthcare providers (49.21%) in comparison to those reporting a decrease (8.91%). Theoretical work on the impact of environmental jolts on the legitimacy of existing authorities implies that such events reduce perceived legitimacy at the individual-level by diminishing the extent to which authorities are taken-for-granted and by increasing scrutiny of authorities as they adapt to changes (Greenwood et al. 2002; Meyer 1982; Sine and David 2003). However, my study suggest that jolts may also boost the legitimacy of existing authorities. Positive assessments of authorities' propriety based on specific criteria (rather than just taking them for granted) likely lead to higher estimations of the authorities, especially in a context of crisis and instability.

Lending support to integrative approaches to legitimacy, I find that instrumental, relational, and moral considerations shaped individuals' evaluations of health authorities'

propriety in the aftermath of the jolt (*Hypotheses 1-3*), but the presence and strength of each base for assessments of propriety depend on the authority in question. In assessing the propriety of public health officials, individuals consider their competence and effectiveness (instrumental) and the extent to which they do their jobs in an honest and ethical manner (moral). However, relational concerns do not significantly shape assessments of their propriety. Though concern for the wellbeing of the population and treatment of individuals with dignity and respect constitute core components of public health principles and ethics (CDC 2018; Public Health Leadership Society 2002), individuals may not consider these relevant to propriety because personal interaction with public health authorities is infrequent for most people. In contrast, when assessing individuals' own doctors or other healthcare providers, all three considerations contribute significantly to propriety. These findings illustrate the usefulness of integrative approaches to legitimacy stressing that individuals may evaluate authorities along more than one base. Findings also suggest that authorities must attend to different elements in their relationships with their subordinates to maintain their legitimacy.

Additionally, considering all three bases lends insight into what matters most for individuals in assessing authorities' propriety and how the salience of each base differs for specific authorities. For example, though identity models of legitimacy (e.g., Tyler 1997, 2001, 2010) emphasize the importance of relational concerns in legitimacy judgements, relational assessments are not relevant to the propriety of public health officials. Excluding instrumental and moral bases from the model, however, would have led to the inaccurate conclusion that relational concerns are a major factor in shaping their propriety. In fact, evaluations of public health officials' integrity and honesty (moral) matter most for public health propriety (even above their effectiveness [instrumental]), which may reflect the unique context of the pandemic characterized by uncertainty, instability, and (mis)information. In

contrast, for doctors/healthcare providers, relational concerns *do* matter for propriety assessments, likely because of the personal nature of the doctor/patient relationship. However, while fair and respectful treatment (relational) by doctors/healthcare providers boosts individuals' assessments of their propriety, instrumental concerns matter most for propriety, followed by moral, and lastly relational concerns. Such insights into the relevant effects of each base provided by the integrative approach to legitimacy may be useful for authorities looking to gain or maintain legitimacy.

Despite conflicting opinions and debates about health authorities during the pandemic, individuals' beliefs about others' endorsement of health authorities played a significant role in their own propriety evaluations (*Hypothesis 4*). Theoretical work on legitimacy evaluations after a jolt posits that inconsistency in perceived collective support for an authority prompts individuals to evaluate authorities according to specific criteria, rather than relying on perceived collective support (e.g., Bitektine and Haack 2015; Tost 2011). Thus, I expected that instrumental, relational, and moral evaluations of authorities would more strongly shape propriety than endorsement (*Hypothesis 4a*). Perceived endorsement, however, had a similar effect to that of moral evaluations on propriety for public health officials and a greater effect than the other bases for doctors/healthcare providers. This empirical pattern aligns with past work demonstrating the significant influence of perceptions about others' beliefs on one's own perceptions and evaluations (Albarracin and Shavitt 2018; Johnson et al. 2016; Zelditch and Walker 1984).

Additionally, I expected that, due to individuals' personal experience with their own doctors/healthcare providers, endorsement would factor less strongly in propriety evaluations of doctors/healthcare providers versus public health authorities (*Hypothesis 5*). However, endorsement is by far the strongest factor shaping propriety of doctors/healthcare providers. Perhaps individuals perceived others' endorsement of their own doctors/healthcare providers,

as a source of guidance, to be less divided than support for public health officials, which became increasingly polarized and politicized during the pandemic. The strong impact of perceived endorsement on propriety assessments awaits further scrutiny.

Ultimately both perceived propriety and endorsement of health authorities in the aftermath of the jolt strongly shape individuals' intentions to comply with them in the future, though not always in the expected direction. Overall, the models explain 64 percent of the variance in individuals' intentions to comply with public health officials and 46 percent of the variance in intentions toward doctors/healthcare providers. In line with previous research (Tyler 2010), propriety enhances compliance intentions with both health authorities. However, in contrast to empirical work demonstrating the positive relationship between endorsement and compliance (Walker et al. 1986), here endorsement has a negative direct effect on compliance intentions, outside of its positive effect mediated by propriety. The inconsistent pattern between mediated and direct effects may indicate a view that others' support for health authorities reduces ones' own responsibility to comply with their directives. Future work might examine whether endorsement has similar diverging effects (through propriety versus directly) on individuals' actual (rather than intended) compliance with health authorities. Additionally, in-depth interviews may shed light on *why* and in what contexts perceived endorsement might actually reduce compliance, a question that cannot be addressed with survey data.

Like endorsement, most factors enhancing propriety assessments also operate through propriety to enhance compliance intentions, indicating that the specific criteria by which individuals form their personal views of authorities as right and proper are also critical to their compliance with those authorities. Considering the effects of such factors on compliance intentions also reveals which bases enhance propriety but ultimately lack influence on compliance. Although positive relational evaluations of doctors/healthcare providers boost

their propriety, perceptions that healthcare providers value patients and are concerned for their wellbeing do not meaningfully motivate them to (intend to) comply with their directives, as evidenced by the absence of significant total effects. Future work might investigate how instrumental, relational, moral, and collective bases of propriety affect actual compliance behaviors, as the salience/strength of the effect of each assessment on compliance may depend on the social context and the nature of the compliance behavior. For example, beliefs that others support an authority may more strongly affect compliance behaviors that are observable by others. In contrast, positive relational assessments that enhance propriety by strengthening the individual's identification with and commitment to the group overseen by the authority may be more likely to motivate compliance behaviors that are less visible to others.

While I control for political orientation (and find that a more conservative orientation reduces propriety and compliance intentions for both health authorities), future work might investigate how political orientation impacts evaluations of health authorities along each of the bases I have considered here. Political leanings may influence where individuals get their information, whose opinions they respect and trust, and even their perceptions about others' support for health authorities. So, rather than operating alongside instrumental, relational, and moral bases, political orientation may play a role in individuals' evaluations along these bases, and which bases they deem important.

In addition, my sample consists of residents in the U.S. and their perceptions of U.S. health authorities. In other cultural contexts, the relative effects of each base on propriety may differ, depending on the expectations embedded in the relationships between the public and public health officials and doctors/healthcare providers. For example, in countries with more authoritarian governments, individuals may consider less the extent to which they

believe public health officials act with integrity and in the best interest of the people and place more weight on evaluations of their effectiveness in assessing propriety.

This study offered a novel investigation of the bases by which individuals form assessments of authorities' propriety after a major environmental jolt. Furthermore, I demonstrate how the importance of such bases varies depending on the authority in question. Future research might apply this integrative approach to legitimacy for a more wholistic understanding of what factors shape propriety assessments of other types of authorities, such as workplace supervisors or law enforcement agents.

ENDNOTES

1. In contrast to Chapter 2, here I treat propriety as a scale rather than as a latent factor. While I would prefer to treat propriety and endorsement as latent factors in this analysis, my sample size is not big enough to estimate a full structural equation model that includes both variables as latent factors, as well as the instrumental, relational, and moral scales.

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TABLES AND FIGURES

Table 3.1 Sample Characteristics

Variable	N	Mean/Median/%	Std. dev.	Min	Max
Sample Characteristics					
Female	1,513	48.71%		0	1
Age	1,506	52.53	15.32	18	91
Non-white	1,515	16.77%		0	1
Income	1,511	4		1	7
< $25,000		21.38%			
$25,000-34,999		11.45%			
$35,000-49,999		11.98%			
$50,000-74,999		16.02%			
$75,000-99,999		13.30%			
$100,000-149,999		16.55%			
> $150,000		9.33%			
Education	1,515	5		1	6
Less than high school		2.05%			
High school grad		21.12%			
Technical/vocational school		3.17%			
Some college / associate degree		23.50%			
Bachelor's degree		25.68%			
Graduate or professional degree		24.49%			
Presence of underlying conditions	1,444	1		1	3
No		53.46%			
Maybe		9.63%			
Yes		36.91%			
Living with someone 65+ or with underlying conditions	1,497	1		1	3
No		71.54%			
Maybe		2.67%			
Yes		25.78%			

Table 3.2 Means and Standard Deviations of Key Variables

Variable	Public Health Officials		Your doctors/ healthcare providers	
	Mean/Median/%	Std. dev.	Mean/Median%	Std. dev.
Legitimacy change	3		3.60	
Decreased a lot	15.41%		2.84%	
Decreased somewhat	11.55%		6.07%	
Stayed about the same	30.69%		41.89%	
Increased somewhat	23.89%		26.72%	
Increased a lot	18.35%		22.49%	
Propriety[a]	5.18	1.63	5.75	1.17
Endorsement	4.93	1.48	5.51	1.16
Instrumental base[b]	5.27	1.50	5.83	1.10
Relational base	5.21	1.50	5.83	1.23
Moral base	5.28	1.53	5.83	1.06
Future Compliance Intentions[c]	5.46	1.87	5.89	1.46

[a]Propriety and endorsement are additive scales, averaged by the number of items making up each scale (3). Scale items measure propriety assessments and perceived endorsement (respectively) of health authorities. Response categories range from not at all (1) to a great deal (7).

[b]Instrumental, relational, and moral bases are additive scales (also made up of 3 items each) measuring assessments of health authorities along each base. Response categories range from strongly disagree (1) to strongly agree (7).

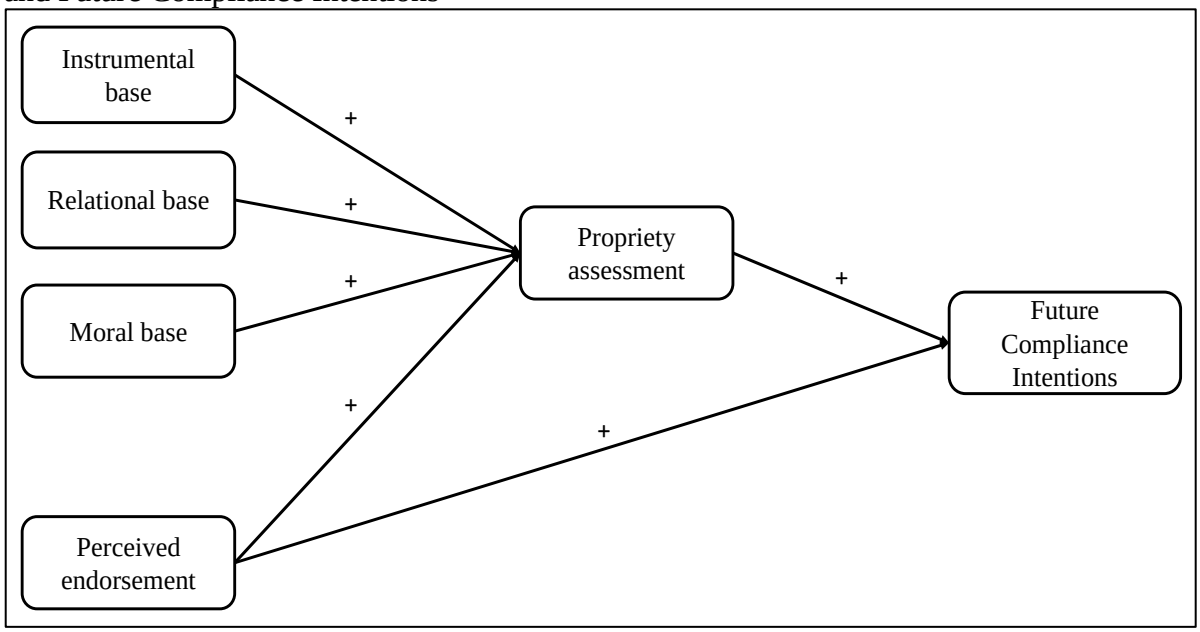
[c]Response categories range from (1) extremely likely to (7) extremely likely.

Table 3.3 Path Analysis Results of Effects of Instrumental, Relational, and Moral Bases and Endorsement on Propriety Assessments of and Intentions to Comply with Public Health Officials and Individuals' Doctors or other Healthcare Providers

	Public Health Officials		Your doctors or Healthcare Providers	
Structural Paths				
Direct Effects	β	Std. Err.	β	Std. Err.
→ Propriety				
Instrumental base	0.27***	0.04	0.23***	0.04
Relational base	-0.02	0.04	0.12**	0.04
Moral base	0.35***	0.04	0.18***	0.04
Endorsement	0.32***	0.02	0.40***	0.02
Political orientation (Conservative)	-0.15***	0.01	-0.11***	0.02
→ Future Compliance Intentions				
Propriety	0.70***	0.03	0.59***	0.03
Instrumental base	0.11*	0.05	0.07	0.05
Relational base	-0.05	0.05	0.01	0.05
Moral base	.07	0.05	0.00	0.05
Endorsement	-0.10***	0.02	-0.08**	0.02
Political orientation (Conservative)	-0.11***	0.02	-0.19***	0.02
Indirect Effects				
→ Future Compliance Intentions				
Instrumental base	0.19***	0.03	0.13***	0.03
Relational base	-0.01	0.03	0.07**	0.02
Moral base	0.24***	0.03	0.11***	0.02
Endorsement	0.22***	0.01	0.23***	0.02
Political orientation (Conservative)	-0.10***	0.01	-0.07***	0.01
Total Effects				
→ Future Compliance Intentions				
Instrumental base	0.30***	0.06	0.21**	0.06
Relational base	-0.06	0.06	0.08	0.06
Moral base	0.31***	0.05	0.11*	0.05
Propriety	0.70***	0.03	0.59***	0.03
Endorsement	0.13***	0.02	0.15***	0.02
Political orientation (Conservative)	-0.21***	0.02	-0.25***	0.02

Note. Error variances and covariances available upon request. All models control for respondent sex, race, age, income, education, presence of underlying conditions, and status of living with someone over the age of 65 or who has underlying conditions.
*p<.05, ** p<.01, *** p<.001

Figure 3.1 Conceptual Model of Effects of Each Legitimacy Base on Propriety Assessments and Future Compliance Intentions



CONCLUSION

The COVID-19 pandemic highlighted the importance of the perceived legitimacy of health authorities, as the success of many directives to curb the spread of the virus depended on individuals' voluntary compliance. As a major jolt, it also offered a unique opportunity to empirically investigate bases by which individuals assess the propriety of public health officials and doctors/healthcare providers. Understanding the pivotal role of the legitimacy of health authorities is especially important in light of the possibility of future pandemics or other health related crises that require national and international cooperation (Haileamlak 2022; Marani et al. 2021). Additionally, my work contributes theoretically to research on legitimacy processes in both social psychology and organizations literatures by identifying some of the antecedents and consequences of such processes.

First and foremost, my analysis shows that legitimacy matters, both for compliance with health guidelines during the pandemic and for intentions to comply in the future. Scholars of legitimacy in different fields have long touted the importance of legitimacy for the effectiveness of authorities (Haack et al. 2020; Johnson et al. 2006; Tyler 2010). In the pandemic context, perceived legitimacy of public health authorities played a significant role in individuals' adoption of health behaviors, even when taking into account perceived threat of the virus, political orientation, and other respondent characteristics. The significant role of legitimacy in encouraging behavioral compliance is good news for public health authorities looking to gain widespread compliance in health crises. It also highlights the importance for health authorities of maintaining and/or gaining legitimacy to be effective in the future.

Much work on legitimacy and compliance focuses on the role of perceived collective support for authorities, whether from upper authorities (authorization) or from peers/others (endorsement) (Haack et al. 2020; Walker, Thomas, and Zelditch 1986; Zelditch and Walker 1984). The belief that others view an authority as legitimate can enhance compliance

regardless of one's personal view (Walker et al. 1986; Yoon and Thye 2011; Zelditch and Walker 1984). However, in the pandemic context, propriety (one's *personal* evaluation of the authority as right, proper, and appropriate) drove adoption of health behaviors and shaped future compliance intentions. The importance of propriety may be due to the nature of the behaviors (often not observed by others) and variation in perceived collective support for public health authorities. Additionally, the impact of propriety on compliance (and intentions) may have been strengthened as individuals (re)examined the propriety of authorities during the pandemic along specific bases. The negative (but small) effect of endorsement on compliance (and intentions) calls for future research on the role of perceived collective support on compliance in different contexts.

My investigations also move theoretical work on values, legitimacy, and compliance forward by showing how social dynamics represented by these concepts, of great interest to social psychologists, operate together. In conceptualizing values as moral goods (rather than ethical concerns about right and wrong), my work augments the small but growing literature examining the links between values and action (e.g., Miles 2015) and values and legitimacy (e.g., Skitka and Morgan 2014). Findings presented in Chapters 1 and 2 illustrate how values, as moral goods, constitute a source of internal motivation that shape compliance with authorities and provide a standard by which individuals judge the legitimacy of authorities. Individuals want to behave in line with their values (Bardi and Schwartz 2003; Feather 1995; Roccas and Sagiv 2010). Thus, the extent to which authority directives facilitate or thwart pursuit of such values has implications for (non)compliance. Additionally, individuals evaluate the extent to which authorities are right, proper, and appropriate (legitimate) based on authorities' (mis)alignment with those values.

Looking at values provides insight into *why* people complied (or did not comply) with health guidelines during the pandemic and casts doubt on some other popular explanations

for (non)compliance. The values that enhanced compliance, *security* and *conformity*, are those that align with the purpose of the directives—protecting health, safety, and social order. Values that reduced compliance were those whose underlying goals compete with those of *security* and *conformity*, the importance of new experiences and enjoying pleasure as part of a meaningful live (*stimulation* and *hedonism*). These competing visions of what is most important for a good life translated into divergent behaviors in the context of the pandemic. Basic values that did *not* impact compliance are perhaps equally as useful in understanding the *why* behind behaviors. Adherence to public health guidelines became increasingly moralized during the pandemic, with individuals (as well as authority figures) casting those who complied as altruistic and pro-social and those who resisted as selfish and morally deficient (Bor et al. 2023; Prosser et al. 2020). However, my findings reveal that values relating to concern and care for close others and the population (*benevolence* and *universalism*) did not significantly drive compliance, casting doubt on the popularly ascribed altruistic versus self-centered motives behind pandemic behaviors. Similarly, popular narratives pitting individual liberty against preventing harm to others (e.g., Authers 2021) may have been missing the point as *self-direction* also failed to shape behaviors when taking legitimacy and contextual factors into account.

Even though certain values did not affect behaviors during the pandemic, they did impact evaluations of the propriety of public health authorities and intentions to comply with them in the future. The effects of these values on propriety depended on alignment between value priorities of individuals versus health authorities in the context of the pandemic. For example, importance of *universalism* (concern for the welfare of all people) enhanced propriety, while *self-direction* (individual autonomy) diminished it. Considering the full range of basic values also provides insight into how public health guidelines clashed with other unexpected values in the pandemic context. Directives intended to promote health and

safety also restricted individuals' ability to see and care for loved ones (*benevolence*) and observe religious, cultural, and family customs (*tradition*). The importance of these two values, in turn, detract from assessments of public health authorities as right and proper and, ultimately, intentions to comply with them in the future. Understanding these specific value clashes may prove useful for messaging around future public health directives that prioritize health but impinge on other values.

My emphasis on values and legitimacy contributes to work in organizational and management research that is increasingly focused on individual-level legitimacy judgments as the micro-level foundations of institutional change (Bitektine and Haack 2015; Haack et al. 2020; Tost 2011). Despite organizational scholars' theoretical emphasis on the implications for legitimacy of value contradictions after a jolt and social psychologists' interest in how values shape perceptions and evaluations (e.g., Seo and Creed 2002; Tost 2011), little work brings together these two levels of analysis to understand legitimacy processes. My work illuminates how clashes between the values of an institution and values of individuals can bring about individual-level shifts in propriety that ultimately undergird intentions to comply with or resist that authority in the future. My analysis also contributes to the recently revived interest in values within the field of sociology (Hitlin and Piliavan 2004; Hitlin and Vaisey 2013; Miles 2015), which was originally central to foundational sociological theories (Durkheim 1897/1964; Weber 1905/1958).

My dissertation also demonstrates that individuals evaluate different authorities along different bases. Past work on antecedents to legitimacy has predominantly focused on individuals' assessment of an authority on one base (such as relational or instrumental), demonstrating how positive assessments along that base in turn enhance propriety (e.g., Tyler 1997). Recognizing that individuals may evaluate authorities simultaneously on multiple bases *and* that the salience of each base depends on the authority in question, I empirically

test an integrative approach to legitimacy with two distinct authorities. In doing so, I provide a more wholistic understanding of the factors contributing to propriety assessments for public health officials and doctors/healthcare providers. Despite a major research program devoted to examining the role of relational concerns in shaping propriety (see Tyler 1997; 2001; 2010), when considered alongside other bases of legitimacy, such concerns do not contribute to propriety for public health officials and are the least impactful base in propriety assessments of doctors/healthcare providers during the pandemic. Instead, the importance of the moral (followed by instrumental) base for public health officials and the instrumental (followed by moral) base for doctors/healthcare providers reveals insights into what matters most for propriety assessments in respect to these authorities as well as what they might focus on in seeking to maintain or gain propriety.

In addition to being a first attempt at empirically investigating an integrative model of legitimacy among distinct authorities, this work contributes to and expands work in health research by applying a social psychological approach to legitimacy processes to bear on an important health topic. By illuminating a variety of bases by which individuals assess authority propriety, my findings highlight that to gain and maintain legitimacy, authorities must attend to multiple aspects of their relationships with their subordinates as well as how their directives align with (or contradict) subordinates' value priorities. Beyond the realm of health, such lessons pertain to authorities in a wide variety of organizations and institutions.

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