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## Commentary

## Face mask use during the COVID-19 pandemic—the significance of culture and the symbolic meaning of behavior

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## ABSTRACT

During public emergencies, a door can open on the fundamental elements upon which a society's social order is built. The Covid-19 pandemic has opened such a door in societies worldwide. We outline in this commentary some of these social elements and how they may have influenced face mask use during the early stages of the pandemic. The purpose is to expand the perspective on mechanisms that are relevant to consider in pandemic response planning. Our look at these fundamental elements showed that latent aspects of the dominant culture and various symbolic meanings of behaviors can reduce adherence with public health recommendations if they are overlooked in the strategic health plans. We conclude that when policymakers decide non-pharmacological interventions during pandemics, they should take into account fundamental attitudes and beliefs that may influence population behavior. This will require paying attention to variations in things like culture and symbolic meanings of behavior.

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## Introduction

During public emergencies like the Covid-19 pandemic, a door can open on what some social scientists have called the political unconscious [1]. When this occurs, the elements upon which a society's social order is built can become exposed, and as long as that door is open, there is an opportunity for critical reflection on that society's fundamental attitudes and beliefs, ones normally out of sight, that are of importance to a society and its pandemic response. As the first vaccine against Covid-19 became available in December 2020 [2], populations could until then only safeguard themselves through behavioral measures. During the first pandemic wave in 2020, most countries introduced social distancing policies, ranging from school closures to complete lockdowns of societies [3,4]. The Centers for Disease Control and Prevention (CDC) in the United States also recommended that the public wear face masks to help curb the spread of infection [5]. In the European countries, the recommendation of such mask use varied greatly

early during the first pandemic wave [6], and mask policies were subject to critical debate by public health researchers [7].

Even though studies reported during the first pandemic wave in 2020 suggested that use of face masks protects from transmitting the SARS-Cov-2 virus to others and protection against being infected [8], a randomized controlled trial [9] and reviews [10,11] concluded that the evidence on protecting effects from community-level research remained inconclusive. The fact that the CDC recommended that the United States population should wear face masks when they mix with others was not anomalous. Many Asian countries like China, Singapore, South Korea, and Taiwan also made recommendation regarding face mask use [12]. In these countries, most of the adult population had at the start of the Covid-19 pandemic in early 2020 experience from the SARS epidemic in 2003–04 regarding use of face masks when they are in public. In addition to protection against virus transmission, face masks may be used for social signaling, i.e. by wearing a mask, you remind others to avoid physical contact with others [13]. Thereby, the mask-wearer communicates to others that he or she is willing to accept and promote one's social responsibility. Interesting in this context is that the pre-SARS belief in traditional Chinese medicine regarding infectious diseases was that "virus and bacteria must be released from the body for recovery" [14]. The use of a face mask evidently violates this belief because masks prevent viruses and bacteria from escaping the wearer's body. In other

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words, the protective behavior of wearing a face mask during a pandemic appears to be influenced by socio-cultural elements of society - ones that may not be necessarily well-understood by the public health community or policymakers. We outline in this commentary some of these and how they may influence face mask use during a pandemic. The purpose is to widen the perspective on mechanisms and means to consider when deciding recommendations about protective behaviors. We start by contrasting Sweden, where no recommendation of general face mask use was implemented by the public health authorities in 2020 [15], with the United States. Sweden also pursued a "lower-scale" lockdown policy during the early pandemic period than most comparable countries [16].

### *Pragmatics and rationality*

The belief base of the United States population reflects a strong pragmatist tradition, both in everyday life and academia. Pragmatism holds that the meaning and the truth of any idea is a direct function of its practical outcome. In this way, most Americans expect science and medicine, unlike say religion, to give them immediate, unequivocal, real-world advice and solutions. This attitude pervades much of American culture [17]. As a result, freedom of thought and choice can triumph over what may be called institutional or orthodox (scientific) knowledge. Sweden may be the country where belief in rational thought, science, and medicine has its strongest hold. Swedes are, more than other populations, socialized into believing that the best way to proceed with anything is the consensual, institutionalized, and rational (i.e. based on shared and well-established theory), and much of the country's public and private mechanisms uphold this view of the world [18]. That is, Swedes valorize a world that is orderly and only perfectible through reason. This is reinforced by Sweden's long tradition of modernism and social engineering [19].

However, an important difference between Sweden and the United States is that the Swedish population enjoys high levels of social reliance on and trust in their neighbors and social institutions, i.e., they believe that both the Swedish people and government are well-informed, rational and will behave responsibly [20]. This cooperation between public and private sectors during the 20th century culminated with the use of a single term, *Folkhemmet* (the People's Home), for both Swedish nation and government. Consequently, one explanation for why Swedish authorities did not recommend and Swedes did not use face masks is the lack of a consensus, i.e., convincing "rational" (scientific) reasons to do so. On the other hand, for Americans, wearing a mask is simply an exercise in pragmatism as an individual, not the scientific community or public health authorities, defines the term.

### *Individualism and trust*

As well as being rational, Sweden is, according to the World Value Survey, characterized as an even more individualistic nation than the United States [21]. This may come as a surprise to those who tend to equate collectivism with social democracy. Sweden is, for example, the nation where self-expression is most valued in relation to individual survival. The importance of individualism is actually embedded in Sweden's constitution, the *Regeringsform*. Chapter 2, Article 8 states: "Everyone shall be protected in their relations with the public institutions against deprivations of personal liberty" [22].

Acknowledging how central *laissez-faire* individualism is in Sweden, the question is then what mechanisms may determine decision-making about face masks use among Swedes? In other words, considering the public institutions' limited constraints on

personal liberty in the country, what kind of mechanisms can influence behaviors among Swedes, and how do these differ from the ones that might work for other nations? Regardless of the degree of trust in institutions, inter-personal trust can be hard to find in an individualistic society. In other words, even in Sweden where institutions are trusted, trust between people can never be taken for granted. Given Sweden's commitment to rational thought, the (im)possibility to evaluate the rationality of fellow persons may therefore be what determines whether Swedes will or will not wear masks. Swedes may see masks as something that makes it difficult to judge whether a person can be identified as rational, responsible, and so able to contribute to a functioning society. It may be that this skepticism regarding who is capable of caring for herself and fellow citizens [23] contributed during 2020 to mask "underuse" in Sweden. So, what appears to mainly have determined face mask use during the first wave of the Covid-19 pandemic in Sweden is a belief in scientific evidence and reliance on institutionalized knowledge. However, mask use in Sweden also may have required a particular form of trust, namely whether individualistic Swedes could identify others as persons who are rational and accept taking personal responsibility, even when their faces are hidden behind a mask.

### *The symbolic meaning of face mask use*

Besides considerations about virus dissemination pathways, there may as well be other (external) processes and structures that influence face mask use. There neither was any recommendations nor wide-spread use of face masks in Sweden during the first wave of the Covid-19 pandemic [15]. In the United States, where individualism is also important [21], folk pragmatism can seem to provide a basis to follow the CDC recommendations about face mask use. However, in this case, science has for many Americans not given them "sensible" and equivocal advice they believe it should. In a July 2020 survey only 60% of adults in the United States reported that they always wear face masks [24], implying that there is a diversity of opinion within the nation regarding mask use. Face mask use was also associated with ideological viewpoints. The result is that individualism (freedom of choice), no matter how ill-informed it may be about what to do next, has been able to challenge more institutionalized (scientific) knowledge and recommendations. Another way of putting this is that orthodox knowledge in the United States, especially when it does not to "seem to help", can become quickly relativized and then the only quality control left is what the individual believes to be true. For example, there was a nearly 30% difference in mask use between those recently voting for Democrats and Republicans [24]. Among Democrats, 75% say they always use a face mask, while 3% never use a mask. The corresponding numbers among Republican voters were 46% and 12%. These differences may exhibit diverging attitudes and beliefs, but also signal the importance symbolic elements of experience, like a population's attitude to science and truth, can have in pandemic behavior.

### *Face masks use and social transformation*

Past experience corroborates that the variations in symbolic meaning of face mask use is particularly evident in times of rapid social transformation. For instance, in post-SARS Hong Kong, the perception of those who use a face mask changed in late 2014 after the Umbrella Movement emerged [25]. This movement opposed that Hong Kong integrated closer with mainland China. Its members expressed this opinion in public demonstrations and typically wore face masks to avoid identification and personal repercussions. On other hand, other Hong Kong residents have, after the

establishment of the Umbrella Movement, been deterred from using face masks to protect themselves and others from infections because they do not wish to be perceived as protesters [12]. In Japan, face mask-wearing has during the 20th century developed into a routine practice against a range of health threats [26]. Developed as part of the biomedical response to the Spanish flu of 1919, face mask use resonated with folk assumptions about modernity. However, mask-wearing became widely socially accepted as a general protective practice only from the 1990s through a combination of commercial, corporate, and political pressures that legitimated individual health protection. Face mask use during the Covid-19 pandemic in Japan may thereby be seen as an expression of adherence with risk aversion associated with a second wave of modernity, rather than a collective traditional practice. These observations of face mask use not only in the United States and Sweden, but also in two Asian countries, suggest that both public health recommendations and population behaviors during a pandemic can be influenced by any number of latent and symbolic attitudes and beliefs associated with social life. These attitudes and beliefs can result in non-adherence with public health policies in populations or population groups, a non-adherence that may be difficult for public health officials to predict or explain.

#### *Effectiveness of non-pharmacological interventions*

Mandatory face mask use is one of many non-pharmacological interventions (NPIs) that were implemented during the early stages of the Covid-19 pandemic. Evaluation of NPIs is methodologically challenging [4], which may explain that there is no conclusive evidence yet available on the effectiveness of country-level recommendations regarding face mask use in 2020. Nonetheless, during the first pandemic wave an executive order on face mask use in the State of New York (NY), USA, was observed to be followed by a significant decrease in daily numbers of Covid-19 confirmed cases and deaths compared to the neighboring Massachusetts where no such order was issued [27]. This comparison was made when NY was still under lockdown and also other NPIs were implemented. In Europe, in contrast, Slovenia implemented mandatory mask use in all spaces between April to June 2020, and mandatory mask use in closed spaces in July, and again mandatory mask use in all spaces since October [28]. Despite these efforts, Slovenia was among the top-3 countries in the world regarding the number of Covid-19 deaths [29]. Similarly, Lithuania implemented mandatory mask use in closed spaces in April 2020, mandatory mask use in all spaces May to June, mandatory mask use in closed spaces August to November, and again mandatory face masks use in all spaces from November [28]. Despite these measures, Lithuania reported in late 2020 among the highest number of new daily cases in Europe [29]. This suggests that policies prescribing face mask use in the community were, when unaccompanied by other NPIs, insufficient to curb morbidity and mortality in Covid-19. The aggregated scientific evidence on the protective effect of medical face masks for the prevention of Covid-19 in community settings was in a February 2021 review estimated as small to moderate [30]. This said, the purpose of this commentary was not to determine the public health effectiveness of recommendations regarding face mask use. Instead, by exploring some of the inner workings underpinning face mask use during the Covid-19 pandemic, we found that symbolic meanings of behavior can reduce adherence to NPIs, if these meanings are overlooked in strategic planning. In particular, we found that the symbolic meanings associated with the rhetorical underpinnings of the face mask recommendations can draw, if not acknowledged, attention away from institutional knowledge and factual scientific evidence. These insights regarding cultural and social symbolic meanings do not apply just to face mask use. They also help to explain why some national exceptionalism in NPI im-

plementation, like Sweden's "low-scale" lockdown policy, emerged during the pandemic in 2020. The prerequisite for Sweden's policy was a cultural commitment to rationality, collaboration, and individual responsibility, resources that are often nation-specific and must be evaluated nation by nation during any crisis.

## Conclusions

We conclude that early pandemic response strategies should not rest solely on instrumental factors like travel patterns, case counts, and resources for laboratory testing. When policymakers decide NPIs in the early response to pandemics, they should also take into account the fundamental attitudes and beliefs of the population. This will require paying more attention to variations in things like culture and the symbolic meaning of behavior.

## Author contributions

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 Formal analysis: TT and JMN  
 Funding acquisition: TT and JMN  
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 Validation: TT and JMN  
 Visualization: TT and JMN  
 Roles/Writing - original draft: TT and JMN  
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