## **Chapter 8. Case Study I: Lessons from the COVID-19 Pandemic[[1]](#footnote-1)**

Contents

[**Chapter 8. Case Study I: Lessons from the COVID-19 Pandemic** 1](#_Toc169802864)

[Introduction 1](#_Toc169802865)

[Is intrinsic motivation important in public health contexts? 7](#_Toc169802866)

[Incentives and intrinsic motivation in public health 8](#_Toc169802867)

[Culture and COVID-19 10](#_Toc169802868)

[Mixed evidence on the intrinsic motivation predictors of COVID-19 compliance 10](#_Toc169802869)

[Prediction of vaccination 11](#_Toc169802870)

[The mandated masks debate 12](#_Toc169802871)

[Mask, vaccines and quality of compliance 13](#_Toc169802872)

[When to wear masks and voluntary compliance 14](#_Toc169802873)

[Trust and voluntary compliance in the COVID-19 context 14](#_Toc169802874)

[Trusting what exactly? 16](#_Toc169802875)

[Heterogeneity in intrinsic motivation during COVID-19 17](#_Toc169802876)

[Culture and COVID-19 18](#_Toc169802877)

[On the inadvertent effect of asking for too much compliance 19](#_Toc169802878)

[On women and men’s approaches to COVID-19 regulation 19](#_Toc169802879)

[The importance of efficacy and vulnerability in eliciting cooperation with COVID-19 instructions 20](#_Toc169802880)

[Non-COVID-19 intrinsic motivation studies 22](#_Toc169802881)

[Self-efficacy 22](#_Toc169802882)

[Morality and social norms 23](#_Toc169802883)

## Background

Why has there been a shift to voluntary compliance in the discourse in recent years? While it is difficult to precisely identify the reasons, it is arguable that much of this change can be attributed to what the government recognized about the limits of COVID-19 regulation, where the government’s ability to induce people to adopt desirable behaviors, using extrinsic measures was very limited.

The COVID-19 pandemic, officially declared by the World Health Organization (WHO) on March 11th, 2020, after more than 118,000 cases of infection and 4,291 deaths across 114 countries, has had a profound impact on global health and public policy.[[2]](#footnote-2) Nearly three years later, the death toll has reached a staggering 6.8 million, solidifying its position as one of the deadliest pandemics in human history.[[3]](#footnote-3) The pandemic has brought to the forefront a fundamental debate regarding the extent to which government intervention and overreach into individuals’ decision-making can be considered proportionate to the threat. Policymakers have grappled with the question of whether alternative means of enforcing health provisions could prove effective in curbing the spread of the virus. As the discourse has evolved over the past few years, there has been a notable shift towards encouraging voluntary compliance, reflecting a growing recognition of the limitations of COVID-19 regulations and the government’s ability to directly influence individual behavior. This chapter aims to explore the complexities of public policy during the COVID-19 pandemic, focusing on the delicate balance between government intervention and individual autonomy. By examining the effectiveness of various health provisions and the factors that contribute to voluntary compliance, we seek to shed light on the lessons learned and the potential implications for future public health crises.

Public health focus on the compliance literature in general and public health research on adherence, in particular, could greatly benefit from analyzing the extensive comparative data regarding adherence to COVID-19 regulations. Using such data gathered from countries around the world, we can enhance our understanding of the potential of voluntary compliance. Data detailing the varying levels of strictness across countries during the COVID-19 pandemic, including Google data on compliance with regulations, may help in ascertaining whether the restrictions imposed influenced peoples’ avoidance of certain behaviors and places. It may also help clarify whether stricter COVID-19 restrictions ultimately led to a counterreaction. Additionally, government rhetoric across different countries will be examined, as well as a number of public debates, including those concerning whether face masks and tracking apps should be mandatory or voluntary.[[4]](#footnote-4) It has also been suggested that women leaders enjoyed greater success in fighting the coronavirus, a result that suggests voluntary cooperation is associated with regimes characterized by solidarity and empathy.[[5]](#footnote-5)

**Cross-national comparison**

The relationship between the strictness of COVID-19 regulations with the level of adherence has been extensively studied across nations. The first task is to identify common themes related to the success and failure of regulatory efforts to address COVID-19 based on the studies. For example, some studies have suggested that stricter government regulations can lead to increased compliance,[[6]](#footnote-6) while others have claimed that imposing more restrictive guidelines may ultimately yield less effective results.[[7]](#footnote-7) Three themes that emerge from a review of these studies involve the elements of high social capital, trust, and community. Areas with high social capital tended to exhibit greater compliance with COVID-19 regulations. This conclusion is supported by a decrease in mobility in these areas and lower excess mortality rates.[[8]](#footnote-8) High levels of trust in an area were found to be related to high compliance.[[9]](#footnote-9) Additionally, studies indicated that when faced with a threat, tightly knit groups cooperated more quickly and had higher survival rates compared to loosely knit groups.[[10]](#footnote-10)

**Governmental rhetoric and public cooperation**

In discussiing ways to encourage voluntary compliance with regulations, it is crucial to examine the influence of government rhetoric. The central dilemma faced by those seeking to motivate voluntary compliance is reflected in the importance of relational concerns, such as legitimacy versus deterrence. Should the rhetoric emphasize instilling fear of sanctions or strive to generate social solidarity and a moral commitment? Some research has shown that fear-based appeals can be effective in general,[[11]](#footnote-11) particularly in the case of compliance with COVID-19 restrictions. However, there is strong empirical evidence to suggest that people are more likely to comply with requests not only due to fear of sanctions but also if they perceive the requesting entity as one that represents their moral values and a group to which they feel they belong.[[12]](#footnote-12) The concept of social solidarity is also closely tied to the power of social norms and has been shown to be highly influential in guiding individuals’ behavior.[[13]](#footnote-13) Additionally, during the pandemic, people demonstrated higher levels of compliance with governmental measures aimed at mitigating the pandemic when they perceived the measures to be legitimate and felt they were being treated fairly and with respect. These various trends suggest that government rhetoric in different countries,[[14]](#footnote-14) such as highlighting punitive measures) as well as its measured impact on behavior may serve as an important tool in understanding data sources about COVID-19 regulations.[[15]](#footnote-15)

**The use of incentives in the COVID-19 Context**

To effectively understand the use of incentives, one must document all the evidence gathered that encourages individuals to get tested, vaccinated, and so on, as well as address several fundamental questions. How many people were affected by the incentive? Where was the behavior repeated? Was a community incentive program implemented that provided benefits only if a certain portion of the community cooperated with tests and immunizations? The use of incentives in COVID-19 contexts has been extensively documented, allowing for a comparison of various incentive programs even after only a short time has passed. In the following paragraphs, we will outline some of the data about the efficacy of incentives in the context of the COVID-19 pandemic. It is important to note that in many of these studies, there has been a discussion of both the proportion of people who would receive the vaccine under different compliance regimes and the factors that interact with the effectiveness of incentives.

A study of 20,000 Germans suggested that offering incentives to encourage compliance with COVID regulations can be effective. Extrinsic measures that offer more freedoms in exchange for vaccination have been particularly successful with younger people who may have concerns about being vaccinated. In a study on the Israeli Green Pass, which can be considered a type of incentive, as it saves time, avoids quarantine, and allows for easier access to malls and restaurants, researchers examined the response to the exemption announcement and found a correlation with an increase in vaccine uptake.[[16]](#footnote-16)

This comprehensive literature review suggests several thematic inferences regarding the differing responsiveness of individuals in response to external influences, such as the Green Pass. Individuals who lack fear of the virus may react differently to public health policies than those who acknowledge the reality of the disease and are likely to respond more strongly to information about the effectiveness of such policies. It is vital to emphasize that these findings should be interpreted with caution, considering the unique characteristics of the studies, their diverse research questions, and the varying demographic characteristics of the participants. Moreover, it is noteworthy that the effectiveness of policies is a more significant determining factor, rather than considerations of solidarity within this context.

Another review study[[17]](#footnote-17) showed that health incentives were an effective short-term solution in addressing infrequent health behaviors. This paper suggested that financial incentives may prove more effective in increasing the performance of infrequent behaviors, such as getting vaccinated, rather than sustained behaviors, such as dieting. Another implication is that on the provider side, incentives can be designed and applied to improve the quality of care, not only to patients but also to the general public. In conclusion, the authors cautioned that poorly constructed policies can pose difficulties by overpowering and diminishing the natural drive for healthy behaviors. The evidence presented in this study supports the use of voluntary financial incentives to encourage infrequent behaviors, such as vaccinations, and designing voluntary incentives for healthcare providers to improve their services.[[18]](#footnote-18)

A study of 1,096 adult Americans examined how the interplay of the characteristics of the particular vaccine (including manufacture, reports of adverse effects, and so on), financial incentives, and misinformation on vaccination preferences affected individuals’ vaccination preferences.[[19]](#footnote-19) A higher efficacy rate resulted in a 13% increase in the willingness to be vaccinated. Manufacturer identity had no impact, while reports of more minor side effects slightly reduced vaccination willingness by 5%. In addition, introducing a $100 incentive did not have any noticeable effect on increasing vaccine uptake. On the other hand, imposing a mandatory $20 co-payment for the vaccine seemed to discourage people from getting vaccinated. This study provides evidence to support the idea that increasing the effectiveness of vaccines and raising public awareness about these improvements can be an effective strategy for increasing voluntary vaccine rates.

A survey of 2,000 U.S. residents was conducted to investigate the impact of COVID-19 vaccine pricing, financial incentives, and vaccine efficacy on demand. The survey measured willingness to pay and willingness to accept compensation.[[20]](#footnote-20) If no costs were imposed, 68–75% of the respondents would get vaccinated, while 13–15% would consider doing so if offered financial incentives. The amount of $500 would motivate 48% of those in the latter group, and $1000 would motivate 74%. The acceptance of vaccines was significantly influenced by their efficacy. Based on the study, it is recommended to tailor incentive strategies, as 70% of people are inclined to vaccinate without incentives while offering $500 to $1000 incentives is sufficient for the remaining percentage.

Another study in the United States involving 2,461 participants supported this approach and suggested that incentives of $1000 could increase vaccination rates to 86%, an increase of 16%. Both studies found that offering monetary incentives would not persuade individuals who are categorically opposed to getting vaccinated.[[21]](#footnote-21)

The above research also indicates that age plays an important role in the effectiveness of incentives in a public health context. Researchers have examined several methods to enhance global vaccine acceptance. Effective strategies for promoting behavior change include sharing information, establishing social norms, providing incentives, and offering choices. The effectiveness of these approaches varies depending on the age group. Incentives that encourage vaccination tend to have a greater effect on younger individuals. Conversely, providing information about the vaccine’s effectiveness tends to increase vaccination rates among older adults. It is worth noting that older adults are typically motivated to get vaccinated by their fear of contracting the disease, making incentives often unnecessary.

Is intrinsic motivation important in public health contexts?

In the context of practicing safe medical behavior, using multifaceted approaches that include education along with written material, reminders, and ongoing performance feedback can have a significant impact on hand-washing compliance and rates of hospital-acquired infections.[[22]](#footnote-22) A different study in this area found that interventions based on arousing disgust were considerably more effective in promoting hygienic hand-washing compared to educational posters.[[23]](#footnote-23) Moreover, implementing “gentle reminders” can significantly enhance safety measures. (a gentle reminder in this study involved team members agreeing to gently remind their coworkers whenever they deviate from the safety norm).[[24]](#footnote-24)

A recent study found that people who were more conscientious were more likely to adhere to COVID-19 regulations, both directly and indirectly through increased self-efficacy in following the rules. Moreover, it appears that higher levels of perceived social approval of the guidelines, favorable attitudes towards the guidelines, and stronger intentions to adhere to them were associated with increased adherence.[[25]](#footnote-25) When discussing the topic of compliance with less fear, several studies have demonstrated that self-efficacy is the most significant predictor in the relationship. Examining representative samples across many countries, this factor was the leading one for people who are not in a risk group themselves.[[26]](#footnote-26)

## Incentives and intrinsic motivation in public health

Many countries have implemented a system using some combination of incentives and restrictions. Such systems, referred to as Green Pass systems, allow those who were vaccinated to be subject to fewer restrictions than those who did not.[[27]](#footnote-27) Other studies have focused on using different normative messages, such as experts, family, and friends. These studies have generally shown a preference for messages from experts.[[28]](#footnote-28) In a different large international study (with more than 8000 participants) that examined COVID-related behavior, the belief in the effectiveness of the preventive measures was the strongest predictor of compliance. This finding reinforces the idea that intrinsic motivation may be the strongest predictor of compliance behavior.[[29]](#footnote-29)

This study investigates the effectiveness of offering monetary incentives compared to providing information about vaccine efficacy, the absence of side effects, and zero costs. Researchers conducted an online randomized experiment on a representative sample of 2,461 individuals across the United States to evaluate the effectiveness of monetary incentives, both positive and negative for getting the coronavirus vaccine. The study examines the rate of vaccination uptake among participants, as well as their willingness to either accept or reject the vaccine based on the choices they state. The study revealed that offering a $1000 incentive can increase vaccination rates up to 86.9%. The researchers identified two distinct groups regarding the vaccine: those who are hesitant about taking it, and those who are unwilling to do so. Hesitant individuals can be encouraged to get vaccinated with a certain level of monetary incentive, whereas those who are unwilling to get vaccinated will not change their decision for any amount of monetary incentives.[[30]](#footnote-30)

In a comprehensive review of the behavioral economics literature on health behavior, Ivo Vlaev and colleagues[[31]](#footnote-31) explored the role of incentives and identified the types of behaviors that are most likely to be positively influenced by incentives. For example, financial incentives are more effective at improving infrequent behaviors, such as getting vaccinated, than they are at promoting more sustained behaviors like quitting smoking or sticking to a healthy diet. Incentives that combine individual and group goals have also yielded promising results, as seen during the COVID-19 pandemic when municipalities were rewarded for achieving high vaccination and testing rates. This approach entails a degree of voluntarism, as it requires individuals to prioritize the betterment of their local communities over their personal interests. The findings indicate that giving employers or health insurance providers the discretion to offer discounts for healthy behaviors and penalties for unhealthy behaviors may hold some promise.

Another review of the research on incentives in the context of public health has shown that overall, incentives are quite effective in changing habitual behaviors.[[32]](#footnote-32) The study also found that even 18 months after the start of their implementation, incentives still had an effect. No other regulatory tool has been extensively studied in terms of its duration to the same extent as this one. However, the problem is that after three months, the behavioral change disappeared once the financial incentives were removed. While longer periods of change may be required in certain situations where the state must rely on compassion to drive preference changes, actual empirical evidence supporting this is quite limited. Several studies have shown that mandating vaccinations can lead to resentment among individuals. Therefore, policymakers are being urged to consider other alternatives.[[33]](#footnote-33)

Another crucial aspect of monetary incentives relates to their size. If incentives are too low, they may have an adverse effect. Therefore, they must be significant enough to be effective if their cost is to be justified. This represents a limitation on policymakers’ ability to use incentives.[[34]](#footnote-34)

## Culture and COVID-19

A recent study has uncovered a link between people’s level of “uncertainty avoidance” and their compliance with COVID-19 regulations. The study employed Hofstede’s cultural dimensions theory, utilizing his “Uncertainty Avoidance Index” (UAI) as a measurement to reflect how members of a society attempt to avoid ambiguity and uncertainty. According to the index, countries with higher UAI scores usually have a lower percentage of their population gathering in public places such as retail shops, parks, transit stations, and workplaces. The study indicated that in cultures with a higher UAI, individuals tend to avoid engaging in activities that may result in increased uncertainty. However, the UAI does not account for the proportion of individuals who choose to stay in their residential areas, suggesting that other factors beyond cultural uncertainty avoidance might also shape the decision to remain at home. [[35]](#footnote-35)

The BBC recently published a [short nonscientific article](https://www.bbc.com/news/world-52015486) [[36]](#footnote-36) that seeks to address this question of embracing or rejecting regulations to wear masks. The article claims that the factors influencing the decision to beyond government directives and medical advice include elements of culture, history, debates over evidence, and even considerations of personal liberties. The article emphasizes the importance of a country’s historical association with masks. For example, in East Asia, wearing masks when sick or during hay fever season is a cultural norm. This cultural background could increase the probability of likelihood of compliance with COVID-19 regulations.

## 

## Mixed evidence on the intrinsic motivation predictors of COVID-19 compliance

Several strategies have been employed to encourage compliance with preventive measures like social distancing, better hand hygiene, and vaccination. Research has shown that rhetoric, including appeals to fear, unity, and solidarity, can influence public health compliance.[[37]](#footnote-37) The more that individuals perceive that social norms or authority figures support guidelines, the more positive their attitudes are towards the guidelines, and the more likely they are to intend to follow them. This phenomenon has been associated with greater compliance.[[38]](#footnote-38)

People’s belief in the efficacy of preventive measures has been identified as a strong predictor of compliance.[[39]](#footnote-39) Trust in government and the capacity of states to respond effectively have also been found to be significant factors during the pandemic. Interestingly, countries with more liberal regimes and greater state capacity to respond generally fared worse during the pandemic compared to countries with less liberal civil liberty regimes and lower incomes.[[40]](#footnote-40) Studies have recommended that policymakers appeal to self-efficacy, particularly among resistant groups, as higher levels of self-efficacy have been associated with increased adoption and frequency of taking preventive measures.[[41]](#footnote-41)

Various approaches have been employed for interventions aimed at improving hygiene practices, such as hand-washing and limiting the transmission of infection. A combined approach utilizing written materials, reminders, and continued feedback on performance has been found effective.[[42]](#footnote-42) Disgust-based interventions have been shown to be significantly better at promoting hand hygiene compared to educational posters.[[43]](#footnote-43) “Gentle reminders” have also been used to encourage safe medical procedures.[[44]](#footnote-44)

## Predicting vaccination

Vaccination uptake has been promoted through incentives and penalties, such as the Green Pass system in Israel.[[45]](#footnote-45) As already noted, monetary incentives have been found to increase vaccination uptake, with a $1,000 incentive increasing uptake up to 86.9%. However, there remains a group of “unwilling” individuals who are not influenced by monetary incentives.[[46]](#footnote-46) Financial incentives are more effective in promoting the performance of infrequent behaviors, such as getting a vaccination compared to promoting sustained behaviors, such as hand-washing and mask-wearing.[[47]](#footnote-47) Belief in the efficacy of vaccination has been found to be more important than incentives in influencing vaccination decisions among U.S. participants.[[48]](#footnote-48)

## The mask mandate debate

A classic example of a COVID-19-related regulatory challenge involves mandates for wearing masks.[[49]](#footnote-49) For masking to work, they need to be worn in close spaces, over time, using very high-quality masks that cover the whole face.

Mask-wearing is a very low-cost intervention.[[50]](#footnote-50) However, in many countries, there were concerns regarding the ability of masks to actually stop transmission, given that people tended to remove their masks during a number of activities, such as eating and in social gatherings where most of the transmission occurs.[[51]](#footnote-51) Furthermore, numerous studies have indicated that the vast majority of people did not wear the masks properly.[[52]](#footnote-52)

*“Smart masking” v. “universal masking”*

The authors claim that publications advocating universal masking for the public leave out important details about viral transmission dynamics, risk communication, and the sustainability of policies. Mask policies that target high-risk settings rather than low-risk activities are more likely to encourage people to encourage people to accept and comply with mask-wearing mandates, and to reduce mask-related discomfort and fatigue.[[53]](#footnote-53)

* The main areas of concern with mask-wearing mandates are discomfort barriers, external factors, and usability issues;[[54]](#footnote-54)
* The lack of mandates makes people more self-reflective and accountable.

Therefore, face mask mandates are accepted only as a temporary measure in liberal Western societies and should be enforced only when epidemiologically necessary.[[55]](#footnote-55)

The authors recommended implementing multidisciplinary integration and multilayered approaches to mitigate risks, as highlighted in the “Emmentaler Cheese Model” and the given context.

## Mask, vaccines, and quality of compliance

Masks and vaccines differ in that people must wear masks properly, over time, and in situations where enforcement may be limited. In contrast, vaccine compliance is a specific, one- or multi-time albeit limited behavior that is 100% monitored.

The fact that mask mandates are problematic was acknowledged even in the popular press. The problems included the fact that people can always choose to use cheap masks, wear them improperly, and do not wear them consistently.t[[56]](#footnote-56)

## When to wear masks and voluntary compliance

*Mask policies directed towards high-risk and not low-risk settings are expected to foster adherence.*

1. Downsides of face masks and possible mitigation strategies: A systematic review and meta-analysis (Mina Bakhit et al.);
2. Improving the Impact of non-pharmaceutical Interventions During COVID-19: Examining the Factors that Influence Engagement and the Impact on Individuals (Holly Seale et al.;)

3. Sensitive policymaking for COVID-19 response plans.[[57]](#footnote-57)

## Trust and voluntary compliance in the COVID-19 context

Our discussion of trust and voluntary compliance in the COVID-19 context begins with the study of Cory Clark and colleagues.,[[58]](#footnote-58) They surveyed an international sample to examine which of five belief predictors – effectiveness of health precautions, health importance, invulnerability, disruptiveness, and government trust – correlate with voluntary compliance. Their results indicated that trust in government and one’s perception of being vulnerable to COVID-19 had little impact on voluntary compliance. However, having faith in the effectiveness of precautions was strongly associated with compliance with government recommendations, taking health precautions (such as wearing masks and quarantining), and encouraging others to do the same. Therefore, their findings emphasize the crucial role of the public's confidence in the effectiveness of health behaviors in encouraging compliance with COVID-19 mandates, especially in policies that rely on voluntary adherence.

In their influential and extensive paper, Timothy Besley and Sacha Dray expanded on this idea, emphasizing the importance of both interpersonal and governmental trust, in addition to factors such as state capacity to offer responses and COVID-19 mortality rates.[[59]](#footnote-59)

Besley’s definition of state capacity is broad and encompasses various factors, such as the capacity to levy taxes. In the context of interpersonal trust, the authors posit that the stronger the mutual trust and cooperation ingrained within the civic culture, the better the state's performance was during the pandemic. This study does not clarify whether there is any additional factor that influences both civic culture and pandemic performance. However, it highlights the importance of promoting interpersonal trust and civic culture. The role of law in promoting civic virtue is a central concern within legal and regulatory frameworks. This study’s discussion explores this larger question, considering how the law can facilitate the development of civicmindedness.

Once we understand the impact of mutual trust, the question arises as to when it is most essential to the functioning of a state. Besley suggests that as a state’s capacity increases, it requires more support from its citizens. This support is most evident when citizens are bound by mutual and reciprocal obligations. An additional intriguing insight can be drawn from liberal values, which suggest that states with more liberal policies tend to prioritize their citizens’ preferences and are, therefore, constrained in their use of coercion. The preference of citizens in a country is closely tied to the level of trust and solidarity within the nation. It is notable that although we anticipate that effective public action will thrive in regions with greater accountability and open discussion, countries with civil liberties and high income generally fared ***worse*** during the pandemic than countries without civil liberties and high income.

As suggested in the early chapters of the book, the leading issue from a legal and regulatory perspective is the role of the law in creating such civic virtue. Besley suggests that in order for nations to enjoy greater state capacity, they need the support of their citizens, which is more likely to be forthcoming when citizens are bound by mutual and reciprocal obligations.

There is an interesting correlation between liberal values and the concern for citizens’ preferences. States that adhere to more liberal values are more likely to prioritize the preferences of their citizens and are limited in their use of coercion. The preferences of citizens are closely linked to the level of trust and solidarity in their respective countries. According to Besley, while effective public action can be expected to flourish in countries where there is accountability and open debates, these countries have generally fared ***worse*** than countries without civil liberties and low incomes. In this context, the argument that arises here is that we need to rely on voluntary compliance. This is not only because coercive power has been shown to be ineffective, but also because there are situations when governments cannot use it. Governance becomes most problematic in countries where there is a high need to rely on the public but low mutual trust. If the government enjoys less trust, its options become limited, so it tends to need more cooperation from the public.

## Trusting what exactly?

There are many different aspects to trust within the COVID context. First, it relates to trusting the capacity of policymakers and the technical and organizational skills of the government[[60]](#footnote-60) as well as trusting information from government sources[[61]](#footnote-61) With distrust in government extending to vaccines,[[62]](#footnote-62) there are studies showing an overall positive correlation between trust in government and vaccine uptake.[[63]](#footnote-64) Other studies have shown that the perception of trust is often intertwined with an individual’s political views and that partisanship can affect one's trust.[[64]](#footnote-65) Other studies have proposed strategies for addressing hesitancy and distrust.[[65]](#footnote-66) It is also noteworthy that other studies on trust have examined trust in science, in the scientists, and in the healthcare workers.[[66]](#footnote-67) Generally, these studies anticipate that having trust in science is linked with compliance with COVID-19 guidelines.[[67]](#footnote-68) There are also COVID-related studies on the crisis of trust in science, particularly about denialism and discrediting experts,[[68]](#footnote-69) that also discuss how to restore trust in science.[[69]](#footnote-70) The last form of trust in science in the context of COVID is trust in the product of science – the vaccine.[[70]](#footnote-71) Finally, trust in others is an important aspect of trust in a pandemic situation.[[71]](#footnote-72)

## Heterogeneity in intrinsic motivation during COVID-19

There is an intriguing correlation between how incentives affect people who hold different attitudes toward vaccinations. For example, Tali Goren and colleagues[[72]](#footnote-73) have shown that there are differences in the effects of negative and positive incentives on people with either positive or negative intentions to get vaccinated. The findings demonstrate that both negative and positive incentives have a similar positive effect on individuals who express hesitancy about getting vaccinated or declare that they will not get vaccinated. Additionally, both positive and negative incentives have a crowding-out effect, but negative incentives create a larger crowding-out effect in individuals who express a preliminary intention to get vaccinated, in comparison to positive incentives.

With respect to following COVID-19 restrictions, a study conducted in Australia found that people who were resistant to following the rules were much less likely to comply with physical distancing measures. For individuals who are highly resistant and disengaged, police-initiated encounters that were considered procedurally unjust have resulted in decreased compliance. Furthermore, highly disengaged individuals were less likely to follow guidelines if they were concerned about the ongoing loss of freedoms after the pandemic ended.[[73]](#footnote-74) Without an understanding of the variations in compliance, it can be challenging to determine the appropriate motivation to employ at the right time.

## Culture and COVID-19

## Why have some jurisdictions performed better than others in the fight against COVID-19? Nicholas Charron and colleagues[[74]](#footnote-75) used a novel dataset covering excess mortality, trust, and political polarization across 153 European regions to explore the impact of social and political divisions in the significant variations in excess mortality during the first wave of the COVID-19 pandemic. Our argument is that not only the overall level of trust between citizens is important, but also the variations in trust between government supporters and non-supporters. This is crucial for understanding why certain regions have embraced healthier behaviors more than others. Second, we hypothesize that political parties’ ideological positioning and polarization are also linked to higher mortality rates because they prioritize measures that cater to their core constituencies, such as business interests, rather than building broad political consensus to take unpopular but necessary measures. Overall, we have found that mass polarization has also played a significant role. When there is a high level of political mistrust between supporters and opponents of incumbent governments in a society, we consistently observe higher levels of COVID-19-related excess mortality during the first wave of the pandemic.

## On the inadvertent effect of asking for too much compliance

One notable dilemma faced by governments around the world is related to the question of how to create the best policy regarding wearing masks. Should we establish a basic and inclusive rule or provide individuals with more nuanced and informed options? If we want people to wear masks indoors, what practice is more likely to increase that likelihood: saying “always wear a mask,” or saying “wear masks only when you are indoors”? On the one hand, clear and unambiguous rules are easier to understand and monitor, making them better for establishing social norms. However, it is important to consider the legitimacy of the request; asking for too much may result in receiving nothing at all.

In my PhD. dissertation, I demonstrated that engineers in Silicon Valley, who believed that trade secret laws required them to do more than they thought reasonable to expect (for example, not using information they already possessed) were more likely to behave unethically, even outside their professional contexts. The argument I developed[[75]](#footnote-76) was that if the law is seen as overly inclusive, it loses its legitimacy even among those who would support it.[[76]](#footnote-77) In the context of COVID-19, if people are asked to obey the law and wear masks in public areas, they may comply. However, this may also lead to a decrease in trust in the legislators’ decision-making abilities, ultimately eroding overall trust in the legal system. Research on compliance could benefit from integrating these lessons into a variety of other research contexts.

## On women’s and men’s approaches to COVID-19 regulation

To some extent, the interplay between intrinsic and extrinsic motivation is related to some of the intriguing discussions prevalent during the COVID-19 era. For example, it appears from a brief review of the literature that women leaders were less likely than their men counterparts to use war-like rhetoric.[[77]](#footnote-78) Some studies have shown that women leaders were more likely than men leaders to prioritize minimizing human suffering, to adopt a more caretaking orientation approach.[[78]](#footnote-79) However, other studies have not found any significant gender effect in leaders’ rhetoric.[[79]](#footnote-80)

## The importance of efficacy and vulnerability in eliciting cooperation with COVID-19 instructions

Repeated studies in multiple countries have shown that the perceived effectiveness of COVID-19 policies was the most important factor in determining people’s compliance with pandemic measures.[[80]](#footnote-81) It appears that emphasizing participants’ ability to make a difference in the course of the pandemic was very meaningful and had a significant impact.[[81]](#footnote-82) However, a potential issue in several of these studies is that there is a strong correlation with cooperation in all the self-reporting. We rarely encounter this result in econometric studies. This raises the question of whether people’s beliefs actually play a significant role in their decision-making processes. During the COVID-19 pandemic, people came to recognize that enforcement of safety measures was limited, leading to the question of whether following safety guidelines is more effective than other factors.

For example, when discussing vaccinations, numerous studies have shown that incentives play a significant role in the decision to vaccinate.[[82]](#footnote-83) However, other studies involving vaccinations have suggested that understanding and believing in the efficacy of the vaccination was more important.[[83]](#footnote-84) This approach was also seen in a survey of participants from the United States,[[84]](#footnote-85) further demonstrating that intrinsic motivation, such as health concerns and beliefs, was the most important factor in self-reported studies. A suggestion for a more nuanced approach to using incentives to change health-related behaviors is suggested by Ivo Vlaev and colleagues.[[85]](#footnote-86) Drawing upon an extensive review of significant findings in behavioral economics, including loss aversion, hyperbolic discounting, and increasing payoffs, the authors offer recommendations for improving behavioral health policy design. Long before the COVID-19 outbreak, a comprehensive and detailed meta-analysis[[86]](#footnote-87) concluded that incentives are the best way to encourage change in habitual health-related behaviors. Although questions remain about the long-term sustainability of their impact, studies have shown that a $525 incentive can motivate half of the participants who otherwise would not get vaccinated.[[87]](#footnote-88)

In one major study on this topic, researchers examined the correlation between the beliefs and attitudes of 8.317 individuals and their likelihood to follow government recommendations, take health precautions, and encourage others to do the same. The statistical analysis indicated that one’s belief in the efficacy of taking health precautions and generally prioritizing one’s health were the greatest predictors of engaging in voluntary health compliance behaviors rather than trust in the government or perceiving oneself as vulnerable to COVID-19. Age, on the other hand, did not show a consistent relationship with behaviors such as taking health precautions and prioritizing one’s health.[[88]](#footnote-89) A larger study that included 26,000 citizens examined protective behavior and perceptions of the pandemic involving perceived threats and self-efficacy, as well as broader attitudes towards society, such as institutional and interpersonal trust during the first wave of the COVID-19 pandemic. They discovered that fear of the disease predicted self-protective behavior, but strong feelings of efficacy (belief in one's ability to control their fate, rather than solely relying on fear tactics) had a significant impact on protective behavior, especially among groups who do not perceive themselves as being threatened by the pandemic. Interpersonal trust and institutional evaluations, however, were not found to improve compliance.[[89]](#footnote-90)

## Non-COVID-19 intrinsic motivation studies

Several studies in recent years have focused on using nudge interventions to promote healthier dietary choices. Tamara Bucher and her colleagues (2016) showed that by altering the order or placement of food products, it is possible to have a significant impact on consumers’ food choices.[[90]](#footnote-91) In a similar vein, the efficacy of nudge interventions in improving children’s dietary habits within the home was explored by Kate Lycett and her team (2017). Their findings showed that 83% of the interventions were successful in increasing vegetable consumption and reducing the choice of unhealthy portion sizes. Furthermore, the study revealed that nudges were more effective among older children and adolescents.[[91]](#footnote-92) Numerous other studies have also explored the impact of nudging on food choices and nutrition.[[92]](#footnote-93) Arno and Thomas (2016) performed a systematic review of nudge strategies and discovered that these tactics effectively boosted the selection of healthy food options by an average of 15.3%. However, they also highlighted several weaknesses in the existing literature.[4](#user-content-fn-4) These findings suggest that nudge interventions have the potential to positively influence public health by encouraging healthier dietary choices, although further research is needed to address the limitations identified in the current body of knowledge.

## Self-efficacy

Self-efficacy,[[93]](#footnote-94) which refers to an individual’s belief in their ability to execute behaviors necessary to reach specific goals is a significant predictor of COVID-19 voluntary compliance behavior. We can observe that higher self-efficacy can reduce stress related to COVID-19[[94]](#footnote-95) and positively correlates with adolescents’ protective behaviors.[[95]](#footnote-96) Higher self-efficacy is also related to increased adoption and frequency of taking preventive measures.[[96]](#footnote-97) Based on these relationships, studies suggest that policymakers should focus on promoting efficacy among groups that are particularly resistant groups, such as the Republican participants in this study.[[97]](#footnote-98)

## Morality and social norms

Regarding the impact of moral values on compliance with COVID-19 regulations, studies conducted in Switzerland revealed that individuals with low moral values were more likely to be non-compliant. In contrast, a different study of young participants (college students), found that acceptance of preventive measures was not linked to personal characteristics. Instead, it was related to how highly participants prioritized health concerns.[[98]](#footnote-99)

In another study, the significance of social norms[[99]](#footnote-100) was found to be crucial in the context of COVID-19, particularly regarding the acceptability of prioritizing health over other interests. Social norms rather than individual behavior played a crucial role in promoting public health acceptance.[[100]](#footnote-101)

## Conclusion

The COVID-19 pandemic has provided a unique opportunity to study the effectiveness of various approaches for encouraging public health compliance. This literature review highlights the complex interplay of factors that influence individual behavior during a global health crisis. Although extrinsic motivators such as rewards and punishments have demonstrated some success, particularly in boosting vaccination rates, the significance of intrinsic motivation cannot be disregarded. Believing in the effectiveness of preventive measures, having trust in institutions, and feeling a sense of social responsibility have become key motivators for people to comply with guidelines. The mixed effectiveness of mandates and the difficulties experienced by nations with liberal values highlight the limitations of forceful tactics and emphasize the necessity for intricate, situation-dependent methods. Looking to the future, policymakers, and public health officials should consider adopting a balanced approach that incorporates targeted incentives while building trust, promoting education, and fostering a sense of collective responsibility. Moreover, the variations in reactions among various demographic groups and cultures indicate that policies designed for everyone are unlikely to be successful. Future public health strategies need to be adaptable, culturally sensitive, and designed in a way that motivates both intrinsic and extrinsic factors, with a particular emphasis on enhancing self-efficacy and social norms that promote healthy behaviors. The COVID-19 pandemic has provided us with valuable insights that can help us tackle future public health challenges and improve our society's resilience.

During the COVID-19 pandemic, public health measures that encouraged social distancing and better hand hygiene often used fear-based language to promote their effectiveness. According to research conducted by Craig Harper and colleagues,[[101]](#footnote-102) functional fear was a significant predictor of compliance with public health regulations in areas where a fear-based approach was taken. Compliance with COVID-19 guidelines was also enhanced by rhetoric promoting unity and solidarity. For example, Tim Bogg and Elizabeth Milad[[102]](#footnote-103) found that a perception of a higher degree of social approval, particularly from experts, and positive attitudes towards the guidelines were both associated with a greater commitment to comply with the guidelines. Additionally, Gul Salali and Mete Uysal[[103]](#footnote-104) emphasized the effectiveness of incentives in increasing vaccine uptake.

Strong belief in the effectiveness of preventive measures was a reliable predictor of compliance. Ganesh Iyer and colleagues[[104]](#footnote-105) highlighted that people’s belief in the efficacy of preventive measures was the strongest motivator for compliance. The level of trust in government also appears to have been a factor. As noted earlier, Besley and colleagues[[105]](#footnote-106) observed that during the pandemic, nations with greater state capacity and more liberal orientations generally fared worse compared to low-income nations with fewer civil liberties. Increased self-efficacy was another crucial factor, as noted by Zohre Fathian-Dastgerdi,[[106]](#footnote-107) Ugur Ozdemir and colleagues,[[107]](#footnote-108) and Carolyn Rabin and Sunny Dutra,[[108]](#footnote-109) policymakers should appeal to self-efficacy among resistant groups to encourage preventive behaviors.

Various interventions helped to improve hygiene practices, such as hand-washing. Research conducted by A. Naikoba and S. Hayward[[109]](#footnote-110) found that combined approaches using written materials, reminders, and feedback were effective in promoting compliance. Renata Porzig-Drummond and colleagues.[[110]](#footnote-111) demonstrated that disgust-based interventions were more effective than educational posters, and Ido Rodensky and D. Erev showed the value of gentle reminders in promoting hand hygiene.[[111]](#footnote-112)

Various measures influenced the uptake of vaccinations, one of which was the “Green Pass” system introduced in Israel, as reported by Mor Saban and colleagues.[[112]](#footnote-113) As raised earlier, Ivo Vlaev and colleagues demonstrated that monetary incentives also played a significant role in vaccination uptake.[[113]](#footnote-114) As noted, they found that a $1000 incentive could increase vaccination uptake to 86.9%, although some individuals remained unwilling to vaccinate regardless of the incentive. Sarah Kreps suggested that belief in the efficacy of vaccination was more important than financial incentives in encouraging vaccination.[[114]](#footnote-115)

Table with predictors and behavior[[115]](#footnote-116)

|  |  |  |  |
| --- | --- | --- | --- |
| Desirable Behavior | Public Policy | Outcome | Citation |
| Social Distancing | Rhetoric – Appeals to Fear |  | Harper, C. A., Satchell, L. P., Fido, D., & Latzman, R. D. (2020). Functional fear predicts public health compliance in the COVID-19 pandemic. *International journal of mental health and addiction*, 1-14 |
| improved hand hygiene | Rhetoric – Appeals to Fear |  | Harper, C. A., Satchell, L. P., Fido, D., & Latzman, R. D. (2020). Functional fear predicts public health compliance in the COVID-19 pandemic. *International journal of mental health and addiction*, 1-14 |
| Compliance | Rhetoric – Unity, Solidarity | Greater perception of social endorsement of the guidelines (with preference for experts), positive attitudes related to the guidelines, and stronger intentions to follow the guidelines were associated with greater adherence. [PREDICTOR] | Bogg, Tim, and Elizabeth Milad. “Demographic, Personality, and Social Cognition Correlates of Coronavirus Guideline Adherence in a U.S. Sample.” *American Psychology Association*, 2020, doi:10.31234/osf.io/yc2gq.  Salali, G. D., & Uysal, M. S. (2021). Effective incentives for increasing COVID-19 vaccine uptake. *Psychological Medicine*, 1-6.‏ |
| Compliance | Promotion of belief of efficacy. | People’s belief in the efficacy of the preventive measures was the strongest predictor of that kind of behavior. [PREDICTOR] | Iyer, G., Nandur, V., & Soberman, D. (2021). Vaccine Hesitancy and Monetary Incentives.‏ |
| Compliance | Trust in Government – State Capacity | Liberally-oriented nations with greater state capacity (required more support from their citizens) have generally fared ***worse*** during the pandemic than countries without civil liberties and high income.  [PREDICTOR] | Tim Besley: Trust, Resilience, and Effectiveness of Government |
| Compliance | Belief in self-efficacy. | Studies urge policymakers to appeal to efficacy amongst particularly resistant groups, as increased self-efficacy is related to increased adoption/frequency of preventive measures. | Fathian-Dastgerdi, Zohreh, et al. “Factors Associated with Preventive Behaviors of COVID-19 among Adolescents: Applying the Health Belief Model.” *Research in Social and Administrative Pharmacy*, vol. 17, no. 10, 2021, pp. 1786–1790., doi:10.1016/j.sapharm.2021.01.014.  Ozdemir, Semra, et al. “Adoption of Preventive Behavior Strategies and Public Perceptions about COVID-19 in Singapore.” *International Journal of Health Policy and Management*, 2020, doi:10.34172/ijhpm.2020.199.  Rabin, Carolyn, and Sunny Dutra. “Predicting Engagement in Behaviors to Reduce the Spread of Covid-19: The Roles of the Health Belief Model and Political Party Affiliation.” *Psychology, Health & Medicine*, vol. 27, no. 2, 2021, pp. 379–388., doi:10.1080/13548506.2021.1921229. |
| Hygiene – hand-washing, limited transmission of infection. | Combined Approach – written materials, reminders, and continued feedback on performance. |  | A., Naikoba; S. Hayward. “The Effectiveness of Interventions Aimed at Increasing Hand-washing in Healthcare Workers - A Systematic Review.” *The Journal of Hospital Infection*, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/11247676/. |
| Hygiene – hand-washing, limited transmission of infection. | Disgust-based Intervention – | Significantly better at promoting hand hygiene rather than educational posters. | M;, Porzig-Drummond R;Stevenson R;Case T;Oaten. “Can the Emotion of Disgust Be Harnessed to Promote Hand Hygiene? Experimental and Field-Based Tests.” *Social Science & Medicine (1982)*, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/19181428/. |
| Hygiene – hand-washing, limited transmission of infection. | “Gentle Reminders” |  | Rodensky, Erev. “The Value of Gentle Enforcement on Safe Medical Procedures.” *Research Gate*, Jan. 2010, www.researchgate.net/publication/281245161\_The\_value\_of\_gentle\_enforcement\_on\_safe\_medical\_procedures.  Rodensky, Erev. “The Value of Gentle Enforcement on Safe Medical Procedures.” *Research Gate*, Jan. 2010, www.researchgate.net/publication/281245161\_The\_value\_of\_gentle\_enforcement\_on\_safe\_medical\_procedures |
| Vaccination | Green Pass |  | Saban, M., Myers, V., Shetrit, S. B., & Wilf-Miron, R. (2021). Issues surrounding incentives and penalties for COVID-19 vaccination: The Israeli experience. *Preventive medicine*, *153*, 106763.‏ |
| Vaccination | Monetary Incentive | The study found that a $1000 incentive increases vaccination uptake by up to 86.9%, but there is still a group of “unwillings”, whom no amount of monetary incentives can influence to vaccinate. Financial incentives are better in increasing the performance of infrequent behaviors, like vaccination, rather than sustained behaviors (hand-washing, mask-wearing). Incentives have been found to be highly relevant to the decision to vaccinate. | Vlaev, I., King, D., Darzi, A., & Dolan, P. (2019). Changing health behaviors using financial incentives: a review from behavioral economics. *BMC Public Health*, *19*(1), 1-9.‏  Saban, M., Myers, V., Shetrit, S. B., & Wilf-Miron, R. (2021). Issues surrounding incentives and penalties for COVID-19 vaccination: The Israeli experience. *Preventive medicine*, *153*, 106763.; Salali, G. D., & Uysal, M. S. (2021). Effective incentives for increasing COVID-19 vaccine uptake. *Psychological Medicine*, 1-6.‏ |
| Vaccination | Belief of efficacy. | A survey of U.S. participants indicated that believing in the efficacy of the vaccination was more important than incentives. | Kreps, S., Dasgupta, N., Brownstein, J. S., Hswen, Y., & Kriner, D. L. (2021). Public attitudes toward COVID-19 vaccination: The role of vaccine attributes, incentives, and misinformation. *npj Vaccines*, *6*(1), 1-7.‏ |

1. Special thanks to Ayala Sela, Danielle .. for her research assistantship in this chapter. [↑](#footnote-ref-1)
2. “CDC Museum Covid-19 Timeline.” Centers for Disease Control and Prevention, 16 Aug. 2022, [www.cdc.gov/museum/timeline/covid19.html](http://www.cdc.gov/museum/timeline/covid19.html). [↑](#footnote-ref-2)
3. See: “CDC Museum Covid-19 Timeline”. [↑](#footnote-ref-3)
4. Ahmed, Nadeem, Regio A. Michelin, Wanli Xue, Sushmita Ruj, Robert Malaney, Salil S. Kanhere, Aruna Seneviratne, Wen Hu, Helge Janicke, and Sanjay K. Jha. 2020. "A Survey of Covid-19 Contact Tracing Apps". *IEEE Access.*8: 134577-134601. [↑](#footnote-ref-4)
5. Johnson, Carol, and Blair Williams. "Gender and Political Leadership in a Time of COVID." *Politics & Gender*: 1-12; Sergent, Kayla, and Alexander D. Stajkovic. (2020). "Women’s leadership is associated with fewer deaths during the COVID-19 crisis: Quantitative and qualitative analyses of United States governors." *Journal of Applied Psychology*. [↑](#footnote-ref-5)
6. Pak, A., McBryde, E., & Adegboye, O. A. (2021). "Does high public trust amplify compliance with stringent COVID-19 government health guidelines? A multi-country analysis using data from 102,627 individuals". *Risk Management and Healthcare Policy*, *14*, 293. [↑](#footnote-ref-6)
7. Haug, N., Geyrhofer, L., Londei, A., Dervic, E., Desvars-Larrive, A., Loreto, V., Klimek, P. (2020). "Ranking the effectiveness of worldwide COVID-19 government interventions". *Nature human behavior*, Vol. 4(12), Pg. 1303-1312. [↑](#footnote-ref-7)
8. Bartscher, A. K., Seitz, S., Slotwinski, M., Siegloch, S., & Wehrhöfer, N. (2020). "Social capital and the spread of Covid-19": Ins*ights from European countries*;Borgonovi, F., & Andrieu, E. (2020). "Bowling together by bowling alone: Social capital and Covid-19".*Social Science & Medicine,*265, 113501; Ding, W., Levine, R., Lin, C., & Xie, W. (2020). "Social distancing and social capital: why US counties respond differently to COVID-19" (No. w27393). *National Bureau of Economic Research*. [↑](#footnote-ref-8)
9. Gelfand, M. J., Jackson, J. C., Pan, X., Nau, D., Pieper, D., Denison, E.,& Wang, M. (2021). "The relationship between cultural tightness–looseness and COVID-19 cases and deaths: a global analysis"*. The Lancet Planetary Health,*Vol. 5(3), e135-e144. [↑](#footnote-ref-9)
10. Mwagwabi, F., McGill, T., & Dixon, M. (2018). "Short-term and long-term effects of fear appeals in improving compliance with password guidelines". *Communications of the Association for Information Systems*, Vol. 42(1), 7. [↑](#footnote-ref-10)
11. Harper, C. A., Satchell, L. P., Fido, D., & Latzman, R. D. (2020). "Functional fear predicts public health compliance in the COVID-19 pandemic". *International journal of mental health and addiction*, 1-14. [↑](#footnote-ref-11)
12. Sunshine, J., & Tyler, T. R. (2003). "The role of procedural justice and legitimacy in shaping public support for policing". *Law & society review*, Vol. *37*(3), p. 513-548. [↑](#footnote-ref-12)
13. Fehr, E., & Fischbacher, U. (2004). "Social norms and human cooperation". *Trends in cognitive sciences*, Vol. *8*(4), p. 185-190; Rand, D. G., & Nowak, M. A. (2013). "Human cooperation". *Trends in cognitive sciences*, Vol. 17(8), p. 413-425; Reynolds, K. J. (2019). "Social norms and how they impact behavior". *Nature human behavior*, Vol. 3(1), p.14-15. [↑](#footnote-ref-13)
14. This will be measured by text mining techniques in collaboration with the Lab of Ronen Feldman from the Hebrew University. [↑](#footnote-ref-14)
15. Thomas Hale, Tilbe Atav, Laura Hallas, Beatriz Kira, Toby Phillips, Anna Petherick, Annalena Pott. "Variation in US states’ responses to COVID-19". *Blavatnik School of Government*;  [COVID-19 Community Mobility Reports](https://www.google.com/covid19/mobility/) by Google; <https://ourworldindata.org/covid-government-stringency-index>. [↑](#footnote-ref-15)
16. Saban, Mor, et al. “Issues Surrounding Incentives and Penalties for Covid-19 Vaccination: The Israeli Experience.” *Preventive Medicine*, vol. 153, 2021, p. 106763., <https://pubmed.ncbi.nlm.nih.gov/34352308/>. [↑](#footnote-ref-16)
17. Mantzari, Eleni, et al. “Personal Financial Incentives for Changing Habitual Health-Related Behaviors: A Systematic Review and Meta-Analysis.” *Preventive Medicine*, vol. 75, 2015, pp. 75–85., <https://pubmed.ncbi.nlm.nih.gov/25843244/>. [↑](#footnote-ref-17)
18. Vlaev, Ivo, et al. “Changing Health Behaviors Using Financial Incentives: A Review from Behavioral Economics.” *BMC Public Health*, vol. 19, p. 1, 7 Aug. 2019, <https://doi.org/10.1186/s12889-019-7407-8> [↑](#footnote-ref-18)
19. See Kreps, Sarah, et al. “Public Attitudes toward Covid-19 Vaccination: The Role of Vaccine Attributes, Incentives, and Misinformation.” *Npj Vaccines*, vol. 6, p. 1, 2021, <https://doi.org/10.1038/s41541-021-00335-2> [↑](#footnote-ref-19)
20. Carpio, Carlos E., et al. "COVID-19 vaccine demand and financial incentives." *Applied Health Economics and Health Policy* 19 (2021): 871-883. [↑](#footnote-ref-20)
21. Iyer, Ganesh, Vivek Nandur, and Soberman. "Vaccine hesitancy and monetary incentives." *Humanities and Social Sciences Communications* vol. 9. No. 1. (2022). [↑](#footnote-ref-21)
22. A. Naikoba, S. Hayward. “The Effectiveness of Interventions Aimed at Increasing Handwashing in Healthcare Workers - A Systematic Review”. *The Journal of Hospital Infection*, U.S. National Library of Medicine, <https://pubmed.ncbi.nlm.nih.gov/11247676/>. [↑](#footnote-ref-22)
23. M. Porzig-Drummond, R. Stevenson, R. Case, T. Oaten. “Can the Emotion of Disgust Be Harnessed to Promote Hand Hygiene? Experimental and Field-Based Tests.” *Social Science & Medicine (1982)*, U.S. National Library of Medicine, <https://pubmed.ncbi.nlm.nih.gov/19181428/>. [↑](#footnote-ref-23)
24. Rodensky, Erev. “The Value of Gentle Enforcement on Safe Medical Procedures.” *Research Gate*, Jan. 2010 <https://t.ly/3C91o>. [↑](#footnote-ref-24)
25. Bogg, Tim, and Elizabeth Milad. “Demographic, Personality, and Social Cognition Correlates of Coronavirus Guideline Adherence in a U.S. Sample.” *American Psychology Association*, April. 2020, <https://osf.io/preprints/psyarxiv/yc2gq>. [↑](#footnote-ref-25)
26. Jørgensen, F. J., Bor, A., & Petersen, M. (2020, May 19). Compliance Without Fear: Individual-Level Predictors of Protective Behavior During the First Wave of the COVID-19 Pandemic. <https://doi.org/10.1111/bjhp.12519> [↑](#footnote-ref-26)
27. Saban, M., Myers, V., Shetrit, S. B., & Wilf-Miron, R. (2021). "Issues surrounding incentives and penalties for COVID-19 vaccination: The Israeli experience". *Preventive medicine*, *153*, 106763.‏ [↑](#footnote-ref-27)
28. Salali, G. D., & Uysal, M. S. (2021). Effective incentives for increasing COVID-19 vaccine uptake. *Psychological Medicine*, vol. 1, pp. 1-6.‏ [↑](#footnote-ref-28)
29. Iyer, G., Nandur, V., & Soberman, D. (2021). "Vaccine Hesitancy and Monetary Incentives". *Humanities & Social ‏Sciences Communications*. <https://www.nature.com/articles/s41599-022-01074-y>. [↑](#footnote-ref-29)
30. Vlaev, I., King, D., Darzi, A., & Dolan, P. (2019). "Changing health behaviors using financial incentives: a review from behavioral economics". *BMC public health*, vol. 19(1), pp. 1-9.‏ [↑](#footnote-ref-30)
31. Mantzari, E., Vogt, F., Shemilt, I., Wei, Y., Higgins, J. P., & Marteau, T. M. (2015). "Personal financial incentives for changing habitual health-related behaviors: a systematic review and meta-analysis". *Preventive medicine*, vol. 75, pp. 75-85. [↑](#footnote-ref-31)
32. Carpio, C. E., Coman, I. A., Sarasty, O., & García, M. (Oct. 2021). "COVID-19 Vaccine Demand and Financial Incentives". *Applied Health Economics and Health Policy*, 1-13.‏ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8489978/>. [↑](#footnote-ref-32)
33. Lytras, T., Kopsachilis, F., Mouratidou, E., Papamichail, D., & Bonovas, S. (2016). "Interventions to increase seasonal influenza vaccine coverage in healthcare workers: a systematic review and meta-regression analysis". *Human vaccines & immunotherapeutics*, *vol. 12*(3), pp. 671-681.‏ [↑](#footnote-ref-33)
34. Klüver, H., Hartmann, F., Humphreys, M., Geissler, F., & Giesecke, J. (2021). "What incentives can spur Covid-19 vaccination uptake?" *Scripts* <https://doi.org/10.31219/osf.io/ax6pw>. [↑](#footnote-ref-34)
35. Huynh, T. L. D. (2020). "Does culture matter social distancing under the COVID-19 pandemic?". *Safety science*, *vol. 130*, pp. 104872 <https://www.sciencedirect.com/science/article/pii/S0925753520302691>. [↑](#footnote-ref-35)
36. # T. Wong (May 2020). "Coronavirus: Why some countries wear face masks and others don't" *BBC News, Singapore* <https://www.bbc.com/news/world-52015486>

    [↑](#footnote-ref-36)
37. Harper, C. A., Satchell, L. P., Fido, D., & Latzman, R. D. (2020). "Functional fear predicts public health compliance in the COVID-19 pandemic". *International journal of mental health and addiction*, pp. 1-14. [↑](#footnote-ref-37)
38. Bogg, Tim, and Elizabeth Milad. "Demographic, Personality, and Social Cognition Correlates of Coronavirus Guideline Adherence in a U.S. Sample." *American Psychology Association*, (2020), https://osf.io/preprints/psyarxiv/yc2gq ; Salali, G. D., & Uysal, M. S. (2021). "Effective incentives for increasing COVID-19 vaccine uptake". *Psychological Medicine*, pp. 1-6 <https://pubmed.ncbi.nlm.nih.gov/34538287/>. [↑](#footnote-ref-38)
39. See: "Vaccine Hesitancy and Monetary Incentives". [↑](#footnote-ref-39)
40. Tim Besely (Dec. 2020) "Trust, Resilience, and Effectiveness of Government" *LSE Economics* <https://www.lse.ac.uk/Events/Events-Assets/PDF/2020/03-MT/Tim-Besley-PP.pdf>. [↑](#footnote-ref-40)
41. Fathian-Dastgerdi, Zohreh, et al. "Factors Associated with Preventive Behaviors of COVID-19 among Adolescents: Applying the Health Belief Model." *Research in Social and Administrative Pharmacy*, vol. 17, no. 10, 2021, pp. 1786–1790., <https://pubmed.ncbi.nlm.nih.gov/33558153/>. Ozdemir, Semra, et al. "Adoption of Preventive Behavior Strategies and Public Perceptions about COVID-19 in Singapore*." International Journal of Health Policy and Management*, 2020, <https://pubmed.ncbi.nlm.nih.gov/33105971/>. Rabin, Carolyn, and Sunny Dutra. "Predicting Engagement in Behaviors to Reduce the Spread of Covid-19: The Roles of the Health Belief Model and Political Party Affiliation." *Psychology, Health & Medicine*, vol. 27, no. 2, 2021, pp. 379–388., doi:10.1080/13548506.2021.1921229. [↑](#footnote-ref-41)
42. A;, Naikoba S;Hayward. "The Effectiveness of Interventions Aimed at Increasing Handwashing in Healthcare Workers - A Systematic Review." *The Journal of Hospital Infection, U.S. National Library of Medicine*, https://pubmed.ncbi.nlm.nih.gov/11247676/. [↑](#footnote-ref-42)
43. M;, Porzig-Drummond R. Stevenson R. Case T. Oaten. "Can the Emotion of Disgust Be Harnessed to Promote Hand Hygiene? Experimental and Field-Based Tests." *Social Science & Medicine* (1982), U.S. National Library of Medicine, <https://pubmed.ncbi.nlm.nih.gov/19181428/>. [↑](#footnote-ref-43)
44. Rodensky, Erev. "The Value of Gentle Enforcement on Safe Medical Procedures." *Research Gate*, (Jan. 2010) [www.researchgate.net/publication/281245161\_The\_value\_of\_gentle\_enforcement\_on\_safe\_medical\_procedures](http://www.researchgate.net/publication/281245161_The_value_of_gentle_enforcement_on_safe_medical_procedures). [↑](#footnote-ref-44)
45. See: "Issues surrounding incentives and penalties for COVID-19 vaccination: The Israeli experience". [↑](#footnote-ref-45)
46. Vlaev, I., King, D., Darzi, A., & Dolan, P. (2019). "Changing health behaviors using financial incentives: a review from behavioral economics". *BMC public health*, vol. 19(1), pp. 1-9. [↑](#footnote-ref-46)
47. See: "Issues surrounding incentives and penalties for COVID-19 vaccination: The Israeli experience. See also: Effective incentives for increasing COVID-19 vaccine uptake. [↑](#footnote-ref-47)
48. Kreps, S., Dasgupta, N., Brownstein, J. S., Hswen, Y., & Kriner, D. L. (2021). "Public attitudes toward COVID-19 vaccination: The role of vaccine attributes, incentives, and misinformation". *NPJ Vaccines*, vol. 6(1), pp. 1-7. [↑](#footnote-ref-48)
49. Leonhardt, David. “Why Masks Work, but Mandates Haven't.” *The New York Times*, The New York Times, 31 May 2022, [www.nytimes.com/2022/05/31/briefing/masks-mandates-us-covid.html](http://www.nytimes.com/2022/05/31/briefing/masks-mandates-us-covid.html). [↑](#footnote-ref-49)
50. Aldila, Dipo, et al. “Analyzing the MERS Disease Control Strategy through an Optimal Control Problem.” *International Journal of Applied Mathematics and Computer Science*, vol. 28, no. 1, 2018, pp. 169–184., <https://sciendo.com/article/10.2478/amcs-2018-0013>. [↑](#footnote-ref-50)
51. Face Mask Uptake in the Absence of Mandates during the COVID-19 Pandemic: a Qualitative Interview Study with Swiss Residents. [↑](#footnote-ref-51)
52. "If You Wear a Mask, Then You Must Know How to Use it and Dispose of it Properly!”: A Survey Study in Vietnam (Toan Luu Duc Huynh et al). [↑](#footnote-ref-52)
53. Escandón, Kevin, et al. “Covid-19 False Dichotomies and a Comprehensive Review of the Evidence Regarding Public Health, COVID-19 Symptomatology, SARS-COV-2 Transmission, Mask Wearing, and Reinfection.” *BMC Infectious Diseases*, vol. 21, no. 1, 2021, <https://bmcinfectdis.biomedcentral.com/articles/10.1186/s12879-021-06357-4>. [↑](#footnote-ref-53)
54. Esmaeilzadeh, Pouyan. “Public Concerns and Burdens Associated with Face Mask-Wearing: Lessons Learned from the Covid-19 Pandemic.” *Progress in Disaster Science*, vol. 13, 2022, p. 100215, <https://pubmed.ncbi.nlm.nih.gov/35036901/>/ [↑](#footnote-ref-54)
55. Zimmermann, Bettina Maria, et al. “Face Mask Uptake in the Absence of Mandates during the COVID-19 Pandemic: A Qualitative Interview Study with Swiss Residents.” *BMC Public Health*, vol. 21, no. 1, 2021, <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-021-12215-4>. [↑](#footnote-ref-55)
56. David Leonhardt “Why Masks Work, but Mandates Haven’t”, (May, 2022*) New York Times* <https://www.nytimes.com/2022/05/31/briefing/masks-mandates-us-covid.html>. [↑](#footnote-ref-56)
57. See: COVID-19 False Dichotomies and Comprehensive Review of the Evidence Regarding Public Health, COVID-19 Symptomatology, SARS-CoV-2 Transmission, Mask Wearing, and Reinfection (Kevin Escandon et al). [↑](#footnote-ref-57)
58. Clark, Cory, et al. “Predictors of Covid-19 Voluntary Compliance Behaviors: An International Investigation.” *Global Transitions*, vol. 2, 2020, pp. 76–82., <https://pubmed.ncbi.nlm.nih.gov/32835202/>. [↑](#footnote-ref-58)
59. Besley, Timothy, and Sacha Dray. "Institutions, trust and responsiveness: Patterns of government and private action during the COVID-19 pandemic." *LSE Public Policy Review* 1.4 (2021). [↑](#footnote-ref-59)
60. Mesch, Gustavo S., and Kent P. Schwirian. 2015. “Confidence in Government and Vaccination Willingness in the USA.” *Health Promotion International.* vol. 30 (2): pp. 213–21. [↑](#footnote-ref-60)
61. Lazarus, Jeffrey V., Scott Ratzan, Adam Palayew, Francesco C. Billari, Agnes Binagwaho, Spencer Kimball, Heidi J. Larson et al. "COVID-SCORE: A global survey to assess public perceptions of government responses to COVID-19 (COVID-SCORE-10)." *PloS one* vol. 15, no. 10 (2020). [↑](#footnote-ref-61)
62. Freimuth, V.S., Jamison, A.M., An, J., Hancock, G.R., Quinn, S.C. 2017. “Determinants of trust in the flu vaccine for African Americans and Whites”. *Social Science & Medicine*, vol. 193, no. 70-79. [↑](#footnote-ref-62)
63. Larson, Heidi J., Richard M. Clarke, Caitlin Jarrett, Elisabeth Eckersberger, Zachary Levine, Will S. Schulz, and Pauline Paterson. 2018. “Measuring Trust in Vaccination: A Systematic Review.” *Human Vaccines & Immunotherapeutic* vol. 14 (7): pp. 1599–1609. [↑](#footnote-ref-64)
64. Baumgaertner, Bert, Juliet E. Carlisle, and Florian Justwan. 2018. “The Influence of Political Ideology and Trust on Willingness to Vaccinate.” *PloS One* vol. 13 (1): <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0191728>. [↑](#footnote-ref-65)
65. Jarret, C., Wilson, R., O’Leary, M., Eckersberger, E., Larson, H.J., the SAGE Working Group on Vaccine Hesitancy. 2015. “Strategies for addressing vaccine hesitancy – A systematic review”. *Vaccine*, <https://pubmed.ncbi.nlm.nih.gov/25896377/>. [↑](#footnote-ref-66)
66. Badur, Selim, Martin Ota, Serdar Öztürk, Richard Adegbola, and Anil Dutta. 2020. “Vaccine Confidence: The Keys to Restoring Trust.” *Human Vaccines & Immunotherapeutic* vol. 16 (5): pp. 1007–17. <https://doi.org/10.1080/21645515.2020.1740559>. [↑](#footnote-ref-67)
67. Plohl, Nejc, and Bojan Musil. "Modeling compliance with COVID-19 prevention guidelines: The critical role of trust in science." *Psychology, Health & Medicine* (2020): 1-12 <https://pubmed.ncbi.nlm.nih.gov/32479113/>. [↑](#footnote-ref-68)
68. Peretti-Watel, Patrick, Jeremy K. Ward, William S Schulz, Pierre Verger, and Heidi J Larson. 2015. “Vaccine Hesitancy: Clarifying a Theoretical Framework for an Ambiguous Notion.” *PLoS Currents*. <https://pubmed.ncbi.nlm.nih.gov/25789201/>. [↑](#footnote-ref-69)
69. Pierre Verger & Eve Dubé. 2020. “Restoring confidence in vaccines in the COVID-19 era”. *Expert Review of Vaccines.* <https://pubmed.ncbi.nlm.nih.gov/32940574/>. [↑](#footnote-ref-70)
70. Dror, Amiel A., et al. *"*Vaccine Hesitancy: The next Challenge in the Fight against COVID-19" , 2020, <https://www.researchgate.net/publication/342253482_Vaccine_Hesitancy_The_Next_Challenge_in_the_Fight_Against_COVID-19>/ . Majid, Umair, et al. “Covid-19 Vaccine Hesitancy and Acceptance: A Comprehensive Scoping Review of Global Literature.” *Health Promotion International*, vol. 37, no. 3, 2022, <https://academic.oup.com/heapro/article/37/3/daac078/6631489>. [↑](#footnote-ref-71)
71. Thoresen, Siri, et al. “Trusting Others during a Pandemic: Investigating Potential Changes in Generalized Trust and Its Relationship with Pandemic-Related Experiences and Worry.” *Frontiers in Psychology*, vol. 12, 2021, <https://pubmed.ncbi.nlm.nih.gov/34512454/>. Gambetta, Diego, and Davide Morisi. “Covid-19 Infection Induces Higher Trust in Strangers.” *Proceedings of the National Academy of Sciences*, vol. 119, no. 32, 2022, <https://pubmed.ncbi.nlm.nih.gov/37983484/>. [↑](#footnote-ref-72)
72. See: Framing policies to mobilize citizens’ behavior during a crisis: Examining the effects of positive and negative vaccination incentivizing policies. [↑](#footnote-ref-73)
73. McCarthy, Molly, et al. "Policing COVID-19 physical distancing measures: managing defiance and fostering compliance among individuals least likely to comply." *Policing and society* 31.5 (2021): 601-620.‏ [↑](#footnote-ref-74)
74. Charron, Nicholas, Victor Lapuente, and Andrés Rodriguez-Pose. "Uncooperative society, uncooperative politics or both? How trust, polarization and populism explain excess mortality for COVID-19 across European regions." (2020) https://gupea.ub.gu.se/handle/2077/67189. [↑](#footnote-ref-75)
75. Feldman, Yuval. "The expressive function of trade secret law: Legality, cost, intrinsic motivation, and consensus." *Journal of Empirical Legal Studies* vol. 6.1 (2009): pp. 177-212. [↑](#footnote-ref-76)
76. Feldman, Yuval. "Experimental Approach to the Study of Normative Failures: Divulging of Trade Secrets by Silicon Valley Employees." *U. Ill. JL Tech. & Pol'y* (2003): 105. [↑](#footnote-ref-77)
77. Dada, Sara, et al. "Words matter: political and gender analysis of speeches made by heads of government during the COVID-19 pandemic." *BMJ global health* vol. 6.1 (2021): <https://gh.bmj.com/content/6/1/e003910>. [↑](#footnote-ref-78)
78. Luoto, Severi, and Marco Antonio Correa Varella. "Pandemic leadership: sex differences and their evolutionary–developmental origins." *Frontiers in psychology* 12 (2021): <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2021.633862/full>. [↑](#footnote-ref-79)
79. World Health Organization. "Closing the leadership gap: Gender equity and leadership in the global health and care workforce: policy action paper" (June 2021) https://iris.who.int/bitstream/handle/10665/341636/9789240025905-eng.pdf . [↑](#footnote-ref-80)
80. Jørgensen, F. J., Bor, A., & Petersen, M. (2020, May). "Compliance Without Fear: Individual-Level Predictors of Protective Behavior During the First Wave of the COVID-19 Pandemic." <https://doi.org/10.1111/bjhp.12519> [↑](#footnote-ref-81)
81. Martela, F., Hankonen, N., Ryan, R. M., & Vansteenkiste, M. (2021). "Motivating voluntary compliance to behavioural restrictions: Self-determination theory–based checklist of principles for COVID-19 and other emergency communications". *European Review of Social Psychology*, pp. 1-43. [↑](#footnote-ref-82)
82. Saban, M., Myers, V., Shetrit, S. B., & Wilf-Miron, R. (2021). "Issues surrounding incentives and penalties for COVID-19 vaccination: The Israeli experience". *Preventive medicine*, *153*, 106763. <https://journals.sagepub.com/doi/abs/10.1177/09636625211070500> ; Salali, G. D., & Uysal, M. S. (2021). Effective incentives for increasing COVID-19 vaccine uptake. *Psychological Medicine*, 1-6 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8485007/>. [↑](#footnote-ref-83)
83. Clark, C., Davila, A., Regis, M., & Kraus, S. (2020). Predictors of COVID-19 voluntary compliance behaviors: An international investigation. *Global transitions*, *vol. 2*, 7pp. 6-82.‏ [↑](#footnote-ref-84)
84. Kreps, S., Dasgupta, N., Brownstein, J. S., Hswen, Y., & Kriner, D. L. (2021). Public attitudes toward COVID-19 vaccination: The role of vaccine attributes, incentives, and misinformation. *npj Vaccines*, *vol. 6*(1), pp. 1-7.‏ [↑](#footnote-ref-85)
85. Vlaev, I., King, D., Darzi, A., & Dolan, P. (2019). Changing health behaviors using financial incentives: a review from behavioral economics. *BMC public health*, *vol. 19*(1), pp. 1-9.‏ [↑](#footnote-ref-86)
86. Mantzari, E., Vogt, F., Shemilt, I., Wei, Y., Higgins, J. P., & Marteau, T. M. (2015). Personal financial incentives for changing habitual health-related behaviors: a systematic review and meta-analysis. *Preventive medicine*, vol. *75*, pp. 75-85.‏ [↑](#footnote-ref-87)
87. Carpio, C. E., Coman, I. A., Sarasty, O., & García, M. (2021). COVID-19 Vaccine Demand and Financial Incentives. *Applied Health Economics and Health Policy*, pp. 1-13.‏ [↑](#footnote-ref-88)
88. [↑](#footnote-ref-89)
89. Jørgensen, Frederik Juhl, et al. “Compliance without Fear: Individual-Level Predictors of Protective Behavior during the First Wave of the COVID-19 Pandemic.” May 2020, <https://doi.org/10.31234/osf.io/uzwgf>. [↑](#footnote-ref-90)
90. T. Bucher, C. Collins, M.E. Rollo, T.A. McCaffrey, N. De Vlieger, D. Van der Bend and F.J.A. Perez-Cueto (2016), "Nudging consumers towards healthier choices: a systematic review of positional influences on food choice", British Journal of Nutrition, <https://www.cambridge.org/core/journals/british-journal-of-nutrition/article/nudging-consumers-towards-healthier-choices-a-systematic-review-of-positional-influences-on-food-choice/3D7DE450C7FEB6844E79D773C92A8B14> [↑](#footnote-ref-91)
91. K. Lycett, A. Miller, A. Knox, S. Dunn, J.A. Kerr, V. Sung and M. Wake (2017), "Nudge interventions for improving children's dietary behaviors in the home: A systematic review", Appetite, <https://www.sciencedirect.com/science/article/pii/S2451847617300222> [↑](#footnote-ref-92)
92. A. Arno and S. Thomas (2016), "The efficacy of nudge theory strategies in influencing adult dietary behaviour: a systematic review and meta-analysis", BMC Public Health, <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-016-3272-x>. [↑](#footnote-ref-93)
93. Meyer, Natanya, et al. “Biting the Bullet: When Self-Efficacy Mediates the Stressful Effects of Covid-19 Beliefs.” *PLOS ONE*, vol. 17, no. 1, 2022, doi:10.1371/journal.pone.0263022 . [↑](#footnote-ref-94)
94. Meyer, Natanya, et al. “Biting the Bullet: When Self-Efficacy Mediates the Stressful Effects of Covid-19 Beliefs.” *PLOS ONE*, vol. 17, no. 1, 2022, doi:10.1371/journal.pone.0263022. [↑](#footnote-ref-95)
95. Fathian-Dastgerdi, Zohreh, et al. “Factors Associated with Preventive Behaviors of COVID-19 among Adolescents: Applying the Health Belief Model.” *Research in Social and Administrative Pharmacy*, vol. 17, no. 10, 2021, pp. 1786–1790., doi:10.1016/j.sapharm.2021.01.014. [↑](#footnote-ref-96)
96. Ozdemir, Semra, et al. “Adoption of Preventive Behavior Strategies and Public Perceptions about COVID-19 in Singapore.” *International Journal of Health Policy and Management*, 2020, doi:10.34172/ijhpm.2020.199. [↑](#footnote-ref-97)
97. Rabin, Carolyn, and Sunny Dutra. “Predicting Engagement in Behaviors to Reduce the Spread of Covid-19: The Roles of the Health Belief Model and Political Party Affiliation.” *Psychology, Health & Medicine*, vol. 27, no. 2, 2021, pp. 379–388., doi:10.1080/13548506.2021.1921229. [↑](#footnote-ref-98)
98. Zhu, Nan, et al. “Acceptance of Society-Level and Individual-Level Preventive Measures during the COVID-19 Pandemic among College Students in Three Societies.” *Journal of Cross-Cultural Psychology*, vol. 52, no. 7, 2021, pp. 606–621., doi:10.1177/0022022121995971. [↑](#footnote-ref-99)
99. Kittel, Bernhard, et al. “Peers for the Fearless: Social Norms Facilitate Preventive Behaviour If Individuals Perceive Low COVID-19 Health Risks.” *PLOS ONE*, 2021, doi:10.31235/osf.io/q9b23. [↑](#footnote-ref-100)
100. Zhu, Nan, et al. “Acceptance of Society-Level and Individual-Level Preventive Measures during the COVID-19 Pandemic among College Students in Three Societies.” *Journal of Cross-Cultural Psychology*, vol. 52, no. 7, 2021, pp. 606–621., doi:10.1177/0022022121995971. [↑](#footnote-ref-101)
101. Harper, C. A., Satchell, L. P., Fido, D., & Latzman, R. D. (2020). Functional fear predicts public health compliance in the COVID-19 pandemic. *International journal of mental health and addiction*, 1-14. [↑](#footnote-ref-102)
102. Bogg, Tim, and Elizabeth Milad. “Demographic, Personality, and Social Cognition Correlates of Coronavirus Guideline Adherence in a U.S. Sample.” *American Psychology Association*, 2020, doi:10.31234/osf.io/yc2gq.  [↑](#footnote-ref-103)
103. Salali, G. D., & Uysal, M. S. (2021). Effective incentives for increasing COVID-19 vaccine uptake. *Psychological Medicine*, 1-6.‏ [↑](#footnote-ref-104)
104. See: "Vaccine Hesitancy and Monetary Incentives".‏ [↑](#footnote-ref-105)
105. See: "Trust, Resilience, and Effectiveness of Government" [↑](#footnote-ref-106)
106. See: “Factors Associated with Preventive Behaviors of COVID-19 among Adolescents: Applying the Health Belief Model.” [↑](#footnote-ref-107)
107. See: “Adoption of Preventive Behavior Strategies and Public Perceptions about COVID-19 in Singapore.” [↑](#footnote-ref-108)
108. See: “Predicting Engagement in Behaviors to Reduce the Spread of Covid-19: The Roles of the Health Belief Model and Political Party Affiliation.” *Psychology, Health & Medicine*, vol. 27, no. 2, 2021, pp. 379–388., doi:10.1080/13548506.2021.1921229 [↑](#footnote-ref-109)
109. See: “The Effectiveness of Interventions Aimed at Increasing Handwashing in Healthcare Workers - A Systematic Review.” [↑](#footnote-ref-110)
110. See: “Can the Emotion of Disgust Be Harnessed to Promote Hand Hygiene? Experimental and Field-Based Tests.” [↑](#footnote-ref-111)
111. See: “The Value of Gentle Enforcement on Safe Medical Procedures.” [↑](#footnote-ref-112)
112. See: "Issues surrounding incentives and penalties for COVID-19 vaccination: The Israeli experience" [↑](#footnote-ref-113)
113. Vlaev, I., King, D., Darzi, A., & Dolan, P. (2019). Changing health behaviors using financial incentives: a review from behavioral economics. *BMC public health*, *19*(1), 1-9.‏ [↑](#footnote-ref-114)
114. Kreps, S., Dasgupta, N., Brownstein, J. S., Hswen, Y., & Kriner, D. L. (2021). Public attitudes toward COVID-19 vaccination: The role of vaccine attributes, incentives, and misinformation. *npj Vaccines*, *6*(1), 1-7.‏ [↑](#footnote-ref-115)
115. Special thanks for Ayala Sela for preparing [↑](#footnote-ref-116)