

Who's Listening? Predictors of Concern about COVID-19 and Preventative Health Behaviors

Natalie J. Shook¹, Barış Sevi¹, Jerin Lee¹, Holly N. Fitzgerald¹, & Benjamin Oosterhoff²

¹University of Connecticut

²Montana State University

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Address correspondence to:

Natalie J. Shook

University of Connecticut

School of Nursing

231 Glenbrook Road

Storrs, CT 06269

E-mail: natalie.shook@uconn.edu

Phone: 860-486-0913

Abstract

BACKGROUND: The coronavirus disease 2019 (COVID-19) has spread rapidly across the globe. Based on recommendations from health organizations, many individuals have made significant changes to their daily lives to prevent the spread of the disease.

OBJECTIVE/METHOD: This study sought to identify demographic and psychosocial factors associated with concern about COVID-19 and engagement in preventative health behaviors suggested to reduce the transmission of COVID-19 (social distancing, handwashing, cleaning/disinfecting, avoiding touching face, and wearing facemasks). From March 20 to 23, 2020, a US national sample ($N=1019$) completed an online survey. **RESULTS:** Recent illness, religiosity, germ aversion, and pathogen disgust sensitivity were the most consistent predictors of COVID-19 concern and preventative health behaviors. **CONCLUSION:** Findings have implications for the development of interventions intended to increase preventative health behaviors.

Keywords. Coronavirus; COVID-19; preventative health behavior; social distancing; personality; disease avoidance

One Sentence Summary

The present study identified demographic and psychosocial factors associated with concern about COVID-19 and preventative health behaviors.

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In December 2019, there was an outbreak of a novel coronavirus originating in Wuhan, China. The virus and its resultant infection, coronavirus disease 2019 (COVID-19), spread rapidly across the globe, leading the World Health Organization (WHO) to label the outbreak a pandemic on March 11, 2020 [1]. As of April 15, 2020, there were over 1.9 million confirmed cases of COVID-19 worldwide and over 120,000 deaths [2]. In order to decrease transmission of the virus and reduce likelihood of illness, health organizations recommended a number of preventative health behaviors, such as washing hands frequently and thoroughly, avoiding touching one's face, disinfecting and cleaning frequently touched surfaces, engaging in social distancing (i.e., avoiding close contact with others), and wearing facemasks¹ [2, 3]. On March 13, 2020, the US declared COVID-19 a national emergency [4], which prompted many—*but not all*—US citizens to follow health organization guidelines and drastically change their everyday behaviors in order to avoid contracting and spreading COVID-19. Given the magnitude of the COVID-19 pandemic, it is crucial to identify demographic and psychosocial factors that account for differences in compliance with health recommendations in order to create efficacious disaster response strategies to limit the impact of the disease, or future infectious diseases.

There are a number of demographic and psychosocial factors that may influence basic concern about COVID-19 and engagement in preventative health behaviors. Age may be an important determinant, as older adults are at greater risk of serious complications from COVID-19 than younger adults [3]. Socioeconomic status (SES) may also play a notable role. Those with higher income or education are more likely to have financial resources and careers that allow for

¹ Recommendations regarding facemasks have varied. At the time of data collection, facemasks were recommended only if individuals thought they had COVID-19. On April 3, 2020, the CDC recommended that everyone should wear a cloth facemask in public or when around others [3].

social distancing practices (e.g., telecommuting, food delivery services), whereas individuals who are low SES may have less ability to stay home and avoid contact with others [5]. Religiosity has been associated with better health, which may be due to more religious individuals engaging in more positive health behaviors, such as greater physical activity, less alcohol consumption, and less smoking [6]. Political orientation has specifically been associated with differential responses to COVID-19, with Democrats reporting more concern and greater engagement in preventative health behaviors than Republicans [7].

Personality factors have also been linked to health behaviors. A recent metasynthesis found that the classic five-factor model of personality (i.e., the Big Five) [8], which consists of agreeableness, extraversion, conscientiousness, neuroticism, and openness to experience, is associated with a variety of different health behaviors (e.g., physical activity, less alcohol consumption) [9]. In particular, conscientiousness and agreeableness were positively associated with health behaviors, whereas neuroticism was negatively associated with health behaviors. Further, there are disease-avoidance psychological factors that have been proposed as behavioral means to prevent contact with pathogens and the contraction of infectious disease [10]. Specifically, disgust sensitivity [11, 12], germ aversion [13], and perceived infectability [13] are proposed to facilitate detection of potential sources of pathogens and encourage avoidance behavior, decreasing the likelihood of infection [14]. As such, individuals higher in disgust sensitivity, germ aversion, and perceived infectability should be more concerned with the COVID-19 pandemic and more likely to engage in preventative health behaviors.

On March 20 and 23, 2020, approximately a week after COVID-19 was declared a pandemic and US national emergency, a US nationally representative sample ($N = 1019$; 514 female; $M_{\text{age}} = 46.33$ years, $SD_{\text{age}} = 16.57$, range: 18 - 85 years; 77.3% White; $Mdn_{\text{education}} =$

College graduate; $Mdn_{income} = \$70,000 - \$79,999$; See Table S1 for a full description of the sample) completed an online survey. Respondents provided basic demographic information, as well as health information. Several health conditions (e.g., pregnancy, diabetes, immunosuppressant medications) have been identified that place individuals at greater risk of complications from COVID-19 [3], which may influence concern about COVID-19 and engagement in preventative health behaviors. Health information was used to identify whether respondents were at risk for serious complications from COVID-19 and whether they had a family member at risk for serious complications. Recent illness, general perceived health, and COVID-19 infection status were also assessed. Respondents completed measures to assess personality (i.e., Big Five traits), disease-avoidance individual differences (i.e., pathogen disgust sensitivity, germ aversion, perceived infectability), and social beliefs (i.e., religiosity and political ideology). Respondents were asked to report how concerned they were about COVID-19 and rate the seriousness of the coronavirus, as well as indicate how frequently they had engaged in preventative health behaviors in the past week. Specifically, they reported on handwashing, disinfecting/cleaning behavior, avoiding touching their face, social distancing, and wearing an antiviral facemask. (See Supplemental Material for a full description of the method.)

First, bivariate correlations were estimated between the individual factors (i.e., demographic and psychosocial factors) and concern about COVID-19, as well as the preventative health behaviors (see Table 1). Respondents who were older, White, female, more highly educated, at high risk for complications from COVID-19, had a family member at high risk for complications from COVID-19, had not recently been ill, never had COVID-19, were less religious, were more liberal, were higher in perceived infectability, germ aversion, or pathogen disgust sensitivity, and were more agreeable, conscientious, or open to experience

reported greater concern for COVID-19. In general, younger age, higher income, more populated location of residence, more recent illness, better perceived health, having/had COVID-19, greater religiosity, greater perceived infectability, greater germ aversion, greater pathogen disgust sensitivity, greater extraversion, and greater conscientiousness were associated with engaging in most (at least three) of the preventative health behaviors more frequently. Of note, however, germ aversion and conscientiousness were negatively associated with wearing an antiviral facemask. Also, younger age, more recent illness, having/had COVID-19, and greater perceived infectability were associated with less frequent handwashing. Greater concern about COVID-19 was associated with more frequent engagement in all of the preventative health behaviors, except for wearing an antiviral facemask. Concern about COVID-19 was negatively associated with wearing an antiviral facemask. At the time of data collection, the CDC only recommended wearing a facemask if individuals thought they had COVID-19, and people were dissuaded from wearing antiviral (N95) facemasks in order to prevent shortages of such personal protective equipment at hospitals and for healthcare workers [15].

To determine which demographic and psychosocial variables independently accounted for significant variance in concern about COVID-19 and preventative health behaviors, a series of hierarchical regression analyses were conducted (see Table 2 and Supplemental Material for more detailed report of results). Demographic and psychosocial variables were entered as predictors in all models, and concern about COVID-19 was entered as a predictor for preventative health behavior models. When considered simultaneously, older age, higher education, less recent illness, liberal political ideology, greater perceived infectability, greater germ aversion, greater pathogen disgust sensitivity, greater conscientiousness, and greater neuroticism were independently and significantly associated with greater concern about COVID-

19. For preventative health behaviors, more recent illness, better perceived health, greater religiosity, greater germ aversion, greater pathogen disgust sensitivity, and greater COVID-19 concern were the most consistent independent and significant predictors.

Overall, our findings suggest that responses to COVID-19 are primarily psychosocial phenomena. When considered simultaneously with other variables, demographic factors generally were not significantly related to concern about COVID-19 or preventative health behaviors. A few exceptions are worthy of note. Older age was associated with more concern about COVID-19, but this did not translate into greater engagement in preventative health behaviors. In fact, older age was associated with less cleaning/disinfecting behavior and less utilization of antiviral facemasks. Greater income was associated with more social distancing and cleaning/disinfecting behavior. Potentially, greater financial resources may facilitate the ability to engage in these practices, such as working from home and having access to disinfecting supplies. However, the effect sizes for income were small.

Health status, specifically recent illness and general perceived health, was associated with many preventative health behaviors. Well-being may be more salient for both those who have been ill recently or perceive themselves as having good health, but the underlying motivations may differ. For the former, engaging in preventative health behaviors may be motivated by wanting to protect others from getting sick. Indeed, those who had been ill recently were less concerned about COVID-19, but recent illness was the strongest predictor of wearing antiviral facemasks. Individuals who perceive themselves as having generally good health may be motivated to maintain their health and engage in preventative health behaviors to reduce the likelihood of getting sick themselves.

Individual differences in disease avoidance—germ aversion and pathogen disgust sensitivity—were the most consistent predictors of concern about COVID-19 and preventative health behaviors. In fact, these individual difference variables were more consistently associated with greater health behaviors and COVID-19 concern than the Big Five personality traits. Further, the effect sizes of the associations between germ aversion and preventative health behaviors were comparable to the effect sizes of the relations between COVID-19 concern and preventative health behaviors. These findings support theory suggesting the protective function of psychological disease-avoidance mechanisms [14] and have implications for messaging about COVID-19 or other infectious diseases. In addition to focusing on the severity of infection, it may be beneficial for messages about COVID-19 to also emphasize aspects of the virus and disease that activate the psychological disease-avoidance processes (e.g., induce feelings of disgust). Although individuals reliably differ in these psychological traits, there are malleable components to the disease-avoidance processes that can be activated, leading to behavior change [14].

Unlike previous work [7], political orientation was not a reliable predictor of preventative health behavior in this nationally-representative sample. Although those who were more liberal endorsed greater concern about COVID-19, we did not find evidence that political ideology was associated with greater engagement in preventative health behaviors, other than greater avoidance of touching one's face. In our study, we considered a broader range of demographic, health, and psychosocial factors than Gadarian et al., which may account for the differences in results. Interestingly, greater religiosity was associated with engaging in all of the preventative health behaviors, except for handwashing, more frequently. However, when considered in conjunction with other variables, religiosity was not associated with concern about COVID-19.

Although the empirical evidence is mixed, religiosity has been proposed to encourage prosocial behaviors [16], so these results could reflect prosociality if engaging in preventative health behaviors is for the benefit of others. Religiosity has also been associated with greater social conformity [17]. Thus, these findings may be due to religious individuals' greater sensitivity to social norms and pressure.

In conclusion, our study has highlighted several factors associated with concern about COVID-19 and engagement in preventative health behaviors. Although these data are cross-sectional preventing causal claims, the wide range of demographic and psychosocial variables considered reduces the possibility of third variables. These findings identify those who may be at greater risk of contracting and spreading COVID-19, or future infectious diseases, as well as provide potential targets for interventions intended to increase preventative health behaviors to reduce pathogen transmission.

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Table 1. Bivariate Correlations between Respondent Characteristics (Demographic and Psychosocial Factors) and Concern about COVID-19 and Preventative Health Behaviors

	COVID-19 Concern	Social Distancing	Avoid Touching Face	Wearing Facemask	Hand Washing	Cleaning/ Disinfecting
Age	0.19***	-0.07*	-0.06	-0.23***	0.11***	-0.15***
Race	-0.07*	0.03	0.04	0.11***	-0.07*	0.07*
Sex	0.11***	-0.01	0.06	-0.17***	0.17***	0.01
Education	0.10**	0.12***	0.09**	0.01	0.02	-0.02
Income	0.04	0.13***	0.08*	0.07*	0.04	0.06
Hometown	-0.01	0.06	0.08*	0.16***	-0.02	0.07*
Work in Healthcare	-0.06	0.05	0.05	0.16***	-0.01	0.07*
Risk Status (Self)	0.10**	0.09*	-0.01	0.10**	0.02	0.05
Risk Status (Family)	0.11***	-0.01	0.01	-0.09**	0.09**	-0.10**
Illness Recency	-0.17***	0.24***	0.05	0.44***	-0.22***	0.22***
Perceived Health	-0.06	0.09**	0.08*	0.09**	0.09**	0.09**
COVID-19 Status	-0.06*	0.08**	0.05	0.17***	-0.07*	0.06*
Religiosity	-0.12***	0.21***	0.08*	0.24***	-0.06	0.22***
Political Orientation	0.23***	0.03	0.10***	-0.05	0.08*	0.03
Perceived Infectability	0.08**	0.17***	0.11***	0.22***	-0.10***	0.15***
Germ Aversion	0.25***	0.20***	0.27***	-0.07*	0.29***	0.21***
Pathogen Disgust	0.18***	0.22***	0.15***	0.06	0.24***	0.22***
Extraversion	0.04	0.14***	0.08*	0.01	0.04	0.15***
Agreeableness	0.11***	-0.01	0.02	-0.13***	0.11***	-0.01
Conscientiousness	0.20***	-0.01	0.10***	-0.24***	0.25***	0.03
Neuroticism	0.02	0.03	-0.05	0.04	-0.08*	0.01
Openness	0.14***	0.03	0.01	-0.09**	0.08**	0.01
COVID-19 Concern	--	0.24***	0.27***	-0.13***	0.27***	0.10***
Social Distancing	0.24***	--	0.47***	0.44***	0.20***	0.52***
Avoid Touching Face	0.27***	0.47***	--	0.22***	0.35***	0.41***
Wearing Facemask	-0.13***	0.44***	0.22***	--	-0.06	0.43***
Hand Washing	0.27***	0.20***	0.35***	-0.06	--	0.22***
Cleaning/Disinfecting	0.10***	0.52***	0.41***	0.43***	0.22***	--

Note. * $p < .05$. ** $p < .01$. *** $p \leq .001$. Race was coded: 1 = Not White, 0 = White. Sex was coded: 1 = female, 0 = male. Work in Healthcare was coded: 1 = yes, 0 = no. Risk Status was coded: 1 = high risk, 0 = not high risk. COVID-19 Status was coded: 1 = yes/maybe, 0 = no.

Table 2. Hierarchical Regression Models Predicting COVID-19 Concern and Preventative Health Behaviors

Predictor	COVID-19 Concern β	Social Distancing β	Avoid Touching Face β	Wearing Facemask β	Hand Washing β	Cleaning/ Disinfecting β
<i>Demographics</i>						
Age	0.12***	-0.07	-0.07	-0.11**	0.00	-0.14***
Race	-0.02	0.01	0.02	0.01	-0.04	0.01
Sex	0.02	-0.03	0.02	-0.10***	0.10***	-0.01
Education	0.07*	0.05	0.04	-0.03	-0.04	-0.06
Income	0.02	0.07*	0.05	0.05	0.03	0.07*
Hometown	0.01	0.00	0.04	0.08*	0.03	0.02
Work in Healthcare	-0.03	-0.01	0.03	0.05	0.02	0.01
Risk Status (Self)	0.06	0.05	-0.03	0.11***	0.05	0.08*
Risk Status (Family)	0.04	-0.04	0.02	-0.06*	0.03	-0.10***
Illness Recency	-0.13***	0.21***	0.05	0.31***	-0.12***	0.19***
Perceived Health	-0.01	0.08*	0.05	0.13***	0.07	0.07*
COVID-19 Status	0.01	-0.01	0.02	-0.01	0.01	-0.03
<i>Psychosocial</i>						
Religiosity	-0.03	0.17***	0.09**	0.11***	-0.02	0.14***
Political Orientation	0.21***	0.04	0.07*	0.02	0.05	0.05
Perceived Infectability	0.16***	0.01	0.06	0.03	-0.04	0.04
Germ Aversion	0.17***	0.16***	0.21***	0.02	0.16***	0.19***
Pathogen Disgust	0.09**	0.10***	0.02	0.05	0.13***	0.11***
Extraversion	0.01	0.13***	0.06	0.01	-0.01	0.12***
Agreeableness	0.05	0.00	0.00	-0.04	0.04	0.00
Conscientiousness	0.13***	-0.03	0.05	-0.10**	0.09*	0.04
Neuroticism	0.09**	0.02	-0.04	-0.05	-0.01	-0.01
Openness	0.05	-0.01	-0.05	-0.06*	0.04	0.00
<i>COVID-19</i>						
Concern	--	0.24***	0.22***	-0.02	0.13***	0.11***
R^2	0.23	0.25	0.18	0.29	0.21	0.23
F for change in R^2	18.27	53.38	41.93	0.36	15.18	10.68
p for change in R^2	< .001	< .001	< .001	0.55	< .001	.001

Note. * $p < .05$. ** $p < .01$. *** $p \leq .001$. Race was coded: 1 = Not White, 0 = White. Sex was coded: 1 = female, 0 = male. Work in Healthcare was coded: 1 = yes, 0 = no. Risk Status was coded: 1 = high risk, 0 = not high risk. COVID-19 Status was coded: 1 = yes/maybe, 0 = no. Significant statistics are bold.

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Supplemental Material

Method

Participants and Procedure

Data were collected on March 20 and 23, 2020, from a national sample of 1023 individuals residing in the US, recruited through the panel provider Qualtrics for a larger longitudinal study about the effects of coronavirus disease 2019 (COVID-19). The current study used the first wave of data. Four participants were excluded from analyses due to problematic response patterns (e.g., gibberish open-ended responses, straight line responses to close-ended measures). The final sample was comprised of 1019 participants (514 female; $M_{\text{age}} = 46.33$ years, $SD_{\text{age}} = 16.57$, range: 18 - 85 years; 77.3% White; $Mdn_{\text{education}} = \text{College graduate}$; $Mdn_{\text{income}} = \$70,000 - \$79,999$; See Table S1 for a full description of the sample). According to 2019 statistics from the US Census [18], our sample was generally representative of the national population in regard to sex and percentage of White vs. non-White individuals. However, the present sample is slightly more educated, has a higher median household income, and is slightly older compared to national estimates.

After electronically agreeing to be part of the study, participants completed the primary study measures and other questionnaires in a random order, except for perceived health, illness recency, health history, and demographics which appeared last (see Appendix for all measures). Upon completion, participants were given monetary compensation in an amount established by the panel provider. The online survey took approximately 27 minutes to complete.

Measures

Personality. A 10-item short version of the Big Five Inventory (BFI-10) [19] was used to assess the big five personality characteristics. Each personality trait was assessed with two items.

Participants rated their agreement on a 5-point scale from 1 (“Disagree Strongly”) to 5 (“Agree Strongly”) to statements for openness to experience (e.g., “has an active imagination”; $r = .07$), conscientiousness (e.g., “does a thorough job”; $r = .37$), neuroticism (e.g., “gets nervous easily”; $r = .39$), agreeableness (e.g., “is generally trusting”; $r = .18$), and extraversion (e.g., “is outgoing, sociable”; $r = .28$). A composite score for each personality characteristic was created by taking the average of the items. Higher values indicate stronger identification with that trait.

Perceived Vulnerability to Disease. The 15-item Perceived Vulnerability to Disease Questionnaire [13] is an individual difference measure that consists of two subscales: Germ Aversion and Perceived Infectability. The Germ Aversion subscale includes eight items and measures individual discomfort with situations that imply high likelihood of pathogen transmission (e.g., “It really bothers me when people sneeze without covering their mouths”; $\alpha = .70$). The Perceived Infectability subscale includes seven items and measures perceived personal susceptibility to disease and illness (e.g., “I am more likely than the people around me to catch an infectious disease”; $\alpha = .79$). All ratings of items were made on 7-point scale ranging from 1 (“Strongly Disagree”) to 7 (“Strongly Agree”). A composite score for each subscale was created by taking the average of the items. Higher scores reflect greater germ aversion or perceived infectability.

Pathogen Disgust Sensitivity. The 7-item pathogen disgust subscale from the Three Domains of Disgust Scale [12] was used to assess individual differences in disgust sensitivity specifically related to pathogens. Participants rated how disgusting they found each item (e.g. “stepping on dog poop”) on a 7-point scale from 0 (“not disgusting at all”) to 6 (“extremely disgusting”). A composite variable was created by taking the average of the items ($\alpha = .85$). Higher scores reflect greater pathogen disgust sensitivity.

COVID-19 Concern. Six items assessed the degree to which participants were concerned about COVID-19. One item explicitly asked participants to indicate how concerned they were about COVID-19 on a 5-point scale from 1 (“Not at all concerned”) to 5 (“Very concerned”). For the other five items, participants indicated their agreement with statements regarding the seriousness of the coronavirus (e.g., “The coronavirus is just the flu or a common cold,” “People are not doing enough to prevent the spread of the coronavirus”) on a 6-point scale 1 (“Strongly Disagree”) to 6 (“Strongly Agree”). Necessary items were reverse scored, and all items were standardized. A composite measure was created by taking the average of the standardized items ($\alpha = .81$). Higher scores indicate more concern towards COVID-19.

COVID-19 Infection Status. Participants indicated if they thought they have or had COVID-19 by indicating as “yes”, “maybe”, or “no”. For the analyses, the variable was dichotomized by combining the “yes” and “maybe” responses in to 1 and “no” was coded as 0.

Preventative Health Behaviors. Participants were asked to indicate how frequently they had engaged in 11 behaviors in the past week on a scale from 1 (“Not at all”) to 6 (“Multiple times a day”). A single item assessed the extent to which participants avoided touching their faces. A single item assessed frequency of wearing an antiviral mask. A single item assessed how often participants washed their hands for at least 20 seconds. Three items assessed frequency of disinfecting and cleaning frequently touched surfaces (i.e., “Clean and disinfect surfaces in your home with antibacterial wipes,” “Clean your laptop,” and “Clean your mobile phone”). A composite score was created by taking the average of the items ($\alpha = .86$). Higher scores indicated engaging in each behavior more frequently.

Five items assessed the extent to which participants avoided contact with others (e.g., “Avoid shaking someone’s hand for greeting,” “Avoid going to school/job”). Participants were

also asked to indicate the extent to which they were engaging in social distancing on a 5-point scale from 1 (“Not at all”) to 5 (“A great deal”). All six items were standardized and a composite measure was created by taking the average of the standardized items ($\alpha = .76$). Higher scores indicate more social distancing.

Perceived Health. Participants rated their overall health in general on a 5-point scale from 1 (“Poor”) to 5 (“Excellent”).

Recent Illness. Illness recency was assessed by asking the participants their agreement with four statements [20]. Using a 7-point scale from 1 (“strongly disagree”) to 7 (“strongly agree”), participants indicated their agreement to statements, such as “Over the past couple days, I have not been feeling well”. A composite score was created by taking the average of the items. Higher scores indicate more recent illness ($\alpha = .93$).

Health History. Participants were presented with 46 medical conditions and were asked to indicate whether they and/or a family member had each condition. Participants were also asked to indicate if they were taking any immunosuppressive medication and for females if they were pregnant. According to the Centers for Disease Control and Prevention (CDC), some individuals are at higher risk for severe illness from COVID-19 [3]. Twenty-two of the medical conditions in the health history questionnaire have been identified by the CDC as placing individuals at risk for severe complications from COVID-19 (e.g., diabetes, dialysis/transplant, cirrhosis), as well as pregnancy and immunosuppressive medication. From this information, a dichotomous variable indicating risk of complications from COVID-19 was created. If participants indicated they had at least one of the medical conditions identified by the CDC, were taking immunosuppressive medication, or were pregnant, they were coded 1 as a participant with

high risk of complication from COVID-19. Participants who did not meet any of these criteria were coded 0.

Based on health history information, a variable was also created to indicate whether participants had a family member at risk for complications from COVID-19. If participants indicated that a family member had at least one of the conditions identified by the CDC, they were coded 1 as a participant with a family member at high risk for complications from COVID-19. Participants who had no family members with any of the conditions were coded 0.

Political Orientation. Participants indicated their political orientation on a 5-point scale from 1 (“Very conservative”) to 5 (“Very liberal”).

Religiosity. Participants indicated the extent to which they were religious on an 11-point scale from 0 (“Not at all religious”) to 10 (“Extremely religious”).

Demographics. Participants reported their age, race, sex, education level, annual family income, size of town they lived in, and if they were working in a healthcare field.

Results

Descriptive statistics for all primary study variables are presented in Table S1. To identify whether demographic and psychosocial variables were related to concern about COVID-19 and preventative health behaviors, bivariate correlations were first estimated (see Table 1). In general, older age was related to greater COVID-19 concern, less social distancing, wearing an antiviral facemask less, more handwashing, and less cleaning/disinfecting. Individuals who identified as White were more concerned about COVID-19, engaged in wearing an antiviral facemask less, engaged in more handwashing, and engaged in less cleaning/disinfecting. Compared to males, females were more concerned about COVID-19, engaged in wearing an antiviral facemask less, and washed their hands more. Higher education was associated with

greater COVID-19 concern, greater social distancing, and greater avoidance of touching one's face. Greater income was associated with more social distancing, avoidance of touching one's face, and wearing an antiviral facemask more. More populated location of residence was related to greater engagement in avoidance of touching one's face, wearing an antiviral facemask more, and greater cleaning/disinfecting. Working in healthcare was associated with wearing an antiviral facemask more and greater cleaning/disinfecting. Being at high risk for complications from COVID-19 was related to greater COVID-19 concern, social distancing, and wearing an antiviral facemask more. Having a family member who is at high risk of complications from COVID-19 was related to greater COVID-19 concern, greater handwashing, wearing an antiviral facemask less, and less cleaning/disinfecting. More recent illness was associated with less concern for COVID-19, greater social distancing, wearing an antiviral facemask more, less handwashing, and greater cleaning/disinfecting. Greater perceived health was related to greater engagement in all preventative health behaviors. Belief that one had or has COVID-19 was associated with less COVID-19 concern, greater social distancing, wearing an antiviral facemask more, less handwashing, and greater cleaning/disinfecting.

With regard to psychosocial variables, greater religiosity was associated with less COVID-19 concern but greater engagement in all preventative health behaviors. Greater perceived infectability was associated with greater COVID-19 concern, greater social distancing, greater avoidance of touching one's face, wearing an antiviral facemask more, less handwashing, and greater cleaning/disinfecting. Greater germ aversion was associated with greater COVID-19 concern, greater social distancing, greater avoidance of touching one's face, wearing an antiviral facemask less, greater handwashing, and greater cleaning/disinfecting. Greater pathogen disgust was associated with greater COVID-19 concern, greater social distancing, greater avoidance of

touching one's face, greater handwashing, and greater cleaning/disinfecting. Greater extraversion was associated with greater social distancing, greater avoidance of touching one's face, and greater cleaning/disinfecting. Greater agreeableness was associated with greater COVID-19 concern, wearing an antiviral facemask less, and greater handwashing. Greater conscientiousness was associated with greater COVID-19 concern, greater avoidance of touching one's face, wearing an antiviral facemask less, and greater handwashing. Greater neuroticism was associated with less handwashing. Greater openness was associated with more COVID-19 concern, wearing an antiviral facemask less, and greater handwashing. Except for a non-significant association between wearing an antiviral facemask and handwashing, all other preventative health behaviors were positively associated with one another. Greater COVID-19 concern was also related to greater social distancing, greater avoidance of touching one's face, greater handwashing, and greater cleaning/disinfecting. Greater COVID-19 concern was associated with wearing an antiviral facemask less.

Concern about COVID-19

To determine which demographic and psychosocial factors uniquely predicted concern about COVID-19, we conducted a hierarchical regression analysis (see Table S2). Demographic characteristics (i.e., age, race, sex, education, income, size of hometown, whether or not one works in healthcare, one's risk of severe illness from COVID-19, family's risk of severe illness from COVID-19, illness recency, perceived health, and history of COVID-19 infection) were entered in Step 1. Psychosocial variables (i.e., religiosity, political orientation, perceived infectability, germ aversion, pathogen disgust sensitivity, extraversion, openness, conscientiousness, neuroticism, and agreeableness) were entered in Step 2. Multicollinearity was checked and found not to be a problem (all VIF < 5, Tolerance > 0.20).

Overall, the model was significant, adjusted $R^2 = 0.21$, $F(22, 906) = 12.35$, $p < .001$. In Step 1, demographic factors accounted for significant variance in concern about COVID-19, $R^2 = 0.08$, $F(12, 916) = 6.24$, $p < .001$, a small effect ($f^2 = .08$). Older age, being female, higher education, and not having been recently ill were each significantly associated with greater COVID-19 concern. The inclusion of psychosocial variables in Step 2 significantly increased the variance accounted for, $\Delta R^2 = .16$, $F(10, 906) = 18.27$, $p < .001$, a medium effect ($f^2 = .18$). Being more liberal, as well as greater perceived infectability, germ aversion, pathogen disgust, conscientiousness, and neuroticism were each significantly associated with greater concern for COVID-19. When considered in conjunction with the psychosocial factors, all of the demographic variables remained significant, except for sex which became non-significant.

Preventative COVID-19 Health Behaviors

Five separate hierarchical regression models were estimated to examine predictors of the preventative health behaviors variables (i.e., social distancing, avoid touching face, wearing an antiviral facemask, handwashing, and cleaning/disinfecting, see Tables S3-S7). Demographic characteristics in were entered in Step 1, followed by psychosocial variables in Step 2, and then concern about COVID-19 was entered in Step 3. Multicollinearity was checked and found not to be a problem for any of the models (all VIF < 5 , Tolerance > 0.20).

Overall, the model for social distancing was significant, adjusted $R^2 = 0.23$, $F(23, 905) = 13.08$, $p < .001$. Together, demographic factors in Step 1 accounted for significant variance in social distancing, $R^2 = 0.09$, $F(12, 916) = 7.09$, $p < .001$, a small-medium effect ($f^2 = .09$). Higher income, being at high risk for complications from COVID-19, more recent illness, and better perceived health were each associated with greater social distancing. The inclusion of psychosocial variables in Step 2 significantly increased the variance accounted for, $\Delta R^2 = .12$,

$F(10, 906) = 13.70, p < .001$, a small-medium effect ($f^2 = .14$). Greater religiosity, more liberal political ideology, greater germ aversion, greater pathogen disgust, and greater extraversion were each significantly associated with greater social distancing. Being at high risk for complications from COVID-19 became non-significant when psychosocial factors were included in the model. Adding concern about COVID-19 in Step 3 accounted for a significant amount of additional variance in social distancing, $\Delta R^2 = 0.04, F(1, 905) = 53.38, p < .001$, a small effect ($f^2 = .05$). Greater COVID-19 concern was associated with greater social distancing. Political orientation became non-significant when COVID-19 concern was added to the model.

The overall model for avoidance of touching one's face was significant, adjusted $R^2 = 0.16, F(23, 927) = 8.52, p < .001$. Demographic factors in Step 1 accounted for significant variance in avoidance of touching one's face, $R^2 = 0.03, F(12, 915) = 2.29, p = .007$, a small effect ($f^2 = .03$). Being female was associated with greater avoidance of touching one's face. The inclusion of psychosocial variables in Step 2 significantly increased the variance accounted for, $\Delta R^2 = .11, F(10, 905) = 11.66, p < .001$, a small-medium effect ($f^2 = .12$). Greater religiosity, more liberal political ideology, greater perceived infectability, greater germ aversion, and greater conscientiousness were each associated with greater avoidance of touching one's face. Sex became non-significant when psychosocial factors were added to the model. Adding concern about COVID-19 in Step 3 accounted for a significant amount of additional variance in avoidance of touching one's face, $\Delta R^2 = 0.04, F(1, 904) = 41.93, p < .001$, a small effect ($f^2 = .05$). Greater COVID-19 concern ($\beta = .22, p < 0.001$) was associated with greater avoidance of touching one's face. Perceived infectability and conscientiousness became non-significant when COVID-19 concern was added to the model.

Overall, the model for wearing an antiviral facemask was significant, adjusted $R^2 = 0.27$, $F(23, 904) = 15.69$, $p < .001$. Demographic factors in Step 1 accounted for significant variance in facemask utilization, $R^2 = 0.26$, $F(12, 915) = 26.49$, $p < .001$, a large effect ($f^2 = .35$). Younger age, being male, more populated location of residence, working in healthcare, being at high risk for complications from COVID-19, not having a family member who is at high risk for complications from COVID-19, more recent illness, and better perceived health were each associated with greater extent of wearing an antiviral facemask. The inclusion of psychosocial variables in Step 2 significantly increased the variance accounted for, $\Delta R^2 = .03$, $F(10, 905) = 3.44$, $p < .001$, a small effect ($f^2 = .03$). Greater religiosity, less conscientiousness, and less openness were each associated with greater extent of wearing an antiviral facemask. . Whether participants work in healthcare became non-significant when psychosocial factors were included in the model. Adding concern about COVID-19 in Step 3 did not account for a significant amount of additional variance in wearing an antiviral facemask , $\Delta R^2 = 0.00$, $F(1, 904) = 0.36$, $p = .549$.

Overall, the model for handwashing was significant, adjusted $R^2 = 0.19$, $F(23, 903) = 10.33$, $p < .001$. Demographic factors in Step 1 accounted for significant variance in handwashing, $R^2 = 0.09$, $F(12, 914) = 7.91$, $p < .001$, a small effect ($f^2 = .10$). Being female, less recent illness, and better perceived health were each associated with more handwashing. The inclusion of psychosocial variables in Step 2 significantly increased the variance accounted for in handwashing, $\Delta R^2 = .10$, $F(10, 904) = 11.25$, $p < .001$, a small effect ($f^2 = .11$). More liberal political ideology, greater germ aversion, greater pathogen disgust, and greater conscientiousness were each associated with more handwashing. Perceived health became non-significant when psychosocial factors were included in the model. Adding concern about COVID-19 in Step 3

accounted for a significant amount of additional variance in handwashing, $\Delta R^2 = 0.01$, $F(1, 903) = 15.81$, $p < .001$, though the effect ($f^2 = .01$) did not reach standard cut off of a small effect size. Greater COVID-19 concern was associated with more handwashing. Political orientation became non-significant when COVID-19 concern was added to the model.

Overall, the model for cleaning/disinfecting was significant, adjusted $R^2 = 0.21$, $F(23, 905) = 11.51$, $p < .001$. Demographic factors in Step 1 accounted for significant variance in cleaning/disinfecting, $R^2 = 0.10$, $F(12, 916) = 8.06$, $p < .001$, a small effect ($f^2 = .10$). Younger age, higher income, being at high risk, not having a family member who is at high risk, more recent illness, and better perceived health were associated with more cleaning/disinfecting. The inclusion of psychosocial variables in Step 2 significantly increased the variance accounted for in cleaning/disinfecting, $\Delta R^2 = .12$, $F(10, 906) = 14.08$, $p < .001$, a small-medium effect ($f^2 = .14$). Greater religiosity, liberal political ideology, greater germ aversion, greater pathogen disgust, and greater extraversion were each associated with more cleaning/disinfecting. Adding concern about COVID-19 in Step 3 accounted for a significant amount of additional variance in hand sanitization, $\Delta R^2 = 0.01$, $F(1, 905) = 10.68$, $p = .001$, though the effect ($f^2 = .01$) did not reach standard cut off of a small effect size. Greater COVID-19 concern was associated with more handwashing. Political orientation became non-significant when COVID-19 concern was added to the model.

Table S1. Descriptive statistics for all study variables

Measure	<i>M (n)</i>	<i>SD (%)</i>	Min.	Max.
Demographics				
Age	46.32	16.57	18	85
18-64	765	75.9%		
Gender				
Female	514	50.8%	—	—
Male	497	49.1%	—	—
Other	1	0.1%	—	—
Not reported	7	0.7%	—	—
Ethnicity/Race				
White	788	77.3%	—	—
Latinx/Hispanic	38	3.7%	—	—
Black	64	6.3%	—	—
Asian	73	7.2%	—	—
Native American	4	0.4%	—	—
Other	6	0.6%	—	—
Multi	35	3.4%	—	—
Not reported	11	1.1%	—	—
Income				
Less than \$10,000	36	3.5%	—	—
\$10,000 - \$19,999	32	3.1%	—	—
\$20,000 - \$29,999	58	5.7%	—	—
\$30,000 - \$39,999	81	7.9%	—	—
\$40,000 - \$49,999	86	8.4%	—	—
\$50,000 - \$59,999	88	8.6%	—	—
\$60,000 - \$69,999	85	8.3%	—	—
\$70,000 - \$79,999	94	9.2%	—	—
\$80,000 - \$89,999	59	5.8%	—	—
\$90,000 - \$99,999	59	5.8%	—	—
\$100,000 - \$149,999	201	19.7%	—	—
More than \$150,000	131	12.9%	—	—
Not reported	9	0.9%	—	—
Education				
Less than/some high school	11	1.1%	—	—
GED/high school equivalency	19	1.9%	—	—
High school graduate	107	10.5%	—	—
Vocation/trade school	27	2.6%	—	—
Some college	151	14.8%	—	—
Associate's 2-year degree	86	8.4%	—	—
College graduate	343	33.7%	—	—
Graduate studies/professional degree	266	26.1%	—	—
Not reported	9	0.9%	—	—
Residence Town Size				
Rural (unincorporated)	104	10.2%	—	—
Small town (village or town)	102	10%	—	—
Suburban (metropolitan area of a large city)	434	42.6%	—	—
Small city (population <30,000)	52	5.1%	—	—

Medium-sized city (population 30,000-100,000)	89	8.7%	–	–
Large city (population >100,000)	229	22.5%	–	–
Not reported	9	0.9%	–	–
Work in Healthcare (Yes)	89	8.7%	–	–
Self COVID-19 risk status (high)	417	40.9%	–	–
Family COVID-19 risk status (high)	560	55.0%	–	–
Illness Recency	2.44	1.66	1	7
Perceived Health	3.62	0.89	1	5
COVID-19 Status (Indicated never had)	838	82.2%	–	–
Psychosocial Variables				
Religiosity	5.73	3.60	1	11
Political Orientation	2.96	1.15	1	5
Perceived Infectability	3.50	1.08	1	7
Germ Aversion	4.68	0.96	1	7
Pathogen Disgust	4.29	1.11	0	6
Extraversion	2.97	0.95	1	5
Agreeableness	3.47	0.86	1	5
Conscientiousness	3.84	0.89	1	5
Neuroticism	2.70	1.00	1	5
Openness	3.25	0.85	1	5
COVID-19 Concern^	0.00	0.72	-2.51	1.07
Social Distancing^	0.00	0.68	-1.37	1.60
Avoid Touching Face	3.55	1.92	1	6
Wearing Antiviral Facemask	1.77	1.42	1	6
Handwashing	3.99	1.38	1	6
Cleaning/Disinfecting	2.90	1.50	1	6

Note. ^Items were standardized before creating composite variables.

Table S2. Hierarchical regression model predicting COVID-19 concern

Predictor	Model 1			Model 2		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
<i>Demographics</i>						
Age	0.01	0.00	0.11**	0.01	0.00	0.12***
Race	-0.02	0.06	-0.01	-0.03	0.05	-0.02
Sex	0.14	0.05	0.10**	0.03	0.04	0.02
Education	0.04	0.02	0.10**	0.03	0.01	0.07*
Income	0.00	0.01	0.01	0.00	0.01	0.02
Hometown	0.01	0.02	0.02	0.01	0.01	0.01
Work in Healthcare	-0.14	0.08	-0.06	-0.07	0.08	-0.03
Risk Status (Self)	0.09	0.05	0.06	0.08	0.05	0.06
Risk Status (Family)	0.07	0.05	0.05	0.06	0.05	0.04
Illness Recency	-0.05	0.02	-0.12***	-0.06	0.02	-0.13***
Perceived Health	-0.04	0.03	-0.05	-0.01	0.03	-0.01
COVID-19 Status	0.02	0.06	0.01	0.02	0.06	0.01
<i>Psychosocial</i>						
Religiosity				-0.01	0.01	-0.03
Political Orientation				0.13	0.02	0.21***
Perceived Infectability				0.10	0.02	0.16***
Germ Aversion				0.13	0.02	0.17***
Pathogen Disgust				0.06	0.02	0.09**
Extraversion				0.01	0.02	0.01
Agreeableness				0.04	0.03	0.05
Conscientiousness				0.10	0.03	0.13***
Neuroticism				0.07	0.03	0.09**
Openness				0.04	0.03	0.05
R^2		0.08			0.23	
<i>F</i> for change in R^2		6.24			18.27	
<i>p</i> for change in R^2		< .001			< .001	

Note. * $p < .05$. ** $p < .01$. *** $p \leq .001$. Race was coded: 1 = Not White, 0 = White. Sex was coded: 1 = Female, 0 = Male. Work in Healthcare was coded: 1 = yes, 0 = no. Risk Status was coded: 1 = high risk, 0 = not high risk. COVID-19 Status was coded: 1 = yes/maybe, 0 = no. Significant statistics are bold.

Table S3. Hierarchical regression model predicting social distancing

Predictor	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
<i>Demographics</i>									
Age	0.00	0.00	-0.04	0.00	0.00	-0.04	0.00	0.00	-0.07
Race	0.04	0.05	0.03	0.01	0.05	0.01	0.02	0.05	0.01
Sex	0.05	0.04	0.04	-0.03	0.04	-0.02	-0.04	0.04	-0.03
Education	0.02	0.01	0.05	0.02	0.01	0.06	0.02	0.01	0.05
Income	0.02	0.01	0.09*	0.02	0.01	0.07*	0.01	0.01	0.07*
Hometown	0.00	0.01	-0.01	0.00	0.01	0.01	0.00	0.01	0.00
Work in Healthcare	-0.05	0.08	-0.02	-0.04	0.07	-0.02	-0.02	0.07	-0.01
Risk Status (Self)	0.14	0.05	0.11**	0.08	0.05	0.06	0.07	0.04	0.05
Risk Status (Family)	-0.03	0.05	-0.02	-0.04	0.04	-0.03	-0.05	0.04	-0.04
Illness Recency	0.09	0.02	0.23***	0.07	0.02	0.18***	0.09	0.02	0.21***
Perceived Health	0.08	0.03	0.10**	0.06	0.03	0.08*	0.06	0.03	0.08*
COVID-19 Status	-0.03	0.06	-0.02	-0.01	0.06	-0.01	-0.01	0.06	-0.01
<i>Psychosocial</i>									
Religiosity				0.03	0.01	0.16***	0.03	0.01	0.17***
Political Orientation				0.05	0.02	0.09**	0.02	0.02	0.04
Perceived Infectability				0.03	0.02	0.05	0.01	0.02	0.01
Germ Aversion				0.14	0.02	0.20***	0.11	0.02	0.16***
Pathogen Disgust				0.08	0.02	0.12***	0.06	0.02	0.10***
Extraversion				0.09	0.02	0.13***	0.09	0.02	0.13***
Agreeableness				0.01	0.03	0.01	0.00	0.02	0.00
Conscientiousness				0.00	0.03	0.00	-0.02	0.03	-0.03
Neuroticism				0.03	0.02	0.04	0.01	0.02	0.02
Openness				0.00	0.02	0.00	-0.01	0.02	-0.01
<i>COVID-19</i>									
Concern							0.22	0.03	0.24***
<i>R</i> ²	0.09			0.21			0.25		
<i>F</i> for change in <i>R</i> ²	7.09			13.70			53.38		
<i>p</i> for change in <i>R</i> ²	< .001			< .001			< .001		

Note. * $p < .05$. ** $p < .01$. *** $p \leq .001$. Race was coded: 1 = Not White, 0 = White. Sex was coded: 1 = Female, 0 = Male. Work in Healthcare was coded: 1 = yes, 0 = no. Risk Status was coded: 1 = high risk, 0 = not high risk. COVID-19 Status was coded: 1 = yes/maybe, 0 = no. Significant statistics are bold.

Table S4. Hierarchical regression model predicting avoid touching face

Predictor	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
<i>Demographics</i>									
Age	0.00	0.00	-0.03	-0.01	0.00	-0.05	-0.01	0.00	-0.07
Race	0.17	0.16	0.04	0.09	0.16	0.02	0.11	0.15	0.02
Sex	0.30	0.13	0.08*	0.09	0.13	0.02	0.07	0.12	0.02
Education	0.07	0.04	0.06	0.06	0.04	0.06	0.05	0.04	0.04
Income	0.04	0.02	0.07	0.03	0.02	0.05	0.03	0.02	0.05
Hometown	0.05	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04
Work in Healthcare	0.14	0.23	0.02	0.15	0.22	0.02	0.20	0.22	0.03
Risk Status (Self)	0.03	0.14	0.01	-0.06	0.14	-0.02	-0.11	0.13	-0.03
Risk Status (Family)	0.13	0.13	0.03	0.12	0.13	0.03	0.09	0.13	0.02
Illness Recency	0.04	0.04	0.03	0.03	0.05	0.02	0.06	0.05	0.05
Perceived Health	0.12	0.08	0.06	0.11	0.08	0.05	0.12	0.08	0.05
COVID-19 Status	0.09	0.18	0.02	0.12	0.17	0.02	0.11	0.17	0.02
<i>Psychosocial</i>									
Religiosity				0.05	0.02	0.09*	0.05	0.02	0.09**
Political Orientation				0.20	0.06	0.12***	0.12	0.06	0.07*
Perceived Infectability				0.17	0.07	0.10*	0.11	0.06	0.06
Germ Aversion				0.50	0.07	0.25***	0.42	0.07	0.21***
Pathogen Disgust				0.07	0.06	0.04	0.03	0.06	0.02
Extraversion				0.12	0.07	0.06	0.12	0.07	0.06
Agreeableness				0.02	0.08	0.01	-0.01	0.07	0.00
Conscientiousness				0.16	0.08	0.08	0.10	0.08	0.05
Neuroticism				-0.03	0.07	-0.02	-0.07	0.07	-0.04
Openness				-0.10	0.07	-0.04	-0.12	0.07	-0.05
<i>COVID-19</i>									
Concern							0.60	0.09	0.22***
<i>R</i> ²	0.03			0.14			0.18		
<i>F</i> for change in <i>R</i> ²	2.29			11.66			41.93		
<i>p</i> for change in <i>R</i> ²	0.007			< .001			< .001		

Note. * $p < .05$. ** $p < .01$. *** $p \leq .001$. Race was coded: 1 = Not White, 0 = White. Sex was coded: 1 = Female, 0 = Male. Work in Healthcare was coded: 1 = yes, 0 = no. Risk Status was coded: 1 = high risk, 0 = not high risk. COVID-19 Status was coded: 1 = yes/maybe, 0 = no. Significant statistics are bold.

Table S5. Hierarchical regression model predicting wearing antiviral facemask

Predictor	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
<i>Demographics</i>									
Age	-0.01	0.00	-0.13***	-0.01	0.00	-0.11**	-0.01	0.00	-0.11**
Race	0.08	0.10	0.02	0.03	0.10	0.01	0.03	0.10	0.01
Sex	-0.31	0.08	-0.11***	-0.28	0.08	-0.10***	-0.28	0.08	-0.10***
Education	-0.03	0.03	-0.04	-0.03	0.03	-0.03	-0.02	0.03	-0.03
Income	0.02	0.01	0.06	0.02	0.01	0.05	0.02	0.01	0.05
Hometown	0.06	0.03	0.08*	0.07	0.03	0.08*	0.07	0.03	0.08*
Work in Healthcare	0.31	0.15	0.06*	0.23	0.14	0.05	0.22	0.14	0.05
Risk Status (Self)	0.38	0.09	0.14***	0.30	0.09	0.11***	0.31	0.09	0.11***
Risk Status (Family)	-0.19	0.08	-0.07*	-0.17	0.08	-0.06*	-0.17	0.08	-0.06*
Illness Recency	0.30	0.03	0.36***	0.26	0.03	0.31***	0.26	0.03	0.31***
Perceived Health	0.19	0.05	0.13***	0.19	0.05	0.13***	0.19	0.05	0.13***
COVID-19 Status	-0.04	0.11	-0.01	-0.03	0.11	-0.01	-0.03	0.11	-0.01
<i>Psychosocial</i>									
Religiosity				0.04	0.01	0.11***	0.04	0.01	0.11***
Political Orientation				0.02	0.04	0.02	0.02	0.04	0.02
Perceived Infectability				0.04	0.04	0.03	0.04	0.04	0.03
Germ Aversion				0.02	0.05	0.02	0.03	0.05	0.02
Pathogen Disgust				0.06	0.04	0.05	0.06	0.04	0.05
Extraversion				0.02	0.04	0.01	0.02	0.04	0.01
Agreeableness				-0.06	0.05	-0.04	-0.06	0.05	-0.04
Conscientiousness				-0.16	0.05	-0.10**	-0.16	0.05	-0.10**
Neuroticism				-0.07	0.05	-0.05	-0.07	0.05	-0.05
Openness				-0.10	0.05	-0.06*	-0.10	0.05	-0.06*
<i>COVID-19</i>									
Concern							-0.04	0.06	-0.02
<i>R</i> ²	0.26			0.29			0.29		
<i>F</i> for change in <i>R</i> ²	26.49			3.44			0.36		
<i>p</i> for change in <i>R</i> ²	< .001			< .001			0.55		

Note. * $p < .05$. ** $p < .01$. *** $p \leq .001$. Race was coded: 1 = Not White, 0 = White. Sex was coded: 1 = Female, 0 = Male. Work in Healthcare was coded: 1 = yes, 0 = no. Risk Status was coded: 1 = high risk, 0 = not high risk. COVID-19 Status was coded: 1 = yes/maybe, 0 = no. Significant statistics are bold.

Table S6. Hierarchical regression model predicting handwashing

Predictor	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
<i>Demographics</i>									
Age	0.01	0.00	0.06	0.00	0.00	0.02	0.00	0.00	0.00
Race	-0.12	0.13	-0.03	-0.17	0.12	-0.05	-0.16	0.12	-0.04
Sex	0.52	0.10	0.17***	0.33	0.10	0.11***	0.33	0.10	0.10***
Education	-0.02	0.03	-0.02	-0.03	0.03	-0.03	-0.04	0.03	-0.04
Income	0.01	0.02	0.03	0.01	0.02	0.03	0.01	0.02	0.03
Hometown	0.04	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03
Work in Healthcare	0.00	0.18	0.00	0.08	0.17	0.02	0.10	0.17	0.02
Risk Status (Self)	0.18	0.11	0.06	0.17	0.11	0.05	0.14	0.11	0.05
Risk Status (Family)	0.16	0.11	0.05	0.11	0.10	0.04	0.10	0.10	0.03
Illness Recency	-0.18	0.03	-0.19***	-0.13	0.04	-0.14***	-0.12	0.04	-0.12***
Perceived Health	0.16	0.06	0.09**	0.11	0.06	0.06	0.11	0.06	0.07
COVID-19 Status	0.00	0.14	0.00	0.03	0.13	0.01	0.03	0.13	0.01
<i>Psychosocial</i>									
Religiosity				-0.01	0.02	-0.02	-0.01	0.02	-0.02
Political Orientation				0.11	0.05	0.08*	0.07	0.05	0.05
Perceived Infectability				-0.03	0.05	-0.02	-0.06	0.05	-0.04
Germ Aversion				0.30	0.05	0.19***	0.27	0.05	0.16***
Pathogen Disgust				0.21	0.05	0.14***	0.19	0.05	0.13***
Extraversion				-0.01	0.05	-0.01	-0.01	0.05	-0.01
Agreeableness				0.08	0.06	0.04	0.07	0.06	0.04
Conscientiousness				0.18	0.07	0.10**	0.15	0.07	0.09*
Neuroticism				0.01	0.06	0.01	-0.01	0.06	-0.01
Openness				0.08	0.06	0.04	0.07	0.06	0.04
<i>COVID-19</i>									
Concern							0.30	0.07	0.13***
<i>R</i> ²	0.09			0.20			0.21		
<i>F</i> for change in <i>R</i> ²	7.91			11.27			15.81		
<i>p</i> for change in <i>R</i> ²	< .001			< .001			< .001		

Note. * $p < .05$. ** $p < .01$. *** $p \leq .001$. Race was coded: 1 = Not White, 0 = White. Sex was coded: 1 = Female, 0 = Male. Work in Healthcare was coded: 1 = yes, 0 = no. Risk Status was coded: 1 = high risk, 0 = not high risk. COVID-19 Status was coded: 1 = yes/maybe, 0 = no. Significant statistics are bold.

Table S7. Hierarchical regression model predicting cleaning/disinfecting

Predictor	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
<i>Demographics</i>									
Age	-0.01	0.00	-0.10**	-0.01	0.00	-0.13***	-0.01	0.00	-0.14***
Race	0.12	0.12	0.03	0.05	0.11	0.01	0.05	0.11	0.01
Sex	0.15	0.10	0.05	-0.02	0.09	-0.01	-0.03	0.09	-0.01
Education	-0.06	0.03	-0.07	-0.05	0.03	-0.06	-0.05	0.03	-0.06
Income	0.04	0.02	0.09*	0.03	0.02	0.07*	0.03	0.02	0.07*
Hometown	0.02	0.03	0.02	0.02	0.03	0.03	0.02	0.03	0.02
Work in Healthcare	0.01	0.17	0.00	0.03	0.16	0.01	0.05	0.16	0.01
Risk Status (Self)	0.37	0.11	0.12***	0.25	0.10	0.08*	0.23	0.10	0.08*
Risk Status (Family)	-0.29	0.10	-0.09*	-0.29	0.09	-0.10**	-0.30	0.09	-0.10***
Illness Recency	0.18	0.03	0.20***	0.16	0.03	0.18***	0.17	0.03	0.19***
Perceived Health	0.19	0.06	0.11***	0.12	0.06	0.07*	0.12	0.06	0.07*
COVID-19 Status	-0.15	0.13	-0.04	-0.10	0.13	-0.03	-0.11	0.12	-0.03
<i>Psychosocial</i>									
Religiosity				0.06	0.01	0.14***	0.06	0.01	0.14***
Political Orientation				0.10	0.04	0.07*	0.07	0.04	0.05
Perceived Infectability				0.07	0.05	0.05	0.05	0.05	0.04
Germ Aversion				0.33	0.05	0.21***	0.30	0.05	0.19***
Pathogen Disgust				0.16	0.04	0.12***	0.15	0.04	0.11***
Extraversion				0.19	0.05	0.12***	0.18	0.05	0.12***
Agreeableness				0.01	0.06	0.01	0.00	0.06	0.00
Conscientiousness				0.09	0.06	0.05	0.07	0.06	0.04
Neuroticism				0.00	0.05	0.00	-0.01	0.05	-0.01
Openness				0.00	0.05	0.00	-0.01	0.05	0.00
<i>COVID-19</i>									
Concern							0.23	0.07	0.11***
<i>R</i> ²	0.10			0.22			0.23		
<i>F</i> for change in <i>R</i> ²	8.06			14.08			10.68		
<i>p</i> for change in <i>R</i> ²	< .001			< .001			.001		

Note. * $p < .05$. ** $p < .01$. *** $p \leq .001$. Race was coded: 1 = Not White, 0 = White. Sex was coded: 1 = Female, 0 = Male. Work in Healthcare was coded: 1 = yes, 0 = no. Risk Status was coded: 1 = high risk, 0 = not high risk. COVID-19 Status was coded: 1 = yes/maybe, 0 = no. Significant statistics are bold.

Appendix: Study Measures

10-item Big Five Inventory (Rammstedt & John, 2007)

How well do the following statements describe your personality? I see myself as someone who....

- Disagree Strongly
 - Disagree a little
 - Neither Agree or disagree
 - Agree a little
 - Agree Strongly
1. is reserved.
 2. is generally trusting.
 3. tends to be lazy.
 4. is relaxed, handles stress well.
 5. has few artistic interests
 6. is outgoing, sociable.
 7. tends to find the fault with others.
 8. does a thorough job.
 9. gets nervous easily.
 10. has an active imagination

Perceived Vulnerability to Disease Questionnaire (Duncan, Schaller, & Park, 2009)

Please indicate the extent to which you agree or disagree with each statement below using the following scale. There are no right or wrong answers. Please think about each statement carefully before answering.

- Strongly Disagree
 - Disagree
 - Slightly Disagree
 - Neither agree nor disagree
 - Slightly Agree
 - Agree
 - Strongly Agree
1. In general, I am very susceptible to colds, flu and other infectious diseases.
 2. I am unlikely to catch a cold, flu or other illness, even if it is 'going around'.
 3. If an illness is 'going around', I will get it.
 4. My immune system protects me from most illnesses that other people get.
 5. I am more likely than the people around me to catch an infectious disease.
 6. My past experiences make me believe I am not likely to get sick even when my friends are sick.
 7. I have a history of susceptibility to infectious disease.
 8. I prefer to wash my hands pretty soon after shaking someone's hand.

9. I avoid using public telephones because of the risk that I may catch something from the previous user.
10. I do not like to write with a pencil someone else has obviously chewed on.
11. I dislike wearing used clothes because you do not know what the last person who wore it was like.
12. I am comfortable sharing a water bottle with a friend.
13. It really bothers me when people sneeze without covering their mouths.
14. It does not make me anxious to be around sick people.
15. My hands do not feel dirty after touching money.

Pathogen Disgust Subscale (Tybur, Lieberman, & Griskevicius, 2009)

The following items describe a variety of concepts. Please rate how disgusting you find the concepts described in the items.

0	1 2 3 4 5	6
Not disgusting		Extremely
at all		disgusting

1. Stepping on dog poop
2. Sitting next to someone who has red sores on their arm
3. Shaking hands with a stranger who has sweaty palms
4. Seeing some mold on old leftovers in your refrigerator
5. Standing close to a person who has body odor
6. Seeing a cockroach run across the floor
7. Accidentally touching a person's bloody cut

COVID-19 Concern

How concerned are you about the coronavirus, COVID-19?

- Very concerned
- Somewhat concerned
- Not sure
- Not too concerned
- Not at all concerned

How strongly do you agree or disagree with each statement?

- Strongly Disagree
- Disagree
- Slightly Disagree

- Neither Agree nor Disagree
 - Slightly Agree
 - Agree
 - Strongly Agree
-
1. The coronavirus is just the flu or a common cold
 2. People are greatly exaggerating the threat of the coronavirus
 3. The coronavirus is as serious as people make it out to be
 4. The coronavirus has been blown out of proportion
 5. People are not doing enough to prevent the spread of the coronavirus

COVID-19 Infection Status

Do you think that you currently have or previously had COVID-19?

- Yes
- Maybe
- No

COVID-19 Preventative Behaviors

To what extent are you engaging in social distancing (i.e., reducing contact with others to avoid contracting COVID-19)?

- A great deal
- A lot
- Somewhat
- A little
- Not at all

In the **past 7 days**, how often did you:

- Not at all
 - Once
 - Twice
 - 3-4 times
 - 5-6 times
 - Daily
 - Multiple times a day
-
1. Avoid shaking someone's hand for greeting
 2. Avoid hugging someone for greeting
 3. Avoid kissing someone for greeting
 4. Avoid going to school/job

5. Order food online or get take out rather eating at a restaurant
6. Avoid touching your face.
7. Wear an antiviral facemask
8. Carry anti-bacterial hand sanitizer with you throughout the day.
9. Wash hands for at least 20 seconds
10. Clean and disinfect surfaces in your home with antibacterial wipes.
11. Clean your mobile phone
12. Clean your laptop

Perceived Health

In general, would you say your health is:

- 1= excellent
 2= very good
 3 = good
 4 = fair
 5 = poor

Illness Recency (Miller & Maner, 2011)

Please indicate your agreement with four statements:

1	2	3	4	5	6	7
Strongly						Strongly
disagree						agree

1. Over the past couple days, I have not been feeling well.
2. Lately, I have been feeling a little under the weather.
3. I have felt sick within the past week.
4. I had a cold or flu recently.

Family Health History Questions

Please give information on the medical history of you and any blood relatives. Please indicate whether you or a family member (e.g. your mother, father, sister, brother, aunt, uncle, etc.) have or previously had any of the following conditions. If information is unknown (“unk”) or not available (“N/A”), please indicate.

Gastrointestinal

Ulcers
Inflammatory Bowel
Cleft Lip or Palate
Other

Cardiovascular

High Blood Pressure
Heart Attack
Stroke
Congestive Heart Failure
Atherosclerosis
Heart Rhythm Abnormality
Congenital Heart Defect

Immune/Hematological Condition

Mononucleosis
Hemophilia
Leukemia
Lymphomas
Hodgkin’s Disease
Factor V Leiden

Renal Condition

Kidney Failure
Dialysis/Transplant
Other Kidney

Liver Disease

Hepatitis (specify)
Cirrhosis
Other Liver Disease

Central Nervous System Condition

Epilepsy
Hydrocephalus
Multiple Sclerosis
Huntington’s Chorea
Seizures/convulsions

Endocrine

Diabetes (adult or juvenile)
Thyroid (Hyper/Hypo)
Adrenal

Muscular/Skeletal

Club Foot
Scoliosis
Arthritis (Osteo or Rheumatoid)
Lupus

Neuromuscular

Cerebral Palsy
Muscular Dystrophy
Spina Bifida

Visual/Auditory

Blindness
Glaucoma
Cataracts
Deafness or Other Hearing Problems

Other Conditions

Mental Illness (e.g. Depression, Bipolar, Schizophrenia)
Alcohol or Drug Abuse
Eating Disorders
Mental Retardation or Developmental Disability

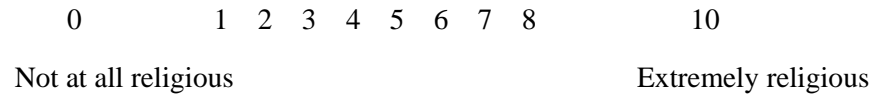
Political Orientation

What is your political orientation?

- Very conservative
- Conservative
- Moderate
- Liberal
- Very liberal

Religiosity

How religious are you, in general? Please select the number that best describes your experience, with 0 indicating the minimum and 10 indicating higher religiosity:



Demographics

Age: _____

What sex were you assigned at birth? Male Female Other_____

Race/Ethnicity (check all that apply):

_____White/Caucasian

____Hispanic/Latino(a)

_____African-American/Black

Asian

_____Native American

_____ Other (Please indicate): _____

What would you estimate your combined family income to be?

- Less than \$10,000
- \$10,000 - \$19,999
- \$20,000 - \$29,999
- \$30,000 - \$39,999
- \$40,000 - \$49,999
- \$50,000 - \$59,999
- \$60,000 - \$69,999

- \$70,000 - \$79,999
- \$80,000 - \$89,999
- \$90,000 - \$99,999
- \$100,000 - \$149,999
- More than \$150,000

Education:

- Less than/some high school
- GED/high school equivalency
- High school graduate
- Vocation/trade school
- Some college
- Associate's 2-year degree
- College graduate
- Graduate studies/degree

How would you characterize your hometown?

- Rural (unincorporated)
- Small town (village or town)
- Suburban (metropolitan area of a large city)
- Small city (population <30,000)
- Medium-sized city (population 30,000 to 100,000)
- Large city (population >100,000)

Do you work in the healthcare field (e.g., physician, nurse, medical assistant, pharmacist, etc.)?

- Yes
- No

For females, are you currently pregnant?

- Yes

- Maybe
- No

Are you taking any medications that suppress your immune system?

- Yes
- Maybe
- No