

**Personality Traits and COVID-19: The Effect Personality Traits Have on One's Health  
Beliefs, Preventative Behaviors, and Perceived Threat**

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### Abstract

The present study experimentally investigated the effect personality traits have on COVID-19 health beliefs, perceived threat, and engagement in mask-wearing, emphasizing the Dark Triad (DT) traits. Recruited via Facebook, participants (N=239) completed the Personality Traits and COVID-19: The Effect Personality Traits Have on One's Health Beliefs, Preventative Behaviors, and Perceived Threat Survey on SurveyMonkey. Dark Triad traits negatively correlated with conformity; however, at the individual level, Machiavellianism positively predicted conformity. Dark Triad traits also positively correlated with conspiracy theory beliefs. Specifically, Psychopathy positively correlated with COVID-19 conspiracy theory beliefs. Machiavellianism also positively correlated with conspiracy theory beliefs; however, it did not correlate with COVID-19 conspiracy theory beliefs. Unlike in prior studies regarding personality traits and COVID-19, Neuroticism negatively correlated with level of perceived threat. Furthermore, Dark Triad traits were significant, negative predictors of engagement in mask-wearing, with Psychopathy being a significant, independent negative predictor of mask-wearing engagement.

*Keywords:* COVID-19, personality traits, Dark Triad, Big Five Personality Traits, perceived threat, compliance behaviors, preventative behaviors, conspiracy theory beliefs

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### **Personality Traits and COVID-19: The Effect Personality Traits Have on One's Health Beliefs, Preventative Behaviors, and Perceived Threat**

People observed measurable changes across the globe at the beginning of 2020 due to the novel 2019 coronavirus (COVID-19). The virus ignited a level of disruption that has touched upon various aspects surrounding laymen's everyday lives. For instance, governments across the world put mandates in place to halt the spread of COVID-19. According to USAGov (2020), government and state mandates took the form of 14-day isolations when entering specific states, quarantining, social distancing, mask-wearing, closure of international borders, and closure of non-essential stores. As a result of such mandates, the impact was observable within sectors relating to physical health, mental health, work conditions, financial security, economics, and prosperity. The current study investigated the mental health sector's impacts, highlighting the effects personality traits have on differences seen within COVID-19 related health beliefs, perceived threat level, and engagement in mask-wearing.

The World Health Organization declared the coronavirus a pandemic on March 11, 2020 (World Health Organization, 2020). Quickly following on March 16, 2020, President Trump announced mandatory or recommended restrictions, quarantines, and curfews for the United States (Bierwiazzonek et al., 2020). According to the World Health Organization (WHO), as of October 3, 2020, there have been 34,495,176 confirmed cases and 1,025,729 deaths worldwide, while America alone accounts for 16,866,312 confirmed cases 565,437 deaths. According to the United States Census Bureau (2020), the current world population is 7.6 billion,

representing the worldwide death toll as approximately .013%. The current United States population is 330.4 million, meaning the United States' death toll is roughly .17% (United States Census Bureau, 2020).

Personality traits are patterns of thoughts, behaviors, and feelings that remain relatively stable over time (Anglim & O'Connor, 2019; Lippold et al., 2020). As differences in coping strategies, behavioral disruptions, and psychiatric mental disorders vary widely among individuals, personality traits help understand human behavior within various contexts and environments (Korner et al., 2015). Perhaps more importantly, personality traits remain stable when confronted with stressful life events (Sutin et al., 2020). As predispositions to particular responses to particular classes of stimuli (Lippold et al., 2020), personality traits are associated with a broad spectrum of health behaviors (Mezquita et al., 2019) and are used to understand individual differences in stimulus-response (Lippold et al., 2020).

One's level of perceived stress correlates with the evaluation of a stressor as either threatening or not threatening, as well as one's perceived level of efficacy to cope with such stressor (Liu et al., 2020). Therefore, the level of one's perceived threat of COVID-19 entails the counterbalance made between the two. Virus-related health beliefs encompass the severity in which one believes COVID-19 to be (Lippold et al., 2020; Qian & Yahara, 2020). For instance, differences in beliefs surrounding COVID-19 may vary from: "I think COVID-19 is a made-up virus, no one is at risk" to "I believe COVID-19 can be dangerous, but only to those with health problems" to "No one should leave their house, it could kill anyone." Furthermore, for the

present study's purpose, health behaviors relative to mask-wearing will pertain to one's willingness and compliance in following such government mandates.

In an attempt to better understand a time filled with uncertainty, several studies have been performed and continue to be performed, with the ambition to better understand the varying behaviors observed during such an unprecedented time. Aquila et al. (2020) conducted a prior study investigating personality traits and COVID-19 as a means to identify risk factors for suicide. Banerjee et al. (2020) and Qian and Yahara (2020) conducted studies to understand better the obstacles facing different mental health disorders during the pandemic. Liu et al. (2020) and Garbe et al. (2020) conducted studies to understand differences in the perceived threat and efficacy of COVID-19. Alessandri et al. (2020), Carvalho et al. (2020), Dzisi and Dei (2020), Garbe et al. (2020), Liu et al. (2020), and Nowak et al. (2020) investigated different behavioral tendencies surrounding COVID-19 outcomes. The present study provides insight into the influence personality traits have on COVID-19 related health beliefs, level of perceived threat, and engagement in mask-wearing, emphasizing the Dark Triad, also known as the maladaptive or the darker side of personality.

### **Literature Review**

Primarily constructed of the most recent studies of the year 2020, the following meta-synthesis includes those studies regarding personality traits' effect on different personal aspects surrounding COVID-19. The remaining literature reflects upon the relations between the Dark Triad personality traits and the more commonly known traits, the Big Five personality traits. The literature review aims to present evidence that will support hypotheses regarding

differences in beliefs, threat levels, and behaviors surrounding COVID-19, as mediated by personality traits.

### **Big Five Personality Traits**

According to Sutin et al. (2020) and Vecchione et al. (2019), the Big Five personality traits (BFPT), or the Five-Factor Model (FFM), is one of the most commonly utilized taxonomies for personality traits. Characterized by Conscientiousness, Extraversion, Agreeableness, Openness to Experience, and Neuroticism, the FFM reveals semantic associations used to describe differences in personality and the psyche. Conscientiousness characteristics resemble persistence, organization, systematic, thoroughness, carefulness, and emphasizes values relative to stability and order (security). Extraversion characteristics resemble enthusiasm, self-confidence, assertiveness, sociable, outgoing, and emphasizes values relative to personal success (achievement), stimulation in life, and excitement. Agreeableness characteristics resemble compliance, politeness, compassion, friendliness, trustworthiness, helpfulness, and soft-heartedness while emphasizing values of benevolence and concern for others. Openness characteristics resemble creativeness, unconventional, novelty, complexity, deep thinking, and emphasize values of independence of thought and action (self-direction), increasing in importance over one's lifetime. Neuroticism characteristics resemble emotional instability, moodiness, tension, grave worry and have a relatively insignificant emphasis on all previously identified values (Sutin et al., 2020; Vecchione et al., 2019).



***Beliefs***

In the wake of COVID-19, Qian and Yahara (2020) considered the influence personality, morality, and ideology have on mental status, attitude, undertaking, and behavior observed amongst the general Japanese population. Two thousand three hundred thirty-three participants completed a survey questionnaire via Yahoo, of which the authors included 1,865 of such questionnaires in the analysis. The questionnaire contained 170 items divided among five sections: demographic data, scales of personality traits, self-reported concerns and behavior about COVID-19, scales of mental health status, and scales of moral foundation and ideology. The authors included an additional 19 questions regarding knowledge of COVID-19. Measurements utilized included the Big Five Scale (BFS), the Depression, Anxiety, and Stress Scale (DASS), the Moral Foundation Questionnaire (MFQ), and a scale of political ideology (Qian & Yahara, 2020).

Qian and Yahara (2020) identified Extraversion as a predictor of underestimation and a positive predictor of self-related health status. The authors further found Neuroticism as a positive predictor of stress, anxiety, and the likelihood of infection, while being a negative predictor of underestimation, confidence in doctors, material sufficiency, the likelihood of survival, self-rated health status, and information sufficiency. Openness was identified as a positive predictor of stress and epidemic consciousness while being a negative predictor of concerns of the family. Conscientiousness positively predicted epidemic consciousness and negatively predicted depression and the likelihood of infection. Lastly, Agreeableness was

identified as a positive predictor of self-rated health status, material sufficiency, the likelihood of surviving, and confidence in doctors, while being a negative predictor of stress and anxiety (Qian & Yahara, 2020). Such analysis provides evidence of the influence personality traits have on variants of individual beliefs and well-being in light of a global pandemic and will support the current study.

Other research, discussed in more detail below, provided additional effects personality traits have on one's beliefs and well-being. For example, Gritsenko et al. (2020) found essential predictors of one's emotional well-being: beliefs in people's kindness, degree of luck, and value of oneself, which correlated with the ease one adapts to new sociocultural environments. Liu et al. (2020) found that those with high Neuroticism experienced higher stress levels due to higher perceived threat levels and lower levels of perceived efficacy. Higher levels of Extraversion were associated with higher levels of perceived stress and a more significant increase in stress levels, with perceived efficacy being a mediator. Furthermore, higher Conscientiousness negatively correlated with efficacy, with perceived efficacy having a negative association with higher levels of perceived stress and change in stress, likely due to lack of ability to socialize (Liu et al., 2020).

### ***Perceived Threat***

To investigate the individual differences regarding the perceived threat of COVID-19, Lippold et al. (2020) focused on personality traits, political ideology, changes in fear level over time, and severity of fear reported amongst 7,309 individuals (5,611 females and 1,661 males)

with a median age of 33, across 96 different countries. The authors launched a wholly anonymous and non-incentivized survey via the social media platforms Facebook and Twitter. The survey included socio-demographics, the Big Five Inventory- Short (BFI-S), and questions regarding general life satisfaction and political orientation. By using the r-RST-Q, Lippold et al. (2020) were able to measure the Behavioral Activation System (BAS) and Behavioral Inhibition System (BIS) for a measure of anxiety and the Fight-Flight-Freeze System (FFFS) for a measure of fear. Furthermore, participants indicated whether they were at heightened risk of contracting COVID-19 due to age or pre-existing conditions and further requested to indicate their levels of fear of COVID-19 on a six-point Likert scale (Lippold et al., 2020).

Results concluded with the strongest predictors of increased fear being Neuroticism, higher education level, being female, and being identified as at-risk. Neuroticism was the strongest personality predictor of the level of perceived threat. The level of perceived threat was reported to increase over time and was significantly higher among women. Within the German population, the right-leaning political ideology correlated with greater fear of COVID-19 (Lippold et al., 2020).

Garbe et al. (2020) provided further groundwork for understanding differences in the perceived threat of COVID-19 cross-culturally and how such a level of threat coincides with impulsive behaviors such as hoarding. The authors analyzed the relationship between perceived threats of COVID-19, personality traits, and the act of hoarding toilet paper. Nine hundred and ninety-six participants across 22 countries took part in the study. The authors utilized the Brief

HEXACO Inventory (BHI) to assess personality descriptors and indicate participants' current perceived level of threat of COVID-19. Participants completed questionnaires via the online survey platform *formr*. Questions gathered data relative to their toilet paper (ToP) consumption behaviors, their experience of strict quarantines, number of household members considered high-risk due to pre-existing conditions, and participants' age, gender, place of residence, household size, nationality, and political left-right placement. Results concluded as follows: perceived threat of COVID-19 increases significantly with age and number of days spent in quarantine, female participants showed higher perceived threat levels, European participants feel substantially less threatened than North-American participants, and participants higher on Emotionality report increased perceived threat of COVID-19 (Garbe et al., 2020).

As a means of identifying the degree to which one experiences fear of COVID-19 based upon one's underlying beliefs, Gritsenko et al. (2020) **investigated** whether the severity of personality fundamental beliefs correlate with the experience of fear one endures regarding COVID-19. Using the snowball effect, Gritsenko et al. (2020) **acknowledged** that such study participants were mainly colleagues and university students. The first respondents were teachers within several universities in Russia and Belarus. There were 950 participants, including 588 from Russia, 292 from the Republic of Belarus, and 70 from unknown countries. Participants' ages varied from 12 to 74, with 564 being female, 175 being male, and 211 unknown. The authors utilized the online platform Qualtrics for their survey, which contained the COVID-19 Fear Scale and Basic Beliefs scale (Gritsenko et al., 2020).

Interestingly, results indicated no differences in severity of fear for age; however, women indicated a higher degree of severity of fear (Gritsenko et al., 2020). Other findings also found women to have a higher degree of perceived threat or fear (Clark et al., 2020; Garbe et al., 2020; Lippold et al., 2020). The authors also found that Russians experience greater fear than Belarusians, which is likely due to the COVID-19 situation and countermeasures being discussed actively and to a greater extent within Russia than Belarus. Furthermore, a conviction in the value of oneself and one's confidence in their ability to control their life correlated with lower levels of fear. However, the authors concluded that the connection between the experience of fear of COVID-19 and fundamental beliefs appears to be less ambiguous. The authors further suggested other variables which may associate with the experience of fear, bringing light to other contextual and individual factors to investigate; such as degree of awareness of COVID-19 infection, duration and severity of quarantine regime, personal anxiety, and preferred coping strategies (Gritsenko et al., 2020).

### ***Behaviors***

Liu et al. (2020) provided part of the foundation to the sense-making of the current COVID-19 pandemic and the effects personality traits have on differences in behaviors. The authors investigated four specific personality traits: neuroticism, conscientiousness-goal-striving, extroversion-activity, sociability, and how they correlate with the perceived threat, perceived stress, and perceived efficacy in light of COVID-19. The study included 1,055 adult participants living in Canada. The authors collected data relative to demographics and perceived stress by

asking two questions on a 7-point Likert scale concerning pre-pandemic and current stress levels. Perceived threat and perceived efficacy were measured by modifying the instruments within the Extended Parallel Process Model (EPPM), and selected items from the NEO Five-Factor Personality Inventory (NEO-PI) measured personality traits (Liu et al., 2020).

Liu et al. (2020) found that those with high Conscientiousness perceive COVID-19 as a challenge rather than a threat, suggesting they are more likely to follow government guidelines for preventing COVID-19. The value of orderliness and following directions, often seen in individuals with high Conscientiousness, explains this finding. Qian and Yahara (2020) corroborated such findings as they provided results that concluded that preventative behavior positively correlated with Conscientiousness and Extraversion. The study did not incorporate the measures of two traits, Openness and Agreeableness, leaving room for further investigation.

Carvalho et al. (2020) found interest in social distancing and handwashing; therefore, they investigated the association between two personality traits, Extraversion and Conscientiousness, and engagement in such compliance behaviors. The authors shared an online survey via Facebook and the WhatsApp application. Participants included 715 Brazilian adults, of which 77.3% were female, 52.2% were single, 69.5% were Caucasian, and 40% were post-graduation. The survey contained a questionnaire regarding COVID-19 behavior, the Big Five Inventory-2 Short (BFI-2-S), and the Dimensional Clinical Personality Inventory 2 (IDCP-2) (Carvalho et al., 2020).

Results concluded that those who scored low on Extraversion were more concerned with social distancing, with extraverted functioning appearing to lack engagement in social distancing and handwashing containment measures. Need for Attention and negative Intimacy Avoidance are maladaptive variations of Extraversion and were moderators of extraverted individuals' trend towards avoiding social distancing. Those who scored low on Conscientiousness do not consider either social distancing or handwashing as essential measures. On the other hand, those with higher Conscientiousness scores followed one, if not both, containment measures. Those with a more Conscientiousness personality trait pattern were also more cautious in following all recommendations (Carvalho et al., 2020). Qian and Yahara (2020) concluded with similar findings. They found the personality traits Conscientiousness and Extraversion and the morality of harm as the most influential factors to engagement in compliance behaviors. Perhaps more importantly, these findings are consistent with the trait Conscientiousness's conceptualization, as Thoroughness factors and concerns with details confirm such tendencies (Carvalho et al., 2020).

Clark et al. (2020) reported personal beliefs and expectations as predictability factors of voluntary compliance with COVID-19 prevention behaviors. They predicted three health behaviors to be dependent upon such beliefs and expectations: following governmental rules, engagement in health-protective behaviors, and urging others to partake in protective health measures. Across 70 countries, 8,317 individuals completed the survey via the smartphone platform Praditus, 68.7% female and 31.3% male, with a mean age of 27. Using the HBM, the authors tested five factors as critical determinants of voluntary compliance: perceived

vulnerability, perceived severity/disruptiveness of becoming infected, perceived efficacy of protective health behaviors, trust in government, and individual health importance. Furthermore, items included also reported on various attitudes, behaviors, and beliefs relative to COVID-19 on a five-point scale, along with the BFI (Clark et al., 2020).

Contrary to other studies (Liu et al., 2020; Qian & Yahara, 2020), Clark et al. (2020) found no personality traits to predict rule-following behaviors. However, the authors found high Agreeableness and Conscientiousness predicted the partaking in health precautions, such as handwashing and social distancing. High Agreeableness, Conscientiousness, Extraversion, and Openness all predicted higher tendencies to give others health recommendations. Also, Emotional Instability (Neuroticism) had no association with health behavior outcomes (Clark et al., 2020). Clark et al. (2020) further found women to be slightly more likely to engage in rule-following than men; however, there were no significant differences between rule-following and age.

Furthermore, Clark et al. (2020) found beliefs relative to the positive efficacy of precautionary protective health behaviors increased individual health importance while also finding higher trust in government to be associated with increased rule-following. The strongest predictor of rule-following was the belief that engagement in such protective health behaviors is a useful precautionary measure (Clark et al., 2020). Clark et al. (2020) found significant associations between perceived disruptiveness with engagement in health precautions and increased tendencies to advise others. However, they did not find associations between perceived



disruptiveness and engagement in rule-following behaviors. Incorporating measurements of the Dark Triad traits may reveal a further understanding of engagement in rule-following behaviors.

Considering psychological reasonings, Nakayachi et al. (2020) investigated whether reasonings regarding altruistic intention, self-interest, perceived seriousness, and perceived efficacy in masks reducing the spread could explain the engagement in mask-wearing as a protective measure against COVID-19. Nakayachi et al. (2020) noted that people cope well when presented with risks perceived as a severe threat as understood under the protection motivation theory and the protective action decision model. When individuals perceive protective actions as effectively reducing associated damage, people then engage in such coping by taking such action. From the general population in Japan, 515 females and 485 males with a mean age of 51 completed an online survey, made available between March 26th to 31st of 2020. The survey measured psychological reasonings relative to perceived severity, perceived self-efficacy, perceived efficacy of mask-wearing, and perceived norm of mask-wearing. The survey also included measurements relative to the relief felt when wearing a mask, impulsivity to take any actions necessary to avoid contracting COVID-19, and frequency in which they engage in mask-wearing (Nakayachi et al., 2020).

All psychological reasonings positively correlated with mask-wearing. A robust correlation was found between mask-wearing perception as a new societal norm and engagement in mask-wearing, conforming to such norm being the mediator (Nakayachi et al., 2020). Nakayachi et al. (2020) noted that when in the absence of a psychological reason, or intention, to

avoid contracting COVID-19 through engagement in precautionary measures, factors relative to conformity may result in collective mask-wearing. Such factors may be relative to being in unclear situations or states of anxiety, affect heuristic, and perception of mask-wearing as a social norm. Feeling relief from anxiety through mask-wearing was also found to correlate with engagement in such behavior (Nakayachi et al., 2020). Notably, as corroborated by Clark et al. (2020), the frequency of mask-wearing depended little on one's perceived severity of COVID-19 or perceived efficacy of mask-wearing as a precautionary measure for both oneself and others. However, this study's findings were able to identify psychological factors that explained only one-third of the total variance in the frequency of engagement in mask-wearing (Nakayachi et al., 2020), leaving room for further investigation.

### **Dark Triad Personality Traits**

There has been little focus given to how the Dark Triad (DT) personality traits influence outcomes in different contexts surrounding COVID-19 (Koehn et al., 2019). As a concept of the darker side of the personality, the DT traits are defined as socially disturbing or offensive traits and characterized by maladaptive behaviors. These traits include Machiavellianism, Narcissism, and Psychopathy (Hajhoseiny et al., 2019; Nowak et al., 2020; O'Boyle et al., 2015; Paulhus et al., 2020; Set, 2020). Cynicism surrounding the environment and human nature and disregard for conventional morality frames the DT trait of Machiavellianism. Grandiosity and entitlement, and an inflated sense of self-importance, superiority, and vanity define Narcissism. Psychopathy

resembles impulsiveness, lack of empathy, shallow effect, risk-taking, and callousness

(Hajhoseinty et al., 2019; O’Boyle et al., 2015).

Although Neuroticism is a part of the Big Five (BF) personality traits, such trait measurement does not account for the DT trait Narcissism. The BF trait Neuroticism accounts for levels of anxiety, stress, and depression, whereas maladaptive behaviors are associated with the DT trait Narcissism (Qian & Yahara, 2020). Furthermore, as Moshagen et al. (2020) described, high levels of the DT indicate beliefs relative to a sense of entitlement to oneself and one’s group and the world being a competitive jungle. High levels of the DT also indicated beliefs such as those who do not view the world in the same ways as such individuals as being stupid and deserving to be exploited (Moshagen et al., 2020). For these reasons, measurements of DT traits and BF traits will provide a more fruitful overview of one’s personality. With anxiety, stress, and depression levels heightened during a global pandemic, the inclusion of such measurements may be more effective in predicting behavioral outcomes.

### ***Relation to the Big-Five***

Kaufman et al. (2019) provided insight into the DT. They investigated whether such triad is redundant with normal personality variation and if the residual variance within such triad is associated with adaptive outcomes. The DT is negatively related to the BF trait Agreeableness and negatively correlated with the HEXACO Honesty-Humility factor. Recruited from Amazon’s Mechanical Turk (M-Turk) and Prolific Academic, 1,518 participants above the age of 18 and

living within the United States completed a battery, self-report survey of different items and tasks selected from an array of personality assessment tools (Kaufman et al., 2019).

Dark Triad measures included The Dark Triad of Personality - Short (D3-S), The Psychopathic Personality Inventory - Short Form (PPI-SF), The Triarchic Personality Measure (TriPM), and The Five-Factor Narcissism Inventory-Short Form (FFNI-SF). Personality measures included the HEXACO Personality Inventory-Revised-Honest Humility (HEXACO-60), the BFI, and the Big Five Aspect Scales (BFAS). Psychological needs and motives measurements included the Balanced Measure of Psychological Needs Scale (BMPN) and the Unified Motives Scales (UMS). Values and character strengths were measured using the Portrait Values Questionnaire-Revised (PVQ-RR) and the Values in Action (VIA) Brief Strengths Test. Defense Styles were measured using the Defense Style Questionnaire (DSQ). The Cognitive Triad Inventory (CTI) measured worldview along with their agreement on a five-point scale regarding whether humans and themselves are good. Self-esteem and authenticity were measured using the Rosenberg Self-Esteem Scale (RSES), the Contingencies of Self Worth Scale (CSW), the Sense of Self Scale (SOSS), the Authenticity Scale (TAS), and the Authenticity Inventory (AI-3). Sex, love, and relationships were measured using the Revised Sociosexual Orientation Inventory (SOI-R), the Love Attitudes Scale (LAS), and the Adult Attachment Scale-Revised (AAS). The authors measured empathy, compassion, and interpersonal style with the Dispositional Positive Emotion Scales Questionnaire-Compassion (DPES), the Cognitive, Affective, and Somatic Empathy Scales (CASES), the Interpersonal Guilt Questionnaire (ICQ),

and The Quiet Ego Scale (QES). The Conspicuous Consumption - Extra Money Scale, the Reactive-Proactive Aggression Questionnaire (RPQ), the Selfishness Questionnaire (SQ), the Dictator Game, and condensed versions of the high-conflict personal dilemmas of “Crying Baby,” “Footbridge,” and “Sacrifice” measured Selfishness, Aggression, and Moral Judgement. The Varieties Scale, the Death Transcendence Scale (DTS), and questions regarding religious views and spiritual experience measured Religion, Spirituality, and Self-Transcendence. Curiosity was measured using the Curiosity and Exploration Inventory-II (CEI-II) and the Epistemic Curiosity Scale (ECS). Lastly, the Satisfaction with Life Scale (SWLS) measured life satisfaction (Kaufman et al., 2019).

The DT correlated with the BFI traits of high Extraversion, low Conscientiousness, and low Agreeableness. The DT positively correlated with the facets of Social Engagement, Assertiveness, Emotional Volatility, and Creative Imagination and negatively correlated with Aesthetic Sensitivity, Organization, Productiveness, Responsibility, Compassion, Respectfulness, and Acceptance. In a regression analysis, the facets of Assertiveness, Responsibility, Acceptance, Imagination, Compassion, Respectfulness, and Aesthetic Sensitivity independently predicted the DT. Furthermore, the BFAS results concluded with the DT positively correlating with Extraversion and Neuroticism and Assertiveness and Volatility aspects. On the other hand, the DT negatively correlated with Conscientiousness and Agreeableness, along with the aspects of Orderliness, Politeness, Compassion, Enthusiasm, and Industriousness (Kaufman et al., 2019).

O'Boyle et al. (2015) provided further insight into the relationship and overlap between the FFM personality traits and the DT. Using a meta-analytic procedure, several thousand potential sources, 500 of which were unpublished, were investigated for use in the study. Inclusion criteria included the analysis of a DT trait or facet at the independent level, along with the measurement of either another DT trait or facet or one or more FFM traits or facets. Exclusion criteria included projected tests of DT traits, proxy measures of DT or FFM traits, any clinical samples unless the scale used was capable of clinical diagnosis, and ratings not characterized by self-reports or expert ratings. Ninety percent of FFM measures used the NEO PI, BFI, International Personality Item Pool (IPIP), Ten Item Personality Inventory (TIPI-G), mini-IPIP, and the HEXACO with the exclusion of the Honesty-Humility aspect (O'Boyle et al., 2015).

Contrary to the recent findings from Koehn et al. (2019), which found a negative association between Machiavellianism and Extraversion, O'Boyle et al. (2015) concluded with Machiavellianism significantly and negatively being associated with Agreeableness and Conscientiousness, while positively being associated with Neuroticism. Narcissism had a significantly positive association with Extraversion, Openness, and Conscientiousness while negatively correlating with Agreeableness and Neuroticism (O'Boyle et al., 2015). Koehn et al. (2019) and Vize et al. (2020) later confirmed such findings. Vize et al. (2020) noted that high-scoring Narcissism individuals possess more Extraversion-related content than Openness and Conscientiousness. Psychopathy had a negative correlation with Agreeableness and

Conscientiousness. However, it showed no positive correlations with the remaining three: Extraversion, Neuroticism, and Openness (O’Boyle et al., 2015); whereas, Koehn et al. (2019) found Psychopathy to correlate with Conscientiousness only negatively.

### ***Beliefs***

Kaufman et al. (2019) found Positive View of World and Positive View of Self to negatively and independently predict the DT, as well as negatively correlating with both the worldview beliefs of “Humans are good” and “I am good.” The DT was negatively associated with Accepting External Influence and Self-Alienation, after controlling for Agreeableness (Kaufman et al., 2019). Such findings suggest some possibilities into how DT traits carry the potential to influence general world beliefs negatively. On the other hand, it is also essential to consider how DT traits can affect beliefs with proneness to conspiracy beliefs acting as a mediator.

Conspiracy theories (CT)s surrounding COVID-19 spread rapidly online. According to Evanega et al. (2020), the top 11 CT beliefs are as follows:

- there are miracle cures,
- it is the global elite’s attempt at taking away freedom, with the pandemic being manipulated by members of government agencies or military that are involved in the secret manipulation or control of government policy, also known as the ‘deep state,’
- COVID-19 is a democratic party hoax,

- a Chinese lab in Wuhan created COVID-19 as a biological weapon and released COVID-19,
- Bill Gates attempting to vaccinate the whole world while implanting microchips to track and control peoples' actions,
- 5G technology is causing symptoms of COVID-19,
- antisemitic conspiracies such as the pandemic driving anti-Jewish sentiment in Europe and the United States,
- COVID-19 vaccine being a population control effort,
- COVID-19 is a plot by major multinational pharmaceutical companies collectively working as a sector of the industry, also known as Big Pharma, increasing profits from medicine, and as a means to increase wide-spread fear there is an inflation in reported COVID-19 death rates,
- “Plandemic” is a pseudo-documentary stating the National Institute of Allergy and Infectious Diseases and its director Anthony Fauci created COVID-19 as a hidden agenda,
- COVID-19 originated from humans consuming bat soup in Wuhan, China.

Given the recent attention to different CTs revolving around COVID-19, Georgiou et al. (2020) offered insight into crucial factors that may influence one's proneness to these beliefs, such as educational level, political orientation, and levels of anxiety and stress.



Conspiracy theories have the potential to create negative implications for society, especially in times of a pandemic, through the emergence or increase of distrust in governmental authorities and resistance to public health interventions (Georgiou et al., 2020); and, therefore, will be accounted for in the current study, utilizing the COVID-19 Conspiracy Beliefs Scale. A limited number of studies have investigated the correlation between beliefs in CTs and the DT. One study, however, found Machiavellianism to be a significant, positive predictor of CT beliefs and is speculated to be a result of the traits cynical nature towards other individuals as being foolish and easily manipulated. March and Springer (2019) also found primary Psychopathy being a significant, positive predictor of CT beliefs. However, March and Springer (2019) found no correlation between CT beliefs and secondary Psychopathy nor Narcissism.

### ***Perceived Threat***

Considering the prior findings of high Emotionality correlating with an increased level of perceived threat (Garbe et al., 2020) and Emotional Stability correlating with low Neuroticism and happiness (Mezquita et al., 2019), the current study will set out to produce results that will corroborate with findings from Lippold et al. (2020). Lippold et al. (2020) reported Neuroticism as the strongest predictor of increased perceived threat levels. Furthermore, concerning the trait Conscientiousness, a trait characterized by following directions, individuals with high levels were found to perceive COVID-19 as a challenge rather than a threat (Liu et al., 2020). Low levels of Conscientiousness correlated with the DT (Kaufman et al., 2019).

### ***Behaviors***

Unlike other studies investigating how personality traits correspond with current behaviors observed during the COVID-19 pandemic, Nowak et al. (2020) provided insight into the DT traits. Through such an investigation, the authors offered a deeper understanding of how the self-oriented traits correlate with one's adaptive or preventative behaviors and maladaptive behaviors posing consequences for others. Participants included 755 individuals, 423 women and 332 men, from the ages of 18 to 78. Measures included the Dark Triad Dirty Dozen Scale, the 9-item Agentic Collective Narcissism Scale, the 7-item Collective Communal Narcissism Inventory, and two ad hoc measures of individual differences in preventative behaviors and hoarding. The authors also constructed a 20-item COVID-19 Health Beliefs Scale by modifying the Health Belief Scale (HBS) by substituting the term COVID-19 in place of other health conditions (Nowak et al., 2020).

Results concluded with individuals characterized by the DT trait characteristics being more likely to engage in hoarding behaviors and less likely to engage in prevention behaviors. These findings are not surprising given that individuals high in such traits are also more inclined to risk-taking, impulsiveness, and focused on self-interest. Dark Triad traits correlated with more significant concern with negative aspects of prevention, increased hoarding behaviors, and higher perceived susceptibility without higher perceived severity levels. Narcissism correlated with more perceived severity, while Psychopathy and Machiavellianism correlated with less self-efficacy. Due to the health beliefs of COVID-19, those with higher levels of DT traits were reluctant to engage in preventative behaviors as explained by higher perceived barriers, higher

perceived susceptibility, and lower self-efficacy, with perceived barriers being a mediator. On the other hand, collective narcissists engaged in prevention behaviors exclusively due to their beliefs regarding the virus (Nowak et al., 2020). Douglas et al. (2017) identified CT beliefs as being a predictor for collective Narcissism.

March and Springer (2019) added to the limited research, furthering the investigation into possible relationships between the DT and proneness to CT beliefs. The authors assessed the use of Machiavellianism, grandiose Narcissism, vulnerable Narcissism, primary and secondary Psychopathy, and the subtype of schizotypy Odd Beliefs/Magical Thinking to predict beliefs in CT. Through an online questionnaire, 230 participants, 44.7% male and 55.3% female with a mean age of 26, were included in the study. Participants were predominantly undergraduates (43%) and resided in Australia (44%). With a correlational design, this cross-sectional study identified Odd Beliefs/Magical Thinking, grandiose Narcissism, vulnerable Narcissism, Machiavellianism, and primary and secondary Psychopathy as the predictors and belief in CTs as the criterion (March & Springer, 2019).

Corroborating previous research, the Odd Beliefs/Magical Thinking subtype was a significant, positive predictor of CTs' beliefs. The subtype's proneness to seek a sense of control in which the belief in such CT will provide further explains such findings (March & Springer, 2019). During times of a pandemic, seeking a sense of control will be heightened; therefore, it may help explain how DT traits interplay with the increased CT spread during global health concerns pandemics. Furthermore, the authors also identified Machiavellianism as a significant

positive predictor of CT beliefs, corroborating previous research studies. Such correlation may result from characteristics of those high scoring in Machiavellianism, such as exploitative, strategic, ‘master manipulator,’ and cynical view of human nature. This pessimistic view of human nature may provide such individuals with an understanding of other people being foolish and, therefore, easily manipulated; however, such an individual is not so easily manipulated and knows what the truth is, in the sense of a CT (March & Springer, 2019).

Bierwiazzonek et al. (2020) brought light to COVID-19 conspiracy beliefs and how such beliefs may produce adverse effects on social distancing practices. Through M-Turk, the data collected included 399 individuals’ demographics and the completion of a survey. The survey was completed five different times, once on March 16<sup>th</sup>, on March 23<sup>rd</sup>, on March 30<sup>th</sup>, on April 6<sup>th</sup>, and on April 20<sup>th</sup> of 2020. The survey included three items regarding social distancing and three items regarding conspiracy beliefs. Results concluded with conspiracy beliefs negatively correlating with social distancing (Bierwiazzonek et al., 2020). Douglas et al. (2017) stated that heightened belief in CTs occurs when individuals lack self-efficacy, decreasing their inclination to take action. Other studies have also found correlations among health-related conspiracy beliefs and preventative behaviors (Gillman et al., 2013; Jolley & Douglas, 2014), with no attention given to how personality traits may play as a mediator to such.

### **Summary and Research Question**

Qian and Yahara (2020) found that Agreeableness positively predicted material sufficiency, Openness and Conscientiousness positively predicted epidemic consciousness,

Conscientiousness negatively predicted the likelihood of infection, Neuroticism negatively predicted material sufficiency, and Extraversion predicted underestimation. Lippold et al. (2020) found perceived threat levels to increase over time and significantly higher among women. Lippold et al. (2020) also identified Neuroticism as the strongest personality predictor of perceived threat levels. While corroborating with Lippold et al.'s (2020) findings and identifying women as having higher levels of perceived threat, Garbe et al. (2020) also found levels of perceived threat to be higher among those with high Emotionality scores. Gritsenko et al. (2020) found that the conviction in the value of oneself and one's confidence in their ability to control their life correlated with levels of fear of COVID-19. Liu et al.'s (2020) findings suggested that those with high Conscientiousness levels will be more likely to engage in following government preventative guidelines, as evidenced by such individuals perceiving COVID-19 as a challenge rather than a threat. Carvalho et al. (2020) provided evidence that those scoring low on Conscientiousness do not consider either social distancing or handwashing as essential measures. They provided further evidence that those scoring high on Conscientiousness follow one, if not both, containment measures (Carvalho et al., 2020). Qian and Yarhara (2020) corroborated such findings as they found Conscientiousness and Extraversion to be the most influential factors to engagement in compliance behaviors. Clark et al. (2020) found those high in Agreeableness and Conscientiousness predicted engagement in handwashing and social distancing, while Emotional Instability had no association with health behavior outcomes. However, Clark et al. (2020) also identified the strongest rule-following predictor as believing that rule-following behaviors were a

useful precautionary measure, although perceived disruptiveness had no association with engagement in rule-following behaviors. Nakayachi et al. (2020) identified conformity as a mediator between perceiving mask-wearing as a new social norm and engagement in mask-wearing, suggesting that factors relative to conformity may result in collective mask-wearing.

Kaufman et al. (2019) found the facets of Assertiveness, Responsibility, Acceptance, Compassion, Respectfulness, and Aesthetic Sensitivity independently predicted the DT. The DT positively correlated with Extraversion and Neuroticism and negatively correlated with Conscientiousness and Agreeableness. Furthermore, Kaufman et al. (2019) also found Positive View of World and Positive View of Self to be negative independent predictors of the DT. The authors further stated the DT negatively correlated to Accepting External Influence and Self Alienation, as well as the worldview beliefs of “Humans are good” and “I am good.” O’Boyle et al. (2015) found that Machiavellianism has a significantly negative association with Agreeableness and Conscientiousness and a positive association with Neuroticism. Narcissism is significantly associated with Extraversion, Openness, and Conscientiousness and is negatively associated with Agreeableness and Neuroticism (O’Boyle et al., 2015).

On the other hand, O’Boyle et al. (2015) found Psychopathy to have no positive association with Extraversion, Neuroticism, or Openness but did have a negative association with Agreeableness and Conscientiousness. Nowak et al. (2020) provided evidence of those with increased levels of DT traits being less likely to engage in preventative behaviors and having

higher levels of perceived susceptibility without elevated levels of perceived severity. Nowak et al. (2020) also found Narcissism correlates with more perceived severity and Psychopathy and Machiavellianism to associate with less self-efficacy. March and Springer (2019) found Machiavellianism and the Odd Beliefs/Magical Thinking subtype of schizotypy to be a significant, positive predictor of CTs beliefs. Such findings suggest that the cynical view of human nature and proneness to seek a sense of control may provide such individuals with the understanding of other people being foolish and, therefore, easily manipulated; whereas they are not so easily manipulated and know the truth (March & Springer, 2019). Lastly, Bierwiazzonek et al. (2020) found conspiracy beliefs to correlate with engagement in social distancing negatively. The above findings led to the current research question regarding the influence personality traits have on COVID-19 related health beliefs, perceived threat, and mask-wearing engagement, emphasizing the Dark Triad.

### **Hypotheses**

CT beliefs decrease the inclination to take action (Douglas et al., 2017). DT traits negatively correlate with Accepting External Influence (Kaufman et al., 2020) and engagement in preventative behavior (Nowak et al., 2020). The present study hypothesizes that DT traits will negatively correlate with conformity while influencing CT beliefs' proneness.

H1: DT traits will negatively correlate with conformity and positively correlate with CT beliefs.

Mezquita et al. (2019) found Emotional Stability correlated with low Neuroticism and happiness, and Garbe et al. (2020) found high Emotionality to correlate with an increased level

of perceived threat; therefore, the present study hypothesizes that Neuroticism will be the strongest predictor of an increased level of perceived threat.

H2: Neuroticism will positively correlate with level of perceived threat.

Kaufman et al. (2020) also note the DT independently being predicted by the facets of Compassion, Respectfulness, and Acceptance and positively predicted by immature defense styles. Furthermore, given DT traits negatively correlate with the facets of Accepting External Influence and Self-Alienation (Kaufman et al., 2020), the present study hypothesizes that high DT traits will produce higher levels of perceived threat. The present study further hypothesized that DT traits would hinder individuals from mask-wearing engagement.

H3: DT traits will negatively correlate with engagement in mask-wearing.

March and Springer (2019) identified Machiavellianism as a significant, positive predictor of CT beliefs, while Kaufman et al. (2019) found the DT to correlate with immature defense styles. Therefore, the present study hypothesizes high Machiavellianism to be a predictor of increased belief in CTs related to COVID-19 health beliefs.

H4: Machiavellianism will positively correlate with belief in CTs related to COVID-19 health beliefs.

As Nakayachi et al. (2020) discussed, conformity is the compliance with rules, laws, and standards or social norms. The authors identified conformity as a mediator between the perception of mask-wearing as a new social norm and engagement in mask-wearing (Nakayachi et al., 2020). When considering Kaufman et al. (2020) findings, higher DT traits produced lower



scores in socially desirable responding. In light of such, the present study hypothesizes that higher DT traits will be an independent predictor of engagement in mask-wearing.

H5: High levels of DT traits will be a negative, independent predictor of engagement in mask-wearing.

## **Method**

### **Participants**

Participants were recruited online via Facebook and SurveyCircle. The survey was shared via Facebook groups; examples include, 'Free Your Face Fort Wayne!', 'Promote Your Blog, Page, Website, Business Links', 'Fort Wayne Holistic Living', 'Chemtrails Global Skywatch', 'Covid-19 Emotional/Mental Health Support Group'. Participants included any individual over the age of 18; therefore, the only exclusion criteria was those that are younger than 18.

The researcher posted the Research Announcement on the Facebook pages of several open-access groups frequented by individuals over 18 or dedicated to research announcements; see Appendix A for the announcement's text. Facebook's terms of service permit such research postings; see [www.facebook.com/terms](https://www.facebook.com/terms). The Research Announcement remained on the social media sites for four weeks. The researcher reposted it repeatedly to keep the announcement appearing in the news feed for the selected groups. Some Facebook groups have moderators; others do not. Some groups include language in their terms, disallowing posting on their pages for research and data collection. The researcher only posted the Research Announcement on Facebook pages whose terms allowed postings for research or data collection purposes. If this was unclear from the terms, the researcher contacted the group moderator and requested permission to post the Research Announcement. If permission was granted, the researcher

included documentation of such permission in the present work as an appendix and then posted the Research Announcement on that group page.

The Research Announcement included a link to an anonymous survey, accessible via SurveyMonkey. The link took the respondent to SurveyMonkey, where the respondent first saw and agreed to the Informed Consent; see Appendix B for the text of Informed Consent. If participants agreed to the Informed Consent, they automatically received access to the survey to complete online. If participants did not agree to the Informed Consent, they proceeded to a thank you page, and participation was terminated at that point. Although it is unlikely, should participants experience any emotional discomfort resulting from completing the survey, they can contact the Emotional Distress Hotline, a national mental health hotline, available 24/7 for free 1-800-LIFENET. After several weeks, the researcher closed the SurveyMonkey survey and analyzed the data. Refer to Appendix C for the present studies IRB Approval Letter.

## **Measures**

Independent predictor variables for the present study included BFPT and SD4 scores. Dependent, criterion variables for the present study included health beliefs and attitudes towards COVID-19, perceived threat and risk, government response to the COVID-19 outbreak, CT beliefs, engagement in mask-wearing, perception of mask-wearing, and conformity. See Appendix D for the full survey measure. See Table D1 for a detailed report of variables measured by each set of items and their corresponding questions included within the survey.

## ***Demographics***

The researcher included three general items used to collect data on participant demographics. Respondents were asked to provide their specific age, indicate their gender, and specify their race/ethnicity.

### ***Scales from OBSSR***

In the survey, the researcher included scales provided by the NIH Office of Behavioral and Social Sciences Research (OBSSR) and obtained from the COVID-19 OBSSR Research Tools (National Institute of Environmental Health Sciences, 2020). Questions are close-ended and include key content related to the research question or suggested by the literature review. A doctoral-level researcher specializing in survey design reviewed and edited the survey, improving its face and content validity. Face validity suggests that the survey measures what it aims to measure based upon a simple reading of the questions. Content validity indicates that the instrument represents all critical aspects of the construct it should measure; an expert appraisal can partially assess content validity (Miller & Lovler, 2015). Nevertheless, the researcher developed the new survey for the present research and had no existing data on the reliability or validity of the questions or the instrument beyond face content validity.

**Health Beliefs and Attitudes.** Two sets of items from the Knowledge and Attitudes towards COVID-19: Knowledge; Perceived Threat module within the COVID-19 Community Response Survey (John Hopkins University, 2020) measured COVID-19 health beliefs. One item within the COVID-19 Knowledge, Attitudes, and Avoidant Behaviors module from the Coronavirus Tracking Survey of the Understanding America Survey (UAS; Center for Economic and Social Research, 2020) measured attitudes toward COVID-19.

**Perceived Threat and Risk.** Two items from the Concerns of Infection - [COVID Specific]: Perceived Threat module from the COVID-19 International Survey (CIS; Montreal Behavioural Medicine Centre, 2020) measured the risk of contracting COVID-19. Two sets of items from the Perceived Coronavirus Threat: Perceived Threat module within the Social Psychological Survey of COVID-19: Coronavirus Perceived Threat, Government Response, Impacts, and Experiences Questionnaires (Conway et al., 2020) measured the perceived threat of COVID-19. Two items within the COVID-19 Knowledge, Attitudes, and Avoidant Behaviors module from the Coronavirus Tracking Survey of the Understanding America Survey (UAS; Center for Economic and Social Research, 2020) measured the perceived threat of COVID-19 and perceived risk of contracting COVID-19.

**Government Response.** The Restriction Scale, Reactance Scale, and Informational Contamination Scale from the Federal Governmental Response to Coronavirus: Government Response module within the Social Psychological Survey of COVID-19: Coronavirus Perceived Threat, Government Response, Impacts, and Experiences Questionnaires (Conway et al., 2020) each contained two items and measured how one agrees or disagrees with governmental response to the COVID-19 outbreak.

### ***Engagement in Mask-Wearing***

The researcher created and included three items used to measure engagement in mask-wearing. Questions regarding engagement in mask-wearing reflect the following: “What percentage best describes how often you have worn a mask when you have gone into a public

area?”, “Which statement best describes how often you wear a mask?” and “Have you either left or not gone to a particular store because they enforce mask-wearing?”.

### ***Perception of Mask-Wearing***

The researcher created and included four items to measure the perception of mask-wearing. Participants responded to “To what percentage do you agree with the following statements” on a sliding scale from 0 to 100. Questions are as follows: “I wear a mask not only for myself but most importantly for others,” “Not wearing a mask is pure inconsideration,” “Above all else, I wear a mask to keep myself safe,” and “My constitutional rights are most important to me.”

### ***Conspiracy Belief***

The Generic Conspiracist Beliefs Scale (GCBS; Brotherton et al., 2013) is a widely used measure of conspiracy theory belief and contains psychometric properties used to measure individual differences in generic conspiracist ideation (Goreis & Voracek, 2019). The scale includes 15 items and provides an overall score, as well as five facet scores. Responses were recorded on a Likert scale, ranging from 1 (disagree) to 5 (agree). According to Goreis and Voracek (2019), the GCBS contained high internal reliability, .93 in study one and .94 in study two, for full-scale. Good internal consistency also existed for all subfactor scores, as well as large intercorrelations between factors. The GCBS also demonstrated invariance of factor structure, form, and intercepts across gender. However, some factor stability concerns arose;

however, such is not unique to the GCBS as other psychometric instruments experience similar issues (Goreis & Voracek, 2019).

**COVID-19 Specific.** The researcher further created a set of items to measure COVID-19 specific conspiracy theory belief. Respondents indicated their level of agreement or disagreement with the top 11 COVID-19 conspiracy theories. Respondents recorded their answers on a Likert scale ranging from 1 (definitely not true) to 5 (definitely true).

### ***Conformity***

The Conformity Scale (Mehrabian & Stefl, 1995) defines characteristic willingness to identify with and imitate others, avoid conflict by giving into others, and, in terms of values, ideas, and behaviors, be a follower rather than a leader. The scale comprises 11 items with responses recorded on a 9-point Likert scale ranging from -4 (very strong disagreement) to 4 (very strong agreement). According to Mehrabian and Stefl (1995), all item-total correlations exceeded .40 in absolute value, with a mean absolute value of .54. Internal consistency was deemed satisfactory with an alpha reliability coefficient of .77 due to the scale assessing varied conformity elements and only obtaining 11 items (Mehrabian & Stefl, 1995).

### ***Big Five Personality***

The Big Five Personality Test (BFPT; Goldberg, 1992) is among the most commonly used personality models and will identify individual personality differences. The BFPT comprises 50 questions and measures among five factors of personality: Extraversion, Neuroticism, Agreeableness, Conscientiousness, and Openness to Experience. Likert scale

responses range from 1 (disagree) to 5 (agree) (Goldberg, 1992). According to Cucina et al. (2017), the use of varimax rotated principal component scores (VRPCS) instead of Traditional Big Five Scores (TBFS) enhances validity and reliability while also avoiding oblique factor-level scores often produced by TBFS. When using VRPCS, the BFPT demonstrates better construct validity because such scoring reduces intercorrelations of TBFS following cross-validation; thus, increasing discriminant validity. Median reliability using VRPCS was .97, whereas median reliability using TBFS was .94 (Cucina et al., 2017).

### ***Dark Triad***

The Short Dark Tetrad (SD4; Paulhus et al., 2020) is a modified and extended variation of the Short Dark Triad (SD3) with the inclusion of Sadism. The SD4 is a four-subscale inventory containing seven items per construct for a final total of 28 items. According to Paulhus et al. (2020), the SD4 provides construct validity as the most potent negative correlates of Sadism, Psychopathy, and Machiavellianism are Conscientiousness and Agreeableness. Furthermore, the strongest correlate of Narcissism is Extraversion. Construct validity for the SD4 was advanced further as the pattern of external correlates was coherent and consistent with previous research. The four seven-item subscales had good psychometric properties and equated the alpha and omega reliabilities across all subscales. Reliability alpha for Narcissism was .80, Machiavellianism .75, Psychopathy .81, and Sadism .81, for a mean reliability coefficient of .79. Reliability omega for Narcissism was .80, Machiavellianism .76, Psychopathy .81, and Sadism .81, for a mean reliability coefficient of .79 (Paulhus et al., 2020).

### **Procedures**

Participants completed an anonymous survey. The survey contained 25 questions and had an estimated completion time of 16 minutes. Participants had to be 18 years of age to participate and accessed the survey via SurveyMonkey. Upon access, participants read and agreed to the Informed Consent. Once the survey was closed, the researcher completed analysis responses via SurveyMonkey and SPSS.

### **Data Management**

To ensure the survey participants' anonymity, the researcher did not collect IP addresses in using SurveyMonkey. For this study, the researcher exported the data from SurveyMonkey into an SPSS database for analysis. The researcher presented all of the results in aggregate form to protect participants' identities. The researcher had access to the data only in the form of physical completed surveys, which were maintained on an encrypted flash drive and kept in a locked file cabinet in the researcher's home. The researcher and thesis advisor were the only parties with access to the strong password that protected the SPSS dataset. The dataset contained no coded identifiers and, as such, was completely anonymous.

The researcher stored all electronic data on an encrypted flash drive and not on any computer hard drive. The researcher will retain the data set and related files for a minimum of five years after the study completion in case questions arise about the analyses. After the five years, the researcher will destroy the data using the current Department of Defense data destruction standards. The researcher will likely choose an affordable technique, such as encryption, pending technology at the time.



## **Statistical Analysis**

The researcher conducted data analyses using IBM's SPSS statistical software, version 27. The researcher first began with descriptive statistics, such as frequencies, means, ranges, standard deviations, skewness, and kurtosis. The researcher further conducted correlational analyses and regression analyses where applicable.

## **Results**

### **Participant Characteristics**

The researcher collected a total of 358 responses from the survey, 113 of which were incomplete. There were three case deletions due to age requirements, leaving 242 completed responses, with a completion rate of 68%. Respondents' mean age was 41, with a mode of 29, and ranged from 20 to 84. Of the 242 respondents, 206 identified as women, 35 identified as men, and one identified as gender fluid. The majority of respondents identified as White or Caucasian, 88.8%, while 3.3% identified as Hispanic or Latino, 2.1% Black or African American, 2.1% Multiethnic/Other, 1.2% Asian or Asian American, 0.8% American Indian or Alaska Native, and 1.7% preferred not to respond. Refer to Appendix E for the complete demographic data.

### **COVID-19 Health Beliefs and Attitudes**

**Question 4.** Evidence of internal consistency was provided by an alpha reliability coefficient of .78. The full measure had a mean of 37.02, with a standard deviation of 6.88. Each item aside from praying had a valid response number of 242; praying had a valid response number of 240. Concerning effective actions for keeping one safe from COVID-19, avoiding contact with people who could be high-risk was identified as the most effective action; whereas,

praying was identified as the least effective action. Skewness was detected in three items: washing your hands with soap or using hand sanitizer (-1.61), avoiding public spaces, gatherings, and crowds (-1.34), and avoiding contact with people who could be high-risk (-1.63). A mean score and standard deviation were computed for each item and are provided for reference in Table F1, while Table F2 summarizes the item response percentages.

**Question 5.** Evidence of internal consistency was provided by an alpha reliability coefficient of .89. The full measure had a mean of 10.51, with a standard deviation of 3.63. Closing schools and daycares concluded with a mean of 3.20 and a standard deviation of 1.28, obliging everyone who does not work in a crucial professional group to stay at home except to do basic shopping or because urgent medical care is required concluded with a mean of 3.52 and a standard deviation of 1.32. Universal wearing of face masks concluded with a mean of 3.78 and a standard deviation of 1.41. Roughly 44% of respondents identified universal wearing of face masks as a very effective policy measure at curbing the spread of COVID-19, while roughly 12% identified such as not effective at all. Item response percentages were computed for each item and are provided for reference in Table F3.

**Question 6.** Nearly half of respondents (46.9%) somewhat agree that most people believe that people with coronavirus are dangerous. Regarding the statement, “If I caught the coronavirus, I would consider it a sign of my personal weakness or failure,” 77% of respondents strongly disagreed, and a skewness of 1.91 was detected. Item response percentages were computed for each item and are provided for reference in Table F4. Due to the non-inclusion of the full measure, this measure’s alpha reliability coefficient was .47, and therefore, it does not

meet standards. The inclusion of this measure was specifically for descriptives, with no intention for statistical significance.

### **Perceived Threat and Risk**

**Question 7.** Scales for responses to the measure are as follows: “0” = (1), “1” = (2), “2 to 4” = (3), “5 to 9” = (4), “10 or more” = (5), “I don’t know / I prefer not answer” = (0). Scales were created so higher scores equate to higher levels of perceived threat and risk. Regarding the number of people personally known who have likely been infected with COVID-19, “10 or more people” had the highest frequency at 40.9%. Aside from not knowing or preferring not to answer, a frequency of 1.2%, “0” people had the lowest frequency at 3.3%. The measure had a mean of 3.93, with a standard deviation of 1.16. A skewness of -1.06 was detected. Response frequencies were computed and are provided for reference in Table F5.

**Question 8.** Scales for responses to the measure are as follows: “Much better than most” = (1), “Better than most” = (2), “About the same” = (3), “Worse than most” = (4), “Much worse than most” = (5), “I don’t know / I prefer not to answer” = (0). Scales were created so higher scores equate to higher levels of perceived threat and risk. The measure had a mean of 2.68, with a standard deviation of .96. Concerning ratings of physical health in general compared to others, “about the same” had the highest frequency at 44.6%. Aside from not knowing or preferring not to answer, a frequency of 1.2%, “much worse than most,” had the lowest frequency at 3.7%. Response frequencies were computed and are provided for reference in Table F6.

**Question 9.** Evidence of internal consistency was provided by an alpha reliability coefficient of .90. Scales for responses are as follows: “Not true of me at all” = (1), “Not true of me” = (2), “Somewhat not true of me” = (3), “Neutral” = (4), “Somewhat true of me” = (5),

“True of me” = (6), “Very true of me” = (7). The full measure had a mean of 24.95 and a standard deviation of 9.69. Respondents' grand mean totals for this measure had a mean of 4.18, median of 4.33, and a standard deviation of 1.28. Grand mean totals had a range of 1 to 7; higher scores equate to higher perceived threat and risk levels. A mean score and standard deviation was computed for each item and is provided for reference in Table F7.

**Question 10.** Evidence of internal consistency was provided by an alpha reliability coefficient of .71. Scales for responses are as follows: “No chance” = (1), “Very small chance” = (2), “Medium chance” = (3), “High chance” = (4), “Very high chance” = (5), “Absolutely sure” = (6), “This has already happened” = (7). The full measure had a mean of 21.80 and a standard deviation of 6.22. Respondents' grand mean totals had a mean of 3.72, median of 3.67, and a standard deviation of 1.01. Grand mean totals had a range of 1.67 to 6.17; higher scores equate to higher perceived threat and risk levels. A mean score and standard deviation was computed for each item and is provided for reference in Table F8.

**Question 11.** The most frequent responses to “On a scale of 0 to 100, if you do get the coronavirus, what is the percent chance you will die from it?” were “0%” and “1%”, both with 27 responses, along with “10%” with 26 responses. Furthermore, “50%” had 16 responses, with every percentage after having one to two responses, aside from “52%” with three responses. Responses had a mean of 18.58, median of 10, multiple modes, and a standard deviation of 20.96. Scores ranged from 0 to 99. A skewness of 1.38 was detected. Response frequencies are provided for reference in Figure F1. Response descriptives were computed and are provided for reference in Table F9.

**Question 12.** The most frequent responses to “On a scale of 0 to 100, what is the percent chance that you will get the coronavirus in the next three months?” were “50%” with 38 responses, “0%” with 20 responses, “25%” with 18 responses, “20%” with 17 responses, and “30%” with 15 responses. Furthermore, every response percentage beyond “50%” had a response rate of one or two, aside from “52%”, “60%”, and “80%”, all with three responses each. Responses had a mean of 26.96, median of 24, mode of 50, and a standard deviation of 22. Scores ranged from 0 to 100. Skewness analyses were conducted, and no skewness was detected. Response frequencies are provided for reference in Figure F2. Response descriptives were computed and are provided for reference in Table F9.

### **Government Response**

**Question 13.** Scales for responses are as follows: “Strongly disagree” = (-2), “Disagree” = (-1), “Unsure” = (0), “Agree” = (1), “Strongly agree” = (2). Evidence of internal consistency for the Restriction Scale was provided by an alpha reliability coefficient of .92. Respondent scores for the Restriction Scale had a mean of 1.21 and a standard deviation of 2.81; higher scores equating to higher support of federal government measures to restrict the spread of COVID-19. Evidence of internal consistency for the Reactance Scale was provided by an alpha reliability coefficient of .95. Respondent scores for the Reactance Scale had a mean of -.89 and a standard deviation of 2.89; higher scores equating to higher disagreement with the federal government’s measures to restrict one’s ability to leave their home in an attempt to stop the spread of COVID-19. Evidence of internal consistency for the Informational Contamination Scale was provided by an alpha reliability coefficient of .89. Respondent scores for the Informational Contamination Scale had a mean of -.29 and a standard deviation of 2.78; higher

scores equating to higher distrust of information provided by the federal government regarding the coronavirus. Each scale had a score range of -2 to 2. Response percentages and standard deviations were computed for each scale and each item and are provided for reference in Table F10.

### **Conspiracy Beliefs**

**Question 14.** Evidence of internal consistency for the GCBS was provided by an alpha reliability coefficient of .96. Evidence of internal consistency for each subscale are as follows: Government malfeasance  $\alpha = .91$ , Malevolent global conspiracies  $\alpha = .92$ , Extraterrestrial cover-up  $\alpha = .90$ , Personal wellbeing  $\alpha = .86$ , Control of information  $\alpha = .83$ . Scales for responses are as follows: “Definitely not true” = (1), “Probably not true” = (2), “Not sure/cannot decide” = (3), “Probably true” = (4), “Definitely true” = (5). Respondents’ grand mean scores for the full measure had a mean of 7.65, median of 7.40, and a standard deviation of 3.13. Scores had a range of 3 to 15; higher scores equating to firmer belief in conspiracy theories. The mean and standard deviation was computed for each subscale and each item and are provided for reference in Table F11.

**Question 15.** Evidence of internal consistency for the measure was provided by an alpha reliability coefficient of .92. Scale for responses are as follows: “Strongly disagree” = (1), “Disagree” = (2), “Not sure” = (3), “Agree” = (4), “Strongly agree” = (5). Respondents’ grand mean scores had a mean of 2.00, median of 1.64, and a standard deviation of .84. Scores had a range of 1 to 4.73; higher scores equating to firmer belief in conspiracy theories relating to COVID-19. The mean and standard deviation was computed for each item and is provided for reference in Table F12.

**Engagement in Mask-Wearing**

**Question 16.** Scales for responses were selected so that a higher score equates to higher engagement in mask-wearing and are as follows: “100% of the time” = (5), “75% of the time” = (4), “50% of the time” = (3), “25% of the time” = (2), “0% of the time” = (1), “I have not gone to a store” = (0). The full measure had a mean of 4.42, median of 5, and a standard deviation of 1.03. A skewness of -1.96 was detected. When asked “What percentage best describes how often you have worn a mask when you have gone into a public area,” over half of the respondents (67.4%) selected “100% of the time; I always wear a mask”, while only 3.3% of respondents selected “0% of the time; I never wear a mask”. Response frequencies were computed and are provided for reference in Table F13.

**Question 17.** Scales for responses were selected so that a higher score equates to higher engagement in mask-wearing and are as follows: “I wear a mask absolutely any time” = (5), “For the most part, I always wear a mask” = (4), “I wear a mask in all public places and at friends/colleagues/neighbors residence” = (3), “I only wear a mask in public places” = (2), “I only wear a mask if stores enforce them” = (1), “I will not wear a mask” = (0). The full measure had a mean of 3.13, median of 3, mode of 5, and a standard deviation of 1.52. The response, “I wear a mask absolutely any time I leave my house,” had the highest frequency at 27.7%, while “I will not wear a mask” had the lowest frequency at 3.3%. Response frequencies were computed and are provided for reference in Table F14.

**Question 18.** Scales for responses were selected so that higher scores equate to higher reluctance to engage in mask-wearing and are as follows: “Yes” = (2), “No” = (1), “I have not gone to a store” = (0). The full measure had a mean of 1.11, with a standard deviation of .39. A

small percentage (13.6) responded that they have left or not gone to a particular store because they enforce mask-wearing. Response frequencies were computed and are provided for reference in Table F15.

### **Perception of Mask-Wearing**

**Question 19.** Respondents indicated on a slider scale, “To what percentage do you agree with; I wear a mask not only for myself but most importantly for others.” On a scale from 0 to 100, the most frequent response was “100%” with 141 responses, with the second most frequent response being “0%” with 17 responses. Responses had a mean of 80.54, median of 100, mode of 100, and a standard deviation of 33.25. Scores had a range of 0 to 100. A skewness of -1.56 was detected. Response frequencies are provided for reference in Figure F3, while response descriptives are provided for reference in Table F16.

**Question 20.** Respondents indicated on a slider scale, “To what percentage do you agree with, not wearing a mask is pure inconsideration.” On a scale from 0 to 100, the most frequent response was “100%” with 111 responses, with the second most frequent response being “0%” with 26 responses. Responses had a mean of 73.23, median of 98, mode of 100, and a standard deviation of 37.34. A skewness of -1.07 was detected. Response frequencies are provided for reference in Figure F4, while response descriptives are provided for reference in Table F16.

**Question 21.** Respondents indicated on a slider scale, “To what percentage do you agree with, above all else, I wear a mask to keep myself safe.” On a scale from 0 to 100, the most frequent response was “100%” with 53 responses, with the second and third most frequent responses being “50%” with 34 responses and “0%” with 31 responses. Responses had a mean of 54.63, median of 50, mode of 100, and a standard deviation of 36.34. Response frequencies are



provided for reference in Figure F5, while response descriptives are provided for reference in Table F16.

**Question 22.** Respondents indicated on a slider scale, “To what percentage do you agree with; my constitutional rights are most important to me.” On a scale from 0 to 100, the most frequent response was “100%” with 81 responses, with the second most frequent response being “50%” with 30 responses. Responses had a mean of 68.49, median of 75, mode of 100, and a standard deviation of 32.17. Response frequencies are provided for reference in Figure F6, while response descriptives are provided for reference in Table F16.

### **Conformity**

**Question 23.** Evidence of internal consistency of the Conformity Scale was provided by an alpha reliability coefficient of .76. Scales for responses are as follows: “Very strong agreement” = (4); “Strong agreement” = (3); “Moderate agreement” = (2); “Slight agreement” = (1); “Neither agreement nor disagreement” = (0); “Slight disagreement” = (-1); “Moderate disagreement” = (-2); “Strong disagreement” = (-3); “Very strong disagreement” = (-4).

Respondent z-scores had a mean of -.37, median of -.29, and standard deviation of .94.

Respondent z-scores had a range of -2.67 to 2.33. As provided by the Conformity Scale manual, interpretation of z-scores are as follows, with percentile score in parenthesis: 2.5 (99.4) very extremely high, 2.0 (98) extremely high, 1.5 (93) very high, 1.0 (84) moderately high, 0.5 (69) slightly high, 0.0 (50) average, -0.5 (31) slightly low, -1.0 (16) moderately low, -1.5 (7) very low, -2.0 (2) extremely low, and -2.5 (0.6) very extremely low. The mean and standard deviation was computed for each item and is provided for reference in Table F17.

### **Big Five**

**Question 24.** Evidence of internal consistency of the BFPT was provided by an alpha reliability coefficient of .89. Scales for responses are as follows: “Disagree” = (1), “Slightly disagree” = (2), “Neutral” = (3), “Slightly agree” = (4), “Agree” = (5). The subscale Extraversion had a mean of 30.92, median of 31, and a standard deviation of 9.04; scores ranged from 10 to 50. The subscale Agreeableness had a mean of 43.23, median of 44, and a standard deviation of 5.72; scores ranged from 11 to 50. There was a skewness of -1.58 for the subscale Agreeableness. The subscale Conscientiousness had a mean of 37.64, median of 38, and a standard deviation of 7.36; scores ranged from 19 to 50. The subscale Neuroticism had a mean of 29.77, median of 29, and a standard deviation of 9.13; scores ranged from 12 to 50. The subscale Openness had a mean of 40.94, median of 42, and a standard deviation of 6.33; scores ranged from 16 to 50. A mean and standard deviation was computed for each subscale and is provided for reference in Table F18, while Table F19 summarizes the itemized statistics for responses on the BFPT.

### **Dark Triad**

**Question 25.** Evidence of internal consistency of the SD4 was provided by an alpha reliability coefficient of .87. Scales for responses are as follows: “Strongly disagree” = (1), “Disagree” = (2), “Neutral” = (3), “Agree” = (4), “Strongly agree” = (5). The subscale Machiavellianism had a mean of 3.03, median of 3.07, a standard deviation of .61, and a range of 1 to 5. The subscale Narcissism had a mean of 2.92, median of 3, a standard deviation of .68, and a range of 1 to 5. The subscale Psychopathy had a mean of 1.87, median of 1.71, a standard deviation of .66, and a range of 1 to 4. The subscale Sadism had a mean of 2.02, median of 2, a standard deviation of .74, and a range of 1 to 4. Respondents’ full SD4 mean scores had a mean

of 9.84, median of 9.5, and a standard deviation of 1.97. Scores had a range of 5.57 to 16.14. A mean and standard deviation was computed for each subscale and is provided for reference in Table F20, while Table F21 summarizes the itemized statistics for responses on the SD4.

### **Correlational Analyses**

All correlation tables are available for reference within Appendix G.

#### **DT Traits, Conformity, and CT Belief**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for variables relating to H1: DT traits, conformity, and conspiracy theory beliefs. There was a significant, negative correlation between DT traits and conformity ( $r(234) = -.15, p = .02$ ). For the complete correlational table, refer to Table G1. There were significant, positive correlations between Psychopathy and COVID-19 CT beliefs ( $r(232) = .15, p = .02$ ), and Narcissism and GCBS ( $r(231) = .16, p = .01$ ); refer to Table G2.

The researcher found four correlations at the .01 alpha level. There were significant, positive correlations between SD4 and GCBS ( $r(231) = .31, p = <.00$ ), Machiavellianism and GCBS ( $r(231) = .19, p = .00$ ), Psychopathy and GCBS ( $r(231) = .35, p = <.00$ ), and Sadism and GCBS ( $r(231) = .21, p = .00$ ). Refer to Table G2 for the complete correlational analysis.

**Regression analyses.** The researcher regressed COVID-19 CT belief scores onto Psychopathy scores  $F(1, 232) = 5.26, p = .023$ . Psychopathy scores had a relatively small effect on COVID-19 CT beliefs ( $R^2 = .022$ ).

The researcher conducted a multiple regression analysis to predict GCBS scores based on the DT traits; Machiavellianism, Narcissism, Psychopathy, and Sadism. Results show 12.9% of the GCBS scores variance can be accounted for by the four predictors collectively,  $F(4, 228) =$

8.457,  $p = <.001$ . The results show that Psychopathy ( $\beta = .323$ ,  $t = 4.110$ ,  $p = <.001$ ) positively predicts GCBS scores. Such findings suggest that higher levels of Psychopathy result in a greater likelihood to believe conspiracy theories.

The researcher conducted a multiple regression analysis to predict Conformity scores based on the four DT traits. Results show 8.9% of the Conformity scores variance can be accounted for by the four predictors collectively,  $F(4, 231) = 5.675$ ,  $p = <.001$ . The results show that Machiavellianism ( $\beta = .226$ ,  $t = 3.179$ ,  $p = .002$ ) positively predicts Conformity scores, while Narcissism ( $\beta = -.148$ ,  $t = -2.151$ ,  $p = .032$ ) and Psychopathy ( $\beta = -.160$ ,  $t = -1.995$ ,  $p = .047$ ) negatively predicts Conformity scores. Such findings suggest that higher levels of Machiavellianism result in a greater likelihood of conforming, whereas higher levels of Narcissism and Psychopathy result in a decreased likelihood to conform.

### **Neuroticism and Level of Perceived Threat**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for variables relating to H2: Neuroticism and level of perceived threat. The researcher found one correlation found at the .05 alpha level and four correlations at the .01 alpha level. There were significant, negative correlations between Neuroticism and level of perceived threat and risk ( $r(227) = -.16$ ,  $p = .02$ ), Neuroticism and level of perceived threat ( $r(227) = -.18$ ,  $p = .01$ ), Neuroticism and ratings of one's general health compared to others ( $r(230) = -.18$ ,  $p = .01$ ), Neuroticism and one's percent chance of dying if contracting COVID-19 ( $r(226) = -.21$ ,  $p = .00$ ), and Neuroticism and one's percent chance of contracting COVID-19 in the next three months ( $r(226) = -.19$ ,  $p = .00$ ). Refer to Table G3 for the complete correlational analysis.

**Regression analyses.** The researcher regressed level of perceived threat onto Neuroticism scores  $F(1, 227) = 7.79, p = .006$ . Neuroticism had a relatively small effect on one's level of perceived threat ( $R^2 = .033$ ). The researcher regressed the level of perceived threat and risk onto Neuroticism scores  $F(1, 227) = 5.90, p = .016$ . Neuroticism had a relatively small effect on one's level of perceived threat and risk ( $R^2 = .025$ ). The researcher regressed one's general health ratings compared to others onto Neuroticism scores  $F(1, 230) = 7.68, p = .006$ . Neuroticism had a relatively small effect on one's general health ratings compared to others ( $R^2 = .032$ ). The researcher regressed ratings of one's chance of dying if contracted COVID-19 onto Neuroticism scores  $F(1, 226) = 9.89, p = .002$ . Neuroticism had a relatively small effect on ratings of one's chance of dying if contracted COVID-19 ( $R^2 = .042$ ). The researcher regressed ratings of one's chance of contracting COVID-19 in the next three months onto Neuroticism scores  $F(1, 226) = 8.37, p = .004$ . Neuroticism had a relatively small effect on ratings of one's chance of contracting COVID-19 in the next three months ( $R^2 = .036$ ).

### **DT and Engagement in Mask-Wearing**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for variables relating to H3: DT traits and engagement in mask-wearing. The researcher found one correlation found at the .05 alpha level and three correlations found at the .01 alpha level. There were significant, negative correlations between Psychopathy and frequency of mask-wearing anywhere ( $r(234) = -.15, p = .02$ ), Psychopathy and frequency of mask-wearing in public areas ( $r(234) = -.18, p = .01$ ), Psychopathy and mean scores for mask-wearing frequency in public areas and frequency of mask-wearing anywhere ( $r(234) = -.18, p = .01$ ), and Psychopathy and

mean scores for all mask-wearing engagement questions ( $r(234) = -.18, p = .01$ ). Refer to Table G4 for the complete correlational analysis.

### **Machiavellianism and COVID-19 CT Beliefs**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for variables relating to H4: Machiavellianism and COVID-19 conspiracy theory beliefs. There was a significant, positive correlation between Machiavellianism and GCBS ( $r(231) = .19, p = .00$ ); however, there was no significant correlation between Machiavellianism and COVID-19 conspiracy theories beliefs. Refer to Table G5 for the complete correlational analysis.

**Regression analysis.** The researcher regressed GCBS scores onto Machiavellianism  $F(1, 231) = 8.97, p = .003$ . Machiavellianism had a relatively small effect on GCBS scores ( $R^2 = .037$ ).

### **Dark Triad as an Independent Predictor of Engagement in Mask-Wearing**

The researcher conducted a Pearson  $r$  correlation analysis using SPSS for variables relating to H5: the DT and questions pertaining to engagement in mask-wearing. Psychopathy negatively correlated with the frequency of mask-wearing anywhere, frequency of mask-wearing in public areas, and mean scores for all three questions regarding engagement in mask-wearing. Refer to Table G4.

**Regression analyses.** The researcher conducted a multiple regression analysis to predict the frequency of mask-wearing based on the DT traits Machiavellianism, Narcissism, Psychopathy, and Sadism. Results show 5.2% of the variance in mask-wearing frequency can be accounted for by the four predictors collectively,  $F(4, 231) = 3.161, p = .015$ . The results show that Psychopathy ( $\beta = -.270, t = -3.302, p = .001$ ) negatively predicts the frequency of

mask-wearing. Such findings suggest that higher levels of Psychopathy result in lower frequencies of mask-wearing.

### **BFPT and COVID-19 Beliefs and Attitudes**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for variables relating to BFPT and beliefs and attitudes surrounding COVID-19. The researcher found one correlation at the .05 alpha level and two correlations at the .01 alpha level. There was a significant, positive correlation between Agreeableness and effectiveness of actions at keeping one safe from COVID-19 ( $r(228) = .13, p = .04$ ): praying ( $r(228) = .15, p = .020$ ), washing your hands with soap or using hand sanitizer frequently ( $r(230) = .17, p = .010$ ), seeing a health care provider if you feel sick ( $r(230) = .16, p = .017$ ), and seeing a health care provider if you feel healthy but worry that you were exposed ( $r(230) = .14, p = .037$ ). There were significant, negative correlations between Conscientiousness and effectiveness of policy measures at curbing the spread of COVID-19 ( $r(229) = -.23, p = <.00$ ), and Neuroticism and effectiveness of policy measures at curbing the spread of COVID-19 ( $r(229) = -.22, p = <.00$ ). Refer to Table G6 for the complete correlational analysis.

### **BFPT and Perceived Threat and Risk**

The researcher conducted a Pearson's  $r$  correlation analysis for variables relating to BFPT and level of perceived threat and risk of COVID-19. The researcher found four correlations at the .05 alpha level and six correlations at the .01 alpha level. There were significant, negative correlations between Conscientiousness and the number of people personally known to either have or likely to have had the coronavirus ( $r(230) = -.13, p = .04$ ) and Neuroticism and level of perceived threat and risk ( $r(227) = -.16, p = .02$ ). There were significant, positive correlations

between Agreeableness and perceived threat ( $r(227) = .14, p = .03$ ) and Agreeableness and level of perceived threat and risk ( $r(227) = .15, p = .03$ ). Refer to Table G7 for the complete correlational analysis.

There were significant, negative correlations between Neuroticism and perceived threat ( $r(227) = -.18, p = .01$ ), Conscientiousness and ratings of one's general health compared to others ( $r(230) = -.21, p = .00$ ), Neuroticism and ratings of one's general health compared to others ( $r(230) = -.18, p = .01$ ), Neuroticism and percent chance one will die if contracted COVID-19 ( $r(226) = -.21, p = .00$ ), Conscientiousness and percent chance one will contract COVID-19 in the next three months ( $r(226) = -.20, p = .00$ ), and Neuroticism and percent chance one will contract COVID-19 in the next three months ( $r(226) = -.19, p = .00$ ). Refer to Table G7 for the complete correlational analysis.

**Regression analysis.** The researcher conducted a multiple regression analysis to predict one's level of perceived threat based on the BFPTs. Results show that 6.8% of the variance in one's perceived threat level can be accounted for by the five predictors, collectively,  $F(5, 223) = 3.257, p = .007$ . The results show that Neuroticism ( $\beta = -.207, t = -3.046, p = .003$ ) negatively predicts the level of perceived threat. Such findings suggest that higher levels of Neuroticism result in lower levels of perceived threat of COVID-19.

The researcher conducted a multiple regression analysis to predict one's level of perceived threat and risk based on the BFPTs. Results show that 3.1% of the variance in one's level of perceived threat and risk can be accounted for by the five predictors, collectively,  $F(5, 223) = 2.442, p = .035$ . The results show that Agreeableness ( $\beta = .156, t = 2.093, p = .038$ ) positively predicts one's level of perceived threat and risk. In contrast, Neuroticism ( $\beta = -.168, t$



= -2.454,  $p = .015$ ) negatively predicts one's level of perceived threat and risk. When collaborated with the above results, these findings suggest that higher levels of Agreeableness contribute to identifying a higher risk of COVID-19.

### **BFPT and Government Response**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for variables relating to BFPT and scales regarding the government's response to COVID-19. The researcher found one correlation at the .05 alpha level and five correlations at the .01 alpha level. There were significant, positive correlations between Neuroticism and the Information Contamination Scale ( $r(230) = .14, p = .04$ ), Conscientiousness and the Reactance Scale ( $r(230) = .19, p = .00$ ), Neuroticism and the Reactance Scale ( $r(230) = .17, p = .01$ ), and Conscientiousness and the Information Contamination Scale ( $r(230) = .22, p = .00$ ). There were significant, negative correlations between Conscientiousness and the Restriction Scale ( $r(230) = -.24, p = <.00$ ), and Neuroticism and the Restriction Scale ( $r(230) = -.24, p = <.00$ ). Refer to Table G8 for the complete correlational analysis.

**Regression analysis.** The researcher conducted a multiple regression analysis to predict agreeance with the Federal Government's measures to restrict the spread of COVID-19 (Restriction Scale), based on BF personality traits Extroversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. Results show 11.6% of the Restriction Scale variance can be accounted for by the five predictors collectively,  $F(5, 226) = 5.943, p = <.001$ . The results show that Conscientiousness ( $\beta = -.218, t = -3.278, p = .001$ ) and Neuroticism ( $\beta = -.189, t = -2.886, p = .004$ ) negatively predict Restriction Scale scores. Such findings suggest that

higher levels of Conscientiousness and Neuroticism result in a decrease in agreeance with the Federal Government's measures to restrict the spread of COVID-19.

### **BFPT and CT Beliefs**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for variables relating to BFPT, general conspiracy theories, and COVID-19 conspiracy theories. The researcher found four correlations at the .05 alpha level and one correlation at the .01 alpha level. There were significant, positive correlations between Conscientiousness and the Government Malfeasance (GM) subscale ( $r(230) = .13, p = .04$ ), Conscientiousness and the Personal Wellbeing (PW) subscale ( $r(229) = .17, p = .01$ ), Conscientiousness and the Control of Information (CI) subscale ( $r(229) = .14, p = .03$ ), Conscientiousness and COVID-19 CT beliefs ( $r(228) = .25, p = <.00$ ), and Neuroticism and COVID-19 CT beliefs ( $r(228) = .13, p = .05$ ). Refer to Table G9 for the complete correlational analysis.

**Regression analysis.** The researcher conducted a multiple regression analysis to predict belief in COVID-19 CTs based on the BF personality traits Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. Results show that 8.0% of the COVID-19 CT beliefs scores variance can be accounted for by the five predictors, collectively,  $F(5, 224) = 3.913, p = .002$ . The results show that Conscientiousness ( $\beta = .245, t = 3.615, p = <.001$ ) positively predicts beliefs in COVID-19 CTs. Such findings suggest that higher Conscientiousness levels result in a greater likelihood to believe in conspiracy theories relative to COVID-19.

### **BFPT and Engagement in Mask-Wearing**

The researcher conducted a Pearson's  $r$  correlation using SPSS for variables relating to BFPT and mask-wearing engagement. The researcher found four correlations at the .05 alpha level and two correlations at the .01 alpha level. There were significant, negative correlations between Openness and frequency of mask-wearing in public places ( $r(230) = -.14, p = .03$ ), Conscientiousness and frequency of mask-wearing in public places ( $r(230) = -.25, p = <.00$ ), Neuroticism and frequency of mask-wearing in public places ( $r(230) = -.19, p = .00$ ), and Conscientiousness and the total mean score of all three engagement in mask-wearing questions (questions 16-18) ( $r(230) = -.16, p = .02$ ). There was a significant, positive correlation between Conscientiousness and leaving or not going to a particular store due to enforcement of mask-wearing ( $r(230) = .13, p = .04$ ). Refer to Table G10 for the complete correlational analysis.

**Regression analysis.** The researcher conducted a multiple regression analysis to predict mask-wearing frequency in public areas based on the BF personality traits Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. Results show 10.4% of the variance in mask-wearing frequency in public areas can be accounted for by the five predictors collectively,  $F(5, 226) = 5.243, p = <.001$ . The results show that Agreeableness ( $\beta = .146, t = 2.027, p = .044$ ) positively predicts frequency of mask-wearing in public areas, while Conscientiousness ( $\beta = -.215, t = -3.209, p = .002$ ), and Openness ( $\beta = -.148, t = -2.103, p = .037$ ) negatively predict frequency of mask-wearing in public areas. Such findings suggest that higher levels of Agreeableness result in an increased frequency of mask-wearing in public areas. In contrast, higher Conscientiousness and Openness levels result in a decreased frequency of mask-wearing in public areas.

### **BFPT and Perception of Mask-Wearing**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for variables relating to BFPT and mask-wearing perception. The researcher found three correlations at the .05 alpha level and one correlation at the .01 alpha level. There were significant, negative correlations between Neuroticism and the statement, "I wear a mask not only for myself but most importantly for others" ( $r(225) = -.16, p = .02$ ), Conscientiousness and the statement, "I wear a mask not only for myself but most importantly for others" ( $r(225) = -.20, p = .00$ ), and Neuroticism and the statement, "Not wearing a mask is pure inconsideration" ( $r(225) = -.15, p = .02$ ). There was a significant, positive correlation between Neuroticism and the statement, "My constitutional rights are most important to me (First Amendment right to speech, assembly, and liberty to make decisions about my own health and bodily integrity)" ( $r(224) = .17, p = .01$ ). Refer to Table G11 for the complete correlational analysis.

### **BFPT and Conformity**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for variables relating to BFPT and conformity. The researcher found three correlations at the .01 alpha level. There were significant, negative correlations between Conscientiousness and conformity ( $r(230) = -.29, p = <.00$ ), Neuroticism and conformity ( $r(230) = -.23, p = <.00$ ), and Openness and conformity ( $r(230) = -.39, p = <.00$ ). Refer to Table G12 for the complete correlational analysis.

**Regression analysis.** The researcher conducted a multiple regression analysis to predict Conformity scores based on the BF personality traits Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. Results show 25.5% of the Conformity scores variance can be accounted for by the five predictors collectively,  $F(5, 226) = 15.464, p = <.001$ .

The results show that Conscientiousness ( $\beta = -.212, t = -3.480, p = <.001$ ), Neuroticism ( $\beta = -.142, t = -2.351, p = .020$ ), and Openness ( $\beta = -.421, t = -6.559, p = <.001$ ) negatively predict Conformity scores, while Agreeableness ( $\beta = .216, t = 3.286, p = .001$ ) positively predicts Conformity scores. Such findings suggest that higher levels of Conscientiousness, Neuroticism, and Openness result in a decreased proneness to conform, while higher levels of Agreeableness result in an increased proneness to conform.

### **DT and GCBS Subscales**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for variables relating to DT traits and GCBS subscales: Government Malfeasance (GM), Malevolent Global Conspiracies (MG), Extraterrestrial Cover-up (ET), Personal Wellbeing (PW), and Control of Information (CI). The researcher found three correlations at the .05 alpha level and 19 correlations at the .01 alpha level. Refer to Table G13 for the complete correlational analysis.

**GM Subscale.** There were significant, positive correlations between GM and Machiavellianism ( $r(234) = .16, p = .01$ ), GM and Narcissism ( $r(234) = .14, p = .03$ ), GM and Psychopathy ( $r(234) = .29, p = <.00$ ), GM and Sadism ( $r(234) = .22, p = <.00$ ), and GM and SD4 scores ( $r(234) = .28, p = <.00$ ).

**MG Subscale.** There were significant, positive correlations between MG and Machiavellianism ( $r(233) = .18, p = .01$ ), MG and Narcissism ( $r(233) = .21, p = .00$ ), MG and Psychopathy ( $r(233) = .35, p = <.00$ ), MG and Sadism ( $r(233) = .17, p = .01$ ), and MG and SD4 scores ( $r(233) = .31, p = <.00$ ).

**ET Subscale.** There were significant, positive correlations between ET and Machiavellianism ( $r(234) = .24, p = <.00$ ), ET and Narcissism ( $r(234) = .22, p = <.00$ ), ET and

Psychopathy ( $r(234) = .43, p. = <.00$ ), ET and Sadism ( $r(234) = .29, p. = <.00$ ), and ET and SD4 scores ( $r(234) = .40, p. = <.00$ ).

**PW Subscale.** There were significant, positive correlations between PW and Machiavellianism ( $r(233) = .16, p. = .02$ ), PW and Psychopathy ( $r(233) = .29, p. = <.00$ ), and PW and SD4 ( $r(233) = .23, p. = <.00$ ).

**CI Subscale.** There were significant, positive correlations between CI and Machiavellianism ( $r(233) = .19, p. = .00$ ), CI and Psychopathy ( $r(233) = .25, p. = <.00$ ), CI and Sadism ( $r(233) = .18, p. = .01$ ), and CI and SD4 scores ( $r(233) = .23, p. = <.00$ ).

**Regression analysis.** The researcher conducted a multiple regression analysis to predict GCBS scores based on the DT traits Machiavellianism, Narcissism, Psychopathy, and Sadism. Results show 12.9% of GCBS scores variance can be accounted for by the four predictors collectively,  $F(4, 228) = 8.46, p = <.001$ . The results show that Psychopathy ( $\beta = .323, t = 4.110, p = <.001$ ) positively predicts GCBS scores. Such findings suggest that higher levels of Psychopathy result in a higher likelihood to believe in generic conspiracy theories.

### **Conformity and Mask-Wearing**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for variables relating to conformity, engagement in mask-wearing, and perception of mask-wearing. The researcher found four correlations at the .01 alpha level; two regarding engagement in mask-wearing and two regarding perception of mask-wearing. For those regarding engagement in mask-wearing, there was a significant, positive correlation between conformity and frequency of mask-wearing in public places ( $r(240) = .29, p. = <.00$ ), and a significant, negative correlation

between conformity and leaving or not going to a particular store due to enforcement of mask-wearing ( $r(240) = -.21, p. = .00$ ).

For those regarding perception of mask-wearing, there was a significant, positive correlation between conformity and the statement, “I wear a mask not only for myself but most importantly for others” ( $r(234) = .22, p. = <.00$ ), and a significant, negative correlation between conformity and the statement, “My constitutional rights are most important to me. (First Amendment right to speech, assembly, and liberty to make decisions about my own health and bodily integrity)” ( $r(234) = -.25, p. = <.00$ ). Refer to Table G14 for the complete correlational analysis.

### **Conformity, Government Response, and Conspiracy Belief**

The researcher conducted a Pearson’s  $r$  correlation analysis using SPSS for variables relating to conformity, government response to COVID-19, and conspiracy theories. The researcher found one correlation at the .05 alpha level and three correlations at the .01 alpha level. There were significant, negative correlations between conformity and GCBS ( $r(235) = -.26, p. = <.00$ ), conformity and COVID-19 CT beliefs ( $r(237) = -.19, p. = .00$ ), and conformity and the Information Contamination Scale ( $r(240) = -.17, p. = .01$ ). There was a significant, positive correlation between conformity and the Restriction Scale ( $r(240) = .14, p. = .03$ ), and Refer to Table G15 for the complete correlational analysis.

### **Conspiracy Theory Beliefs and Engagement in Mask-Wearing**

The researcher conducted a Pearson’s  $r$  correlation analysis using SPSS for variables relating to CT beliefs and engagement in mask-wearing. The researcher found two correlations at the .01 alpha level. There were significant, negative correlations between engagement in

mask-wearing and COVID-19 CT beliefs ( $r(237) = -.60, p. = <.00$ ), and engagement in mask-wearing and GCBS scores ( $r(235) = -.52, p. = <.00$ ). Refer to Table G16 for the complete correlational analysis.

### **BFPT and DT**

The researcher conducted a Pearson's  $r$  correlation analysis using SPSS for BFPT scores and DT scores. The researcher found four correlations at the .05 alpha level and six correlations at the .01 alpha level. There were significant, negative correlations between Machiavellianism and Conscientiousness ( $r(227) = -.17, p. = .01$ ), Machiavellianism and Neuroticism ( $r(227) = -.19, p. = .00$ ), Psychopathy and Conscientiousness ( $r(227) = -.17, p. = .01$ ), and Sadism and Conscientiousness ( $r(227) = -.22, p. = <.00$ ). There were significant, positive correlations between Narcissism and Extraversion ( $r(227) = .55, p. = <.00$ ), Narcissism and Agreeableness ( $r(227) = .25, p. = <.00$ ), Narcissism and Conscientiousness ( $r(227) = .20, p. = .00$ ), Narcissism and Openness ( $r(227) = .41, p. = <.00$ ), Psychopathy and Extraversion ( $r(227) = .17, p. = .01$ ), and Psychopathy and Openness ( $r(227) = .17, p. = .01$ ). Refer to Table G17 for the complete correlational analysis.

**Regression analysis.** The researcher conducted a multiple regression analysis to predict Narcissism scores based on the BF personality traits Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. Results show 37.9% of Narcissism scores variance can be accounted for by the five predictors collectively,  $F(5, 223) = 27.233, p = <.001$ . The results show that Extraversion ( $\beta = .475, t = 8.104, p = <.001$ ), Conscientiousness ( $\beta = .139, t = 2.502, p = .013$ ), and Openness ( $\beta = .256, t = 4.434, p = <.001$ ) positively predict



Narcissism scores. Such findings suggest that higher levels of Extraversion, Conscientiousness, and Openness result in higher levels of Narcissism.

## **Discussion**

### **Hypothesis One (H1)**

H1: DT traits will negatively correlate with conformity and positively correlate with CT beliefs.

As hypothesized, DT traits did have a significant, negative correlation with conformity. Collectively, all four predictors (DT traits) accounted for 8.9% of the variance in Conformity scores. However, when looking at the predictors' unique individual contributions, Narcissism and Psychopathy negatively predicted conformity scores, whereas Machiavellianism positively predicted conformity scores. These findings suggest that higher levels of Machiavellianism result in a greater likelihood of conforming, whereas higher levels of Narcissism and Psychopathy result in a decreased likelihood of conforming. Findings from Nakayachi et al. (2020) suggested that factors relative to conformity may result in collective mask-wearing. This study was unable to identify any possible correlations between Machiavellianism and engagement in mask-wearing.

Dark Triad traits have a significant, positive correlation with GCBS scores, as hypothesized. Collectively, all four predictors (DT traits) accounted for 12.9% of the variance in GCBS scores. Individually, Psychopathy was a positive predictor of GCBS scores. Concerning COVID-19 CT beliefs, Psychopathy was the only independent variable to have a significant correlation. There was a significant, positive correlation between Psychopathy and COVID-19

CTs. Such findings suggest that higher levels of Psychopathy result in a greater likelihood to believe in conspiracy theories, both generic CTs and COVID-19 CTs.

Psychopathy was identified as a negative predictor of conformity while also being identified as a positive predictor of conspiracy theory beliefs. Such findings suggest that higher levels of Psychopathy result in a decreased likelihood to conform and an increased likelihood to believe in conspiracy theories. The researcher rejected the null hypothesis.

### **Hypothesis Two (H2)**

H2: Neuroticism will positively correlate with level of perceived threat.

The present study provided findings different from prior studies concerning Neuroticism and perceived threat of COVID-19. Lippold et al. (2020) and Garbe et al. (2020) found neuroticism positively correlates with the level of perceived threat; however, the present study found conflicting results. The present study found Neuroticism negatively correlated with all perceived threat and risk questions; however, all with a relatively small effect. The researcher accepted the null hypothesis.

Perhaps the difference in time between this study and previous studies plays a mediating role in the findings' differences. For instance, given that those with high Neuroticism are known as having high Emotionality, and considering the difference in time between these studies, Emotionality may have decreased given the seriousness of the spread of COVID-19. Although personality traits are understood as remaining stable when confronted with stressful life events (Sutin et al., 2020), perhaps the change in seriousness of either contracting COVID-19 or

spreading COVID-19 has decreased as time has passed and vaccinations have become available. Such may explain why the present study only found negative correlations between Neuroticism and perceived threat and risk. The present study did, however, corroborate findings from Lippold et al. (2020), Garbe et al. (2020), Gritsenko et al. (2020), and Clark et al. (2020), which all found women to have a higher degree of level of perceived threat.

### **Hypothesis Three (H3)**

H3: DT traits will negatively correlate with engagement in mask-wearing.

Kaufman et al. (2019) identified a negative correlation between DT traits and the worldview belief of “I am good.” When further controlling for Agreeableness, Kaufman et al. (2019) also noted DT traits negatively associated with Accepting External Influence and Self-Alienation. It is with such that the present study hypothesized that DT traits would negatively correlate with engagement in mask-wearing. Psychopathy was the only DT trait to be found with a statistically significant correlation with engagement in mask-wearing. Other DT traits did negatively correlate with engagement in mask-wearing; however, not significantly. Therefore, hypothesis three is partially supported.

### **Hypothesis Four (H4)**

H4: Machiavellianism will positively correlate with belief in CTs related to COVID-19.

As March and Springer (2019) found Machiavellianism to be a significant, positive predictor of CT beliefs, the present study hypothesized that Machiavellianism would therefore be a significant, positive predictor of CT beliefs relating to COVID-19. Machiavellianism was a

significant, positive predictor of GCBS scores; however, there were no correlations among Machiavellianism and COVID-19 CT beliefs. Such findings are exciting, calling for further investigations into identifying possible mediators between Machiavellianism and GCBS scores and why such mediators do not play a role in COVID-19 CT beliefs. Although Machiavellianism was a positive predictor of GCBS scores, it was not a significant predictor for COVID-19 CT beliefs; and therefore, the researcher accepted the null hypothesis.

### **Hypothesis Five (H5)**

H5: High levels of DT traits will be a negative, independent predictor of engagement in mask-wearing.

Considering DT traits have been associated with lower scores in socially desirable responding (Kaufman et al., 2020), the present study hypothesized that DT traits would be a negative, independent predictor of engagement in mask-wearing. The present study found significant, negative correlations between DT traits and mask-wearing engagement, aside from Narcissism, which had a positive correlation, although not statistically significant. DT traits were significant, negative predictors of engagement in mask-wearing when accounting for all four DT traits as predictors. Psychopathy was the DT trait to which had the strongest correlations with engagement in mask-wearing. Psychopathy was also an independent, negative predictor of engagement in mask-wearing. Such results allow for hypothesis five to be partially supported.

### **Implications**

One unusual finding from this study was Narcissism being the only significant, positive predictor of mask-wearing engagement. This finding was unusual given the DT trait Narcissism is characterized by grandiosity, entitlement, and an inflated sense of self-importance, superiority, and vanity. It was further unusual, as such finding may be better understood if Narcissism was also a positive predictor of perceived threat and risk. Such would have implicated that level of perceived threat and risk were acting as a mediator for engagement in mask-wearing, in light of the inflated sense of self-importance and vanity. However, Narcissism was not a predictor of perceived threat and risk, nor did Narcissism significantly correlate with the level of perceived threat and risk.

In line with prior findings from March and Springer (2019), the present study identified Machiavellianism as a significant, positive predictor of GCBS scores. However, the present study was only able to identify a non-statistically significant, positive correlation between Machiavellianism and COVID-19 CT beliefs. The present study could have benefited from further analysis into such variation by identifying mediators of such correlations.

Furthermore, prior studies (Carvalho et al., 2020; Clark et al., 2020) found Conscientiousness to be a significant, positive predictor of engagement in preventative behaviors, while the present study found Conscientiousness to be one of the most significant, negative predictors of engagement in mask-wearing; along with Psychopathy. The present study also found Conscientiousness to be a significant, negative predictor of conformity, giving possible explanations for such significant differences in findings. Incorporating

conformity into future studies would help shed more light on such inconclusive findings regarding Conscientiousness and its influence on engagement in preventative behaviors.

### **Similarities and Differences**

In line with Qian and Yahara's (2020) findings, Neuroticism was a significant, negative predictor of the likelihood of survival, and Conscientiousness was a significant, negative predictor of the likelihood of infection. However, Qian and Yahara (2020) found Neuroticism to be a positive predictor of the likelihood of infection. In the present study, Neuroticism was a significant, negative predictor of the likelihood of infection. Furthermore, Qian and Yahara (2020) found Agreeableness to be a positive predictor of both the likelihood of surviving and self-rated health status; however, there was no significance between such variables in the present study.

Corroborating prior findings from Lippold et al. (2020), Neuroticism was the strongest personality predictor of one's perceived threat level. The present study found Neuroticism to be the only significant predictor of perceived threat when accounting for all BF personality traits and all DT personality traits.

Liu et al. (2020) suggested that due to those with high levels of Conscientiousness perceiving COVID-19 as a challenge rather than a threat, that such individuals would be more likely to engage in following government guidelines in the prevention of COVID-19. Upon conducting a multiple regression analysis to predict agreeance with the Federal Government's measures to restrict the spread of COVID-19 (Restriction Scale) based on the

BF personality traits, results concluded with higher Conscientiousness and Neuroticism levels resulting in a decrease in agreeance with the Federal Government's measures.

The present study further corroborated Nowak et al.'s (2020) previous findings suggesting individuals with higher DT trait characteristics are less likely to engage in preventative behaviors. Specifically, the present study found Psychopathy to be a significant, negative predictor of engagement in mask-wearing.

When accounting for all four DT traits, Psychopathy was the only significant predictor of engagement in mask-wearing. When accounting for all BF personality traits, Conscientiousness was the only significant predictor of engagement in mask-wearing. Contrary to prior findings of Conscientiousness being a significant, positive predictor of engagement in preventative behaviors (Carvalho et al., 2020; Clark et al., 2020), Conscientiousness was a significant, negative predictor of engagement in mask-wearing. When accounting for all eight personality traits, BF traits and DT traits, Conscientiousness and Psychopathy continued to be significant, negative predictors of engagement in mask-wearing; however, Narcissism was identified as the only significant, positive predictor of engagement in mask-wearing.

Future studies should further examine potential predictors of engagement in preventative behaviors given such mixed findings. Continued examination of such potential predictors may also provide further knowledge regarding human behaviors during global pandemics, with the potential to foster more effective tactics when confronted with widespread infections.

Nakayachi et al. (2020) found a robust correlation between mask-wearing perceptions as a new societal norm and engagement in mask-wearing, conforming to such norm being the mediator. When accounting for all eight personality traits, the present study found Agreeableness and Machiavellianism to be significant, positive predictors of conformity, and Conscientiousness, Openness, and Psychopathy to be significant, negative predictors of conformity. Conscientiousness and Psychopathy were also both significant, negative predictors for engagement of mask-wearing. Through further analysis, conformity played a partial mediating role in the relationship between Conscientiousness and Psychopathy and the engagement of mask-wearing.

Psychopathy was a significant, positive predictor of both the GCBS and COVID-19 CT beliefs, further corroborating March and Springer's (2019) findings of primary Psychopathy being a significant, positive predictor of CT beliefs. March and Springer (2019) also found Machiavellianism to be a significant, positive predictor of CT beliefs. In the present study, Machiavellianism was a significant, positive predictor of GCBS scores; however, it was not significant enough for COVID-19 CT beliefs.

### **Limitations**

The present study contains some limitations. The sample was predominantly female (85.1%) and White or Caucasian (88.8%). Given such, future research should take necessary measures to reach a broader, more diverse population. The present study also took place during unprecedented, global pandemic times and was concerning such pandemic. Due to this, measures explicitly pertaining to the research questions, aside from the GCBS,



Conformity Scale, BFPT Questionnaire, and SD4 Questionnaire, were new and had little prior evidence of construct validity. Researchers should continue to utilize these measures to identify strong construct validity.

Furthermore, given that COVID-19 is a newly discovered virus, little research has been done regarding the social effects of such a globally spread infectious virus. Therefore, a limited number of studies about personality traits and their influence on beliefs, attitudes, perceived threat, and engagement in preventative actions in light of the COVID-19 virus was available for corroboration.

There was an even more limited number of studies that focused on DT traits and their influence on beliefs, attitudes, perceived threat, and engagement in preventative actions; again, leaving little room for corroboration and validation. Further studies should continue regarding the COVID-19 virus, human behavior, and influencers or mediators to such behaviors to pinpoint more specific causations and effects.

## **Conclusions**

Measurable changes occurred across the globe due to COVID-19. Mandates were put into place across the world to halt the spread of the novel COVID-19 virus. These mandates brought forth visual impacts within physical health, mental health, work conditions, financial security, economics, and prosperity. One of the most observable mandates affecting laymen's everyday lives was the mask-wearing mandates. Such a mandate was one of the most important preventative measures at halting the virus's spread; however, not all individuals saw it as such. Given that personality traits are identified as helpful to understanding the

differences in coping strategies, behavioral disruptions, psychiatric mental disorders, and human behavior as a whole, the present study aimed to investigate the possible influence personality traits have on COVID-19 related health beliefs, perceived threat levels, and mask-wearing engagement.

The present study found higher levels of Psychopathy to result in a greater likelihood to believe in CTs. Psychopathy was a negative, independent predictor of engagement in mask-wearing. Higher levels of Machiavellianism resulted in an increased likelihood to conform, whereas higher levels of Narcissism and Psychopathy resulted in a decreased likelihood to conform. Increased Neuroticism levels resulted in a decreased level of perceived threat and risk, one's general health compared to others, one's percent chance they will die if contracting COVID-19, and one's percent chance of contracting COVID-19 in the next three months.

Individuals with higher levels of Machiavellianism had an increased likelihood to believe in generic CTs, however not COVID-19 CTs. March and Springer (2019) speculated that Machiavellianism was a significant, positive predictor of CT beliefs due to the cynical nature of other individuals as being foolish and easily manipulated. Given the lack of correlation between Machiavellianism and COVID-19 CT beliefs in the present study, the researcher speculates that the uncertainty and diversity of reports regarding all aspects surrounding COVID-19 may have played a mediating role. The researcher speculates that even those with high Machiavellianism levels are left not feeling confident enough to understand COVID-19. Therefore, such a lack of confidence in their understanding of

COVID-19 may limit thoughts of others as being foolish and easily manipulated regarding COVID-19.

When considering the mixed results concerning the present study's findings and prior studies findings regarding correlations among BFPTs and engagement in mask-wearing, the present study offers insight into how behaviors influenced by personality traits may change throughout a pandemic due to mediator changes. For instance, Clark et al. (2020) found that beliefs relative to positive efficacy of precautionary protective health behaviors increased trust in the government, which is then associated with increased rule-following. Qian and Yahara (2020) found Conscientiousness to be a positive predictor of epidemic consciousness; however, the present study found that Conscientiousness negatively correlated with mask-wearing engagement. People cope well when presented with risks perceived as a severe threat. When individuals perceive protective actions as effectively reducing associated damage, people then engage in such coping by taking such action. When considering the confusion surrounding the efficacy of mask-wearing as a precautionary measure during the COVID-19 pandemic, such variation in findings may be due to epidemic confusion and the time difference between the studies.

Furthermore, Nakayachi et al. (2020) found that mask-wearing frequency depended little on one's perceived severity of COVID-19 or perceived efficacy of mask-wearing as a precautionary measure. The present study found strong, positive correlations between perceived threat and risk and engagement in mask-wearing. Furthermore, engagement in mask-wearing was an independent positive predictor of level of perceived threat. Given that engagement in mask-wearing positively predicts the level of perceived threat and that prior

studies found that those with high levels of Conscientiousness do not perceive COVID-19 as a threat but rather as a challenge, the present studies findings of Conscientiousness negatively correlating with engagement in mask-wearing may also be the result of the lack of perceived threat, along with the confusion surrounding the effectiveness of mask-wearing, as well as the severity of COVID-19.

In conclusion, the present study offers insight into personality traits as influencers to thoughts, beliefs, and behaviors surrounding a global pandemic. This study's findings can help future investigations into how influential both BF personality traits and DT personality traits may be regarding what makes individuals go with or against suggestions/mandates offered by government agencies to keep one's self and others safe from contracting infectious viruses. When taking into consideration that individual levels of personality traits vary widely among all people and that the present study identified personality traits as influencing the way one perceives COVID-19, its seriousness, and the mandates which follow, this study may also prove beneficial in further investigations into the most effective ways at handling the release of information regarding such a novel outbreak, with a means of reaching a more comprehensive range of individuals.

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## Appendix A

## Research Announcement

My name is *Heather Schillinger*.

I am conducting research through Purdue University Global to obtain a Master's Degree in Psychology.

The purpose of the research is to investigate the influence personality traits have on COVID-19 related health beliefs, level of perceived threat, and preventative actions.

If you are interested in taking the survey, please click here for more information:

<https://www.surveycircle.com/en/surveys/?sr=r2#82ea873d1fc8>

The survey will take about 16 minutes of your time.

This study will be anonymous, so no one will know that you were a participant and no one will ever be able to connect your answers to your identity.

Click here to participate! <https://www.surveycircle.com/en/surveys/?sr=r2#82ea873d1fc8>

## Appendix B

Purdue University Global

## Consent for Participation in Research

*Personality Traits and COVID-19: The Effect Personality Traits Have on One's Health Beliefs,  
Preventative Behaviors, and Perceived Threat*

**CONCISE SUMMARY**

The purpose of this study is to investigate the influence personality traits have on COVID-19 related health beliefs, level of perceived threat, and preventative behavior. The only requirement is the completion of the survey Personality Traits and Psychological Measurements of COVID-19: Coronavirus Health Beliefs, Perceived Threat, and Preventative Actions. The survey contains 25 questions and has an estimated completion time of 16 minutes. There are no significant risks to participating in this study. Participation in this study will offer the benefit of providing further knowledge regarding human behaviors during global pandemics, with the potential to foster more effective tactics when confronted with widespread infections.

**Why am I being asked?**

You are being asked to be a participant in a research study about the influence personality traits have on COVID-19 related health beliefs, level of perceived threat, and engagement in mask-wearing, emphasizing the Dark Triad. This research study is being conducted by Heather Schillinger, a Master's of Science in Psychology student at Purdue University Global. You have been asked to participate in the research because you are 18 years or older identified and may be eligible to participate. We ask that you read this form and ask any questions you may have before agreeing to be in the research.

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with Purdue University Global. If you decide to participate, you are free to withdraw at any time without affecting that relationship.

**What is the purpose of this research?**

The purpose of this research is:

To investigate the influence personality traits have on COVID-19 related health beliefs, level of perceived threat, and engagement in mask-wearing, emphasizing the Dark Triad.

**What procedures are involved?**

If you agree to be in this research, we would ask you to do the following things:

Complete the survey Personality Traits and Psychological Measurements of COVID-19:

Coronavirus Health Beliefs, Perceived Threat, and Preventative Actions. The survey contains 25 questions, with an estimated completion time of 16 minutes.

Approximately 500 participants may be involved in this research at Purdue University Global.

**What are the potential risks and discomforts?**

No potential risks or discomforts are foreseen with participation in this research.

**Are there benefits to taking part in the research?**

There are no direct benefits to participants; however, participation in this study will offer the benefit of providing further knowledge regarding human behaviors during global pandemics, with the potential to foster more effective tactics when confronted with widespread infections.

**What about privacy and confidentiality?**

No one will know that you are a research subject because this research is totally anonymous. No information about you, or provided by you during the research, can ever be disclosed to others because no information that can possibly identify you as an individual will be collected. When the results of the research are published or discussed in conferences, no information will be included that could ever reveal your identity.

**Will I be reimbursed for any of my expenses or paid for my participation in this research?**

At this time, no reimbursement is available for participation in this research.

**Can I withdraw from the study?**

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study.

**Whom should I contact if I have questions?**

The researcher conducting this study is Heather Schillinger. You may ask any questions you have now. If you have questions later, you may contact the researchers at: Phone: (260) 205-3095. You may also contact the researcher's thesis adviser, Dr. Gabrielle Blackman Ph.D., at [gblackman@purdueglobal.edu](mailto:gblackman@purdueglobal.edu).

**What are my rights as a research subject?**

If you feel you have not been treated according to the descriptions in this form, or you have any questions about your rights as a research subject, you may contact the Institutional Review Board (IRB) at Purdue University Global through the following representative:

Susan Pettine, IRB Chair

Email: [spettine@purdueglobal.edu](mailto:spettine@purdueglobal.edu)



**Remember:** Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with Purdue University Global. If you decide to participate, you are free to withdraw at any time without affecting that relationship.

**You may keep a copy of this form for your information and your records.**

**Signature of Subject**

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I agree to participate in this research. I have been given a copy of this form.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature of Researcher

\_\_\_\_\_  
Date (must be same as subject's)

## Appendix C



Institutional Review Board  
550 West Van Buren  
Chicago, Illinois 60607

**Expedited Review – Final Approval**

January 21, 2021

Ms. Heather Schillinger  
Purdue University Global  
[heatherschillinger1@student.purdueglobal.edu](mailto:heatherschillinger1@student.purdueglobal.edu)

Re: Protocol #21-02 – **“An investigation of the influence personality traits have on COVID-19 related health beliefs, level of perceived threat, and preventative behavior..”**

Dear Ms. Schillinger:

Your proposed project was reviewed by the Purdue University Global Institutional Review Board (IRB) for the protection of human subjects under an Expedited Category. It was determined that your project activity meets the expedited criteria as defined by the DHHS Regulations for the Protection of Human Subjects (45 CFR 46), and is in compliance with this institution's Federal Wide Assurance 00010056.

Please notify the IRB immediately of any proposed changes that may affect the expedited status of your project. You should report any unanticipated problems involving risks to human subjects or others to the IRB.

If you have any questions or need additional information, please feel free to contact me at [spettine@purdueglobal.edu](mailto:spettine@purdueglobal.edu). I wish you well with your project!

Sincerely,

**Susan B. Pettine**

Susan B. Pettine, Ph.D., CBM  
IRB Chair  
Purdue University Global

cc: Dr. Gabrielle Blackman

## Appendix D

*Personality Traits and Psychological Measurements of COVID-19: Coronavirus Health Beliefs,  
Perceived Threat, and Preventative Actions Survey*

**Demographics**

1. What is your age? \_\_\_\_
2. What is your gender identity?
  - Man
  - Woman
  - Transgender
  - Non-binary / non-conforming
  - Prefer not to respond
  - Other (please specify)
3. What is your race/ethnicity?
  - White or Caucasian
  - Black or African American
  - Hispanic or Latino
  - Asian or Asian American
  - American Indian or Alaska Native
  - Native Hawaiian or other Pacific Islander
  - Prefer not to respond
  - Multiethnic / Other (please specify)

**COVID-19 Health Beliefs and Attitudes**

4. In your opinion, how effective are the following actions at keeping you safe from COVID-19?

**Not effective at all - Hardly effective - Somewhat effective - Effective - Very effective**

**1                                      2                                      3                                      4                                      5**

- a. Wearing a face mask
- b. Praying
- c. Washing your hands with soap or using hand sanitizer frequently
- d. Seeing a health care provider if you feel sick
- e. Seeing a health care provider if you feel healthy but worry that you were exposed
- f. Avoiding public spaces, gatherings, and crowds
- g. Avoiding contact with people who could be high-risk
- h. Avoiding hospitals and clinics
- i. Avoiding restaurants
- j. Avoiding public transport

5. Given the state of the COVID-19 pandemic today, and the associated spread, how effective do you think the following policy measures are (whether they are implemented or not at present)?

**Not effective at all - Hardly effective - Somewhat effective - Effective - Very effective**

**1                                      2                                      3                                      4                                      5**

- a. Close schools and daycares
- b. Oblige everyone who does not work in a crucial professional group (people who work in healthcare, public transport, the food chain) stays at home except to do basic shopping or because urgent medical care is required

- c. Universal wearing of face masks

6. Do you agree or disagree with the following statements?

**Strongly disagree - Somewhat disagree - Somewhat agree - Strongly agree**

- a. Most people believe that people with coronavirus are dangerous
- b. Most people believe that people who used to have coronavirus are dangerous
- c. If I caught the coronavirus, I would consider it a sign of my personal weakness or failure

### **Perceived Threat and Risk**

7. How many people do you **know personally**, that are or have likely been **infected**?

- 0
- 1
- 2 to 4
- 5 to 9
- 10 or more
- I don't know / I prefer not to answer

8. How would you rate your physical health in general, compared to others?

- Much better than most
- Better than most
- About the same
- Worse than most
- Much worse than most
- I don't know / I prefer not to answer

9. For each of the following, please rate how true each statement is to you

**Not true of me at all (1)**

**Not true of me (2)**

**Somewhat not true of me (3)**

**Neutral (4)**

**Somewhat true of me (5)**

**True of me (6)**

**Very true of me (7)**

- a. Thinking about the coronavirus (COVID-19) makes me feel threatened
- b. I am afraid of the coronavirus (COVID-19)
- c. I am not worried about the coronavirus (COVID-19)
- d. I am worried that I or people I love will get sick from the coronavirus (COVID-19)
- e. I am stressed around other people because I worry I'll catch the coronavirus (COVID-19)
- f. I have tried hard to avoid other people because I don't want to get sick

10. How likely do you think it is that the following events will happen in light of the current COVID-19 pandemic?

**No chance (1)**

**Very small chance (2)**

**Medium chance (3)**

**High chance (4)**

**Very high chance (5)**

**Absolutely sure (6)**

**This has already happened (7)**

- a. You will be infected
- b. Someone in your direct environment (family, friends, colleagues) will be infected
- c. You will have to go to the hospital if you get the infection
- d. You will have to go into quarantine independent of you being infected or not
- e. You will get infected and you will infect someone else
- f. Someone in your direct environment (family, friends, colleagues) will die

11. If you do get the coronavirus, what is the percent chance you will die from it? If you're not sure, please give your best guess.

**Slider scale - 0 (left side)    50 (center)    100 (right side)**

12. On a scale of 0 to 100 percent, what is the chance that you will get the coronavirus in the next three months? If you're not sure, please give your best guess.

**Slider scale - 0 (left side)    50 (center)    100 (right side)**

### **Government Response**

13. Identify your agreeance with each statement regarding the Federal Governmental Response to COVID-19

**Strongly disagree - Disagree - Unsure - Agree - Strongly agree**

- a. I support Federal government measures to restrict the movement of American citizens to curb the spread of COVID-19
- b. We need strong Federal Government officials right now to take action to stop the spread of COVID-19
- c. I am upset at the thought that my Federal government would force people to stay home against their will

- d. It makes me angry that the Federal government would tell me where I can go and what I can do, even when there is a crisis such as COVID-19
- e. I distrust the information I receive about COVID-19 from my Federal government
- f. I think the Federal government has an agenda that's causing them not to give the whole story to the populace

### **Conspiracy Beliefs**

14. There is often debate about whether or not the public is told the whole truth about various important issues. This brief survey is designed to assess your beliefs about some of these subjects. Please indicate the degree to which you believe each statement is likely to be true on the following scale:

**Definitely not true - Probably not true - Not sure/cannot decide - Probably true - Definitely true**

**1                      2                      3                      4                      5**

- a. The government is involved in the murder of innocent citizens and/or well-known public figures, and keeps this a secret
- b. The power held by heads of state is second to that of small unknown groups who really control world politics
- c. Secret organizations communicate with extraterrestrials, but keep this fact from the public
- d. The spread of certain viruses and/or diseases is the result of the deliberate, concealed efforts of some organization
- e. Groups of scientists manipulate, fabricate, or suppress evidence to deceive the public



- f. The government permits or perpetrates acts of terrorism on its own soil, disguising its involvement
- g. A small, secret group of people is responsible for making all major world decisions, such as going to war
- h. Evidence of alien contact is being concealed from the public
- i. Technology with mind-control capacities is used on people without their knowledge
- j. New and advanced technology which would harm current industry is being suppressed
- k. The government uses people as patsies to hide its involvement in criminal activity
- l. Certain significant events have been the result of the activity of a small group that secretly manipulate world events
- m. Some UFO sightings and rumors are planned or staged to distract the public from real alien contact
- n. Experiments involving new drugs or technologies are routinely carried out on the public without their knowledge or consent
- o. A lot of important information is deliberately concealed from the public out of self-interest

15. Please indicate your level of agreement or disagreement with the following statements regarding COVID-19.

**Strongly disagree (1)   Disagree (2)   Not sure (3)   Agree (4)   Strongly agree (5)**

- a. There are miracle cures for COVID-19

- b. It is the global elite's attempt at taking away freedom, with the pandemic being manipulated by members of government agencies or military that are involved in the secret manipulation or control of government policy, also known as the 'deep state'
- c. COVID-19 is a democratic party hoax
- d. A Chinese lab in Wuhan created COVID-19 as a biological weapon and released COVID-19
- e. Bill Gates is attempting to vaccinate the whole world while implanting microchips to track and control peoples' actions
- f. 5G technology is causing symptoms of COVID-19
- g. The pandemic is driving anti-Jewish sentiment in Europe and the United States
- h. The COVID-19 vaccine is a population control effort
- i. COVID-19 is a plot by major multinational pharmaceutical companies collectively working as a sector of the industry, also known as Big Pharma, to increase profits from medicine, and as a means to increase wide-spread fear there is an inflation in reported COVID-19 death rates
- j. "Plandemic", the pseudo-documentary stating the National Institute of Allergy and Infectious Diseases and its director Anthony Fauci created COVID-19 as a hidden agenda, is real and being concealed from the public
- k. COVID-19 originated from humans consuming bat soup in Wuhan, China

**Engagement in mask-wearing**

16. What percentage best describes how often you have worn a mask when you have gone into a public area?

- 100% of the time; I always wear a mask
- 75% of the time; I usually wear a mask
- 50% of the time; Hit or miss
- 25% of the time; I rarely wear a mask
- 0% of the time; I never wear a mask
- I have not gone to a store

17. Which statement best describes how often you wear a mask?

- I wear a mask absolutely any time I leave my house
- For the most part, I always wear a mask if I leave the house
- I wear a mask in all public places and when I'm at my friends/colleagues/neighbors residence
- I only wear a mask in public places
- I only wear a mask if stores enforce them
- I will not wear a mask

18. Have you left or not gone to a particular store because they enforce mask-wearing?

- Yes
- No
- I have not gone to a store

**Perception of mask-wearing**

**For questions 19-22 please indicate the following: To what percentage do you agree with the following statement:**

19. I wear a mask not only for myself but most importantly for others

**Slider scale-    0 (left side)                      50 (center)                      100 (right side)**

20. Not wearing a mask is pure inconsideration

**Slider scale-    0 (left side)                      50 (center)                      100 (right side)**

21. Above all else, I wear a mask to keep myself safe

**Slider scale-    0 (left side)                      50 (center)                      100 (right side)**

22. My constitutional rights are most important to me. (First Amendment right to speech, assembly, and liberty to make decisions about my own health and bodily integrity)

**Slider scale-    0 (left side)                      50 (center)                      100 (right side)**

### **Conformity**

23. Indicate the degree of your agreement or disagreement with each statement below.

**Very strong disagreement (-4)**

**Strong disagreement (-3)**

**Moderate disagreement (-2)**

**Slight disagreement (-1)**

**Neither agreement nor disagreement (0)**

**Slight agreement (1)**

**Moderate agreement (2)**

**Strong agreement (3)**

**Very strong agreement (4)**

- a. I often rely on and act upon, the advice of others
- b. I would be the last one to change my opinion in a heated argument on a controversial topic
- c. Generally, I'd rather give in and go along for the sake of peace than struggle to have my way
- d. I tend to follow family tradition in making political decisions
- e. Basically, my friends are the ones who decide what we do together
- f. A charismatic and eloquent speaker can easily influence and change my ideas
- g. I am more independent than conforming in my ways
- h. If someone is very persuasive, I tend to change my opinion and go along with them
- i. I don't give in to others easily
- j. I tend to rely on others when I have to make an important decision quickly
- k. I prefer to make my own way in life rather than find a group I can follow

**Big Five**

24. For each statement, mark how much you agree or disagree.

**Disagree (1) - Slightly disagree (2) - Neutral (3) - Slightly agree (4) - Agree (5)**

- 1. I am the life of the party
- 2. I feel little concern for others
- 3. I am always prepared
- 4. I get stressed out easily
- 5. I have a rich vocabulary

6. I don't talk a lot
7. I am interested in people
8. I leave my belongings around
9. I am relaxed most of the time
10. I have difficulty understanding abstract ideas
11. I feel comfortable around people
12. I insult people
13. I pay attention to details
14. I worry about things
15. I have a vivid imagination
16. I keep in the background
17. I sympathize with others' feelings
18. I make a mess of things
19. I seldom feel blue
20. I am not interested in abstract ideas
21. I start conversations
22. I am not interested in other people's problems
23. I get chores done right away
24. I am easily disturbed
25. I have excellent ideas
26. I have little to say
27. I have a soft heart

28. I often forget to put things back in their proper place
29. I get upset easily
30. I do not have a good imagination
31. I talk to a lot of different people at parties
32. I am not really interested in others
33. I like order
34. I change my mood a lot
35. I am quick to understand things
36. I don't like to draw attention to myself
37. I take time out for others
38. I shirk my duties
39. I have frequent mood swings
40. I use different words
41. I don't mind being the center of attention
42. I feel others' emotions
43. I follow a schedule
44. I get irritated easily
45. I spend time reflecting on things
46. I am quiet around strangers
47. I make people feel at ease
48. I am exacting in my work
49. I often feel blue

50. I am full of ideas

### **Dark Triad**

25. Rate your agreement or disagreement with each statement

**Strongly disagree (1) - Disagree (2) - Neutral (3) - Agree (4) - Strongly agree (5)**

1. It's not wise to let people know your secrets
2. Whatever it takes, you must get the important people on your side
3. Avoid direct conflict with others because they may be useful in the future
4. Keep a low profile if you want to get your way
5. Manipulating the situation takes planning
6. Flattery is a good way to get people on your side
7. I like it when a tricky plan succeeds
8. People see me as a natural leader
9. I have a unique talent for persuading people
10. Group activities tend to be dull without me
11. I know that I am special because people keep telling me so
12. I have some exceptional qualities
13. I'm likely to become a future star in some area
14. I like to show off every now and then
15. People often say I'm out of control
16. I tend to fight against authorities and their rules
17. I've been in more fights than most people of my age and gender
18. I tend to dive in, then ask questions later



19. I've been in trouble with the law
20. I sometimes get into dangerous situations
21. People who mess with me always regret it
22. Watching a fist fight excites me
23. I really enjoy violent films and video games
24. It's funny when idiots fall flat on their face
25. I enjoy watching violent sports
26. Some people deserve to suffer
27. Just for kicks, I've said mean things on social media
28. I know how to hurt someone with words alone

**Table D1***Sources and Purposes of Survey Questions*

Question	Variable	Source
#1, #2, and #3	Demographics	Created by researcher
#4 and #5	Health beliefs and attitudes	John Hopkins University (2020)
#6		Center for Economic and Social Research (2020)
#7 and #8	Perceived threat and risk	Montreal Behavioural Medicine Centre (MBMC) (2020)
#9 and #10		Conway, Woodard, and Zubrod (2020)
#11 and #12		Center for Economic and Social Research (2020)
#13	Government response	Conway, Woodard, and Zubrod (2020)
#14	Conspiracy beliefs	Open-Source Psychometrics Project (n.d.)
#15	COVID-19 specific	Created by researcher
#16, #17, and #18	Engagement in mask-wearing	Created by researcher
#19, #20, #21, and #22	Perception of mask-wearing	Created by researcher
#23	Conformity	Mehrabian and Stefl (1995)
#24	Big Five Personality	Goldberg (1992)
#25	Dark Triad	Paulhus (n.d.)

## Appendix E

*Respondents' Sociodemographic Characteristics (N=242)*

Measure	Respondents
Age	41.26 (13.95)
Gender	%
Male	14.5
Female	85.1
Gender Fluid	0.4
Race/Ethnicity	%
White or Caucasian	88.8
Black or African American	2.1
Hispanic or Latino	3.3
Asian or Asian American	1.2
American Indian or Alaska Native	0.8
Multiethnic/Other	2.1
Caucasian, Native American, Hispanic	0.4
Indian and African mixed	0.4
Mexican, Native American, Irish	0.4
White British	0.4
White and Asian	0.4
Prefer not to respond	1.7

## Appendix F

## Survey Response Statistics

**Table F1***Item Statistics to Survey Question 4: COVID-19 Health Beliefs and Attitudes (N = 240)*

How effective are the following actions for keeping you safe from COVID-19?	<i>M</i>	<i>SD</i>
a. Wearing a face mask	3.58	1.22
b. Praying <sup>a</sup>	2.42	1.50
c. Washing your hands with soap or using hand sanitizer frequently	4.43 (-1.61)	.83
d. Seeing a health care provider if you feel sick	3.81	1.15
e. Seeing a health care provider if you feel healthy but worry that you were exposed	2.86	1.37
f. Avoiding public spaces, gatherings, and crowds	4.15 (-1.34)	1.16
g. Avoiding contact with people who could be high-risk	4.35 (-1.63)	1.01
h. Avoiding hospitals and clinics	3.82	1.07
i. Avoiding restaurants	3.64	1.31
j. Avoiding public transportation	3.96	1.15

*Note.*  $\alpha = .78$ . Skewness analyses were conducted; if skewed, skewness statistics provided in parentheses.

<sup>a</sup> n = 239 valid responses

**Table F2***Item Response Percentages to Survey Question 4: COVID-19 Health Beliefs and Attitudes*

How effective are the following actions for	%				
keeping you safe from COVID-19?	(1)	(2)	(3)	(4)	(5)
a. Wearing a face mask	9.5	7.0	26.3	30.5	26.3
b. Praying <sup>a</sup>	43.6	11.1	17.3	12.3	14.4
c. Washing your hands with soap or using hand sanitizer frequently	1.2	1.2	10.3	28.0	58.8
d. Seeing a health care provider if you feel sick	5.8	7.0	22.2	31.3	33.3
e. Seeing a health care provider if you feel healthy but worry that you were exposed	23.0	18.1	23.5	21.0	14.0
f. Avoiding public spaces, gatherings, and crowds	5.8	4.1	13.6	23.0	53.1
g. Avoiding contact with people who could be high-risk	2.9	3.3	11.5	21.0	60.9
h. Avoiding hospitals and clinics	4.1	5.8	26.3	32.1	31.3
i. Avoiding restaurants	10.7	8.2	20.6	27.2	32.9
j. Avoiding public transportation	5.3	5.3	19.8	27.6	41.6

*Note.* Scale responses are as follows: (1) = Not effective at all, (2) = Hardly effective, (3) =

Somewhat effective, (4) = Effective, (5) = Very effective.

<sup>a</sup> n = 239 valid responses

**Table F3***Item Response Percentages to Survey Question 5: COVID-19 Health Beliefs and Attitudes*

How effective do you think the following policy measures are?	N	%				
		(1)	(2)	(3)	(4)	(5)
a. Close schools and daycares	241	12.3	18.1	23.5	28.0	17.3
b. Oblige everyone who does not work in the crucial professional group stays at home expect to do basic shopping or because urgent medical care is required	242	9.9	14.4	18.1	27.6	29.6
c. Universal wearing of face masks	242	11.9	9.5	10.7	23.0	44.4

*Note.*  $\alpha = .89$ . Scale responses are as follows: (1) = Not effective at all, (2) = Hardly effective, (3) = Somewhat effective, (4) = Effective, (5) = Very effective. Skewness analyses were conducted; no skewness detected.

**Table F4***Item Response Percentages to Survey Question 6: COVID-19 Health Beliefs and Attitudes*

Do you agree or disagree with the following statements?	%				<i>M</i>	<i>SD</i>
	(1)	(2)	(3)	(4)		
a. Most people believe that people with coronavirus are dangerous	9.9	21.4	46.9	21.4	2.80	.89
b. Most people believe that people who used to have coronavirus are dangerous	40.7	37.9	15.6	5.3	1.86	.87
c. If I caught the coronavirus, I would consider it a sign of my personal weakness or failure	77.0	10.7	10.3	1.6	1.36 (1.91)	.73

*Note.* Number of valid responses = 242. Scale responses are as follows: (1) = Strongly disagree, (2) = Somewhat disagree, (3) = Somewhat agree, (4) = Strongly agree. Skewness analyses were conducted; if skewed, skewness statistics provided in parentheses.

**Table F5***Response Frequencies to Survey Question 7: Perceived Threat and Risk (N=242)*

How many people do you know personally, that are or have likely been infected?	<i>F</i>	%
0	8	3.3
1	14	5.8
2 to 4	53	21.9
5 to 9	65	26.9
10 or more	99	40.9
I don't know / I prefer not to answer	3	1.2

*Note.* Skewness analyses were conducted; a skewness of -1.06 was detected.



**Table F6***Response Frequencies to Survey Question 8: Perceived Threat and Risk (N=242)*

How would you rate your physical health in general, compared to others?	<i>F</i>	%
Much better than most	21	8.7
Better than most	73	30.2
About the same	108	44.6
Worse than most	28	11.6
Much worse than most	9	3.7
I don't know / I prefer not to answer	3	1.2

*Note.* Skewness analyses were conducted; no skewness was detected.

**Table F7***Item Statistics to Survey Question 9: Perceived Threat and Risk (N=241)*

For each of the following, please rate how true each statement is to you	<i>M</i>	<i>SD</i>
a. Thinking about the coronavirus (COVID-19) makes me feel threatened	3.56	1.90
b. I am afraid of the coronavirus (COVID-19)	3.76	1.94
c. I am not worried about the coronavirus (COVID-19)	4.54	2.04
d. I am worried that I or people I love will get sick from the coronavirus (COVID-19)	5.14	1.83
e. I am stressed around other people because I worry I'll catch the coronavirus (COVID-19)	3.62	2.03
f. I have tried hard to avoid other people because I don't want to get sick	4.34	2.10

*Note.*  $\alpha = .90$ . Skewness analyses were conducted; no skewness was detected.

**Table F8***Item Statistics to Survey Question 10: Perceived Threat and Risk (N=240)*

How likely do you think it is that the following events will happen in light of the current COVID-19 pandemic?	<i>M</i>	<i>SD</i>
a. You will be infected	3.59 (1.07)	1.59
b. Someone in your direct environment will be infected	5.00	1.84
c. You will have to go to the hospital if you get the infection	2.76 (1.03)	1.23
d. You will have to go into quarantine independent of you being infected or not	4.09	1.90
e. You will get infected and you will infect someone else	3.29 (1.04)	1.43
f. Someone in your direct environment will die	3.08 (1.40)	1.65

*Note.*  $\alpha = .71$ . Skewness analyses were conducted; if skewed, skewness statistics provided in parentheses.

**Table F9***Response Descriptives to Survey Questions 11 and 12: Perceived Threat and Risk (N=236)*

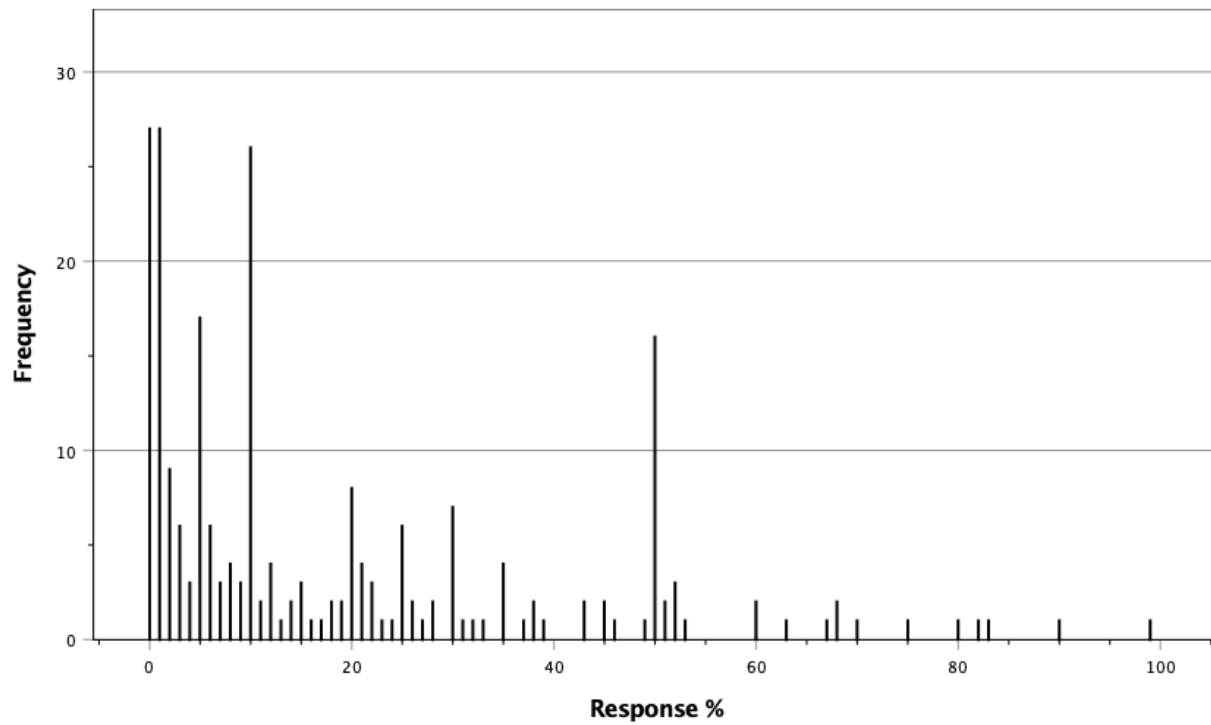
<b>On a scale of 0 to 100</b>	<i>M</i>	<i>Mdn</i>	<i>Mo</i>	<i>Ra</i>	<i>SD</i>
If you do get the coronavirus, what is the percent chance you will die from it?	18.58 (1.38)	10	0 <sup>a</sup>	0 - 99	20.96
What is the chance that you will get the coronavirus in the next three months?	26.96	24	50	0 - 100	22.00

*Note.* Skewness analyses were conducted; if skewed, skewness statistics were provided in parentheses.

<sup>a</sup> n = Multiple modes exist, with the smallest value shown.

**Figure F1**

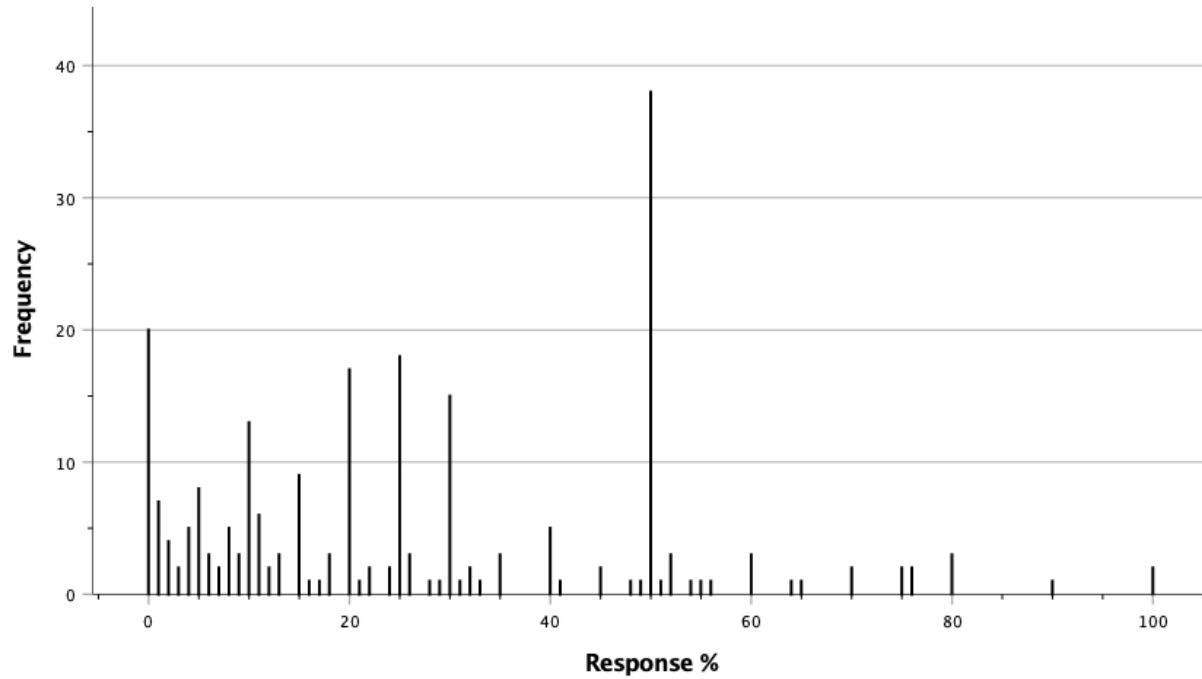
*Response Percentage Frequencies for Survey Question 11*



*Note.* Response percentage frequencies for “What is the percent chance you will die from COVID-19?”

**Figure F2**

*Response Percentage Frequencies for Survey Question 12*



*Note.* Response percentage frequencies for “What is the percent chance you will be infected with COVID-19 in the next three months?”

**Table F10***Item Response Percentages to Survey Question 13: Government Response (N = 242)*

Subscales	%					SD	$\alpha$
	(-2)	(-1)	(0)	(1)	(2)		
Restriction							.92
Question (a)	16.9	10.7	10.3	30.2	31.8	1.46	
Question (b)	14.0	10.3	9.1	22.7	43.8	1.46	
Reactance							.95
Question (c)	29.8	27.7	10.3	13.2	19.0	1.50	
Question (d)	33.9	28.9	10.7	9.5	16.9	1.46	
Informational Contamination							.89
Question (e)	22.3	24.0	19.8	14.9	19.0	1.42	
Question (f)	27.3	16.5	19.4	15.3	21.5	1.50	

*Note.* Scale for responses are as follows: (-2) = Strong disagree, (-1) = Disagree, (0) = Unsure, (1) = Agree, (2) = Strongly agree. Skewness analyses were conducted; no skewness detected.

**Table F11***Item Statistics to The Generic Conspiracist Beliefs Scale (GCBS): Conspiracy Beliefs*

Subscales	<i>N</i>	<i>M</i>	<i>SD</i>	$\alpha$
Government malfeasance	242	8.29	3.73	.91
Question 1		2.65	1.36	
Question 6		2.72	1.36	
Question 11		2.92	1.34	
Malevolent global conspiracies	240	7.45	3.61	.92
Question 2		2.62	1.36	
Question 7		2.31	1.27	
Question 12		2.53	1.27	
Extraterrestrial cover-up	242	6.31	3.30	.90
Question 3		1.97	1.18	
Question 8		2.30	1.28	
Question 13		2.05	1.14	
Personal wellbeing	240	7.22	3.39	.86
Question 4		2.38	1.29	
Question 9		2.23	1.28	
Question 14		2.62	1.26	
Control of information	241	8.85	3.40	.83
Question 5		2.63	1.42	
Question 10		2.86	1.24	
Question 15		3.35	1.26	

*Note.* Full GCBS measure  $\alpha = .96$ . Skewness analyses were conducted; no skewness was detected.



**Table F12**

*Item Statistics to Survey Question 15: COVID-19 Top 11 Conspiracy Theories (N = 239)*

Please indicate your level of agreement or disagreement with the following statements regarding COVID-19	<i>M</i>	<i>SD</i>
a. There are miracle cures for COVID-19	2.00	1.08
b. It is the global elite's attempt at taking away freedom	2.17	1.34
c. COVID-19 is a deomcratic party hoax	1.56 (1.41)	.84
d. A Chinese lab in Wuhan created COVID-19 as a biological weapon and released COVID-19	2.37	1.26
e. Bill Gates is attempting to vaccinate the whole world while implanting microchips to track and control people's actions	1.70 (1.50)	1.09
f. 5G technology is causing symptoms of COVID-19	1.59 (1.43)	.89
g. The pandemic is driving anti-Jewish sentiment in Europe and the United States	2.18	1.06
h. The COVID-19 vaccine is a population control effort	1.95 (1.00)	1.25
i. COVID-19 is a plot by major multinational pharmaceutical companies	2.08	1.30
j. "Plandemic" is real and being concealed from the public	1.95	1.22
k. COVID-19 originated from humans consuming bat soup	2.41	1.00

*Note.* Full measure  $\alpha = .92$ . Skewness analyses were conducted; if skewed, skewness statistics provided in parentheses.

**Table F13***Response Frequencies to Survey Question 16: Engagement in Mask-Wearing (N=242)*

What percentage best describes how often you have worn a mask when you have gone into a public area?	<i>F</i>	%
100% of the time; I always wear a mask	163	67.4
75% of the time; I usually wear a mask	47	19.4
50% of the time; Hit or miss	11	4.5
25% of the time; I rarely wear a mask	13	5.4
0% of the time; I never wear a mask	8	3.3
I have not gone to a store	0	0

*Note.* Skewness analyses were conducted; a skewness statistic of 1.96 was detected.

**Table F14***Response Frequencies to Survey Question 17: Engagement in Mask-Wearing (N=242)*

Which statement best describes how often you wear a mask?	<i>F</i>	%
I wear a mask absolutely any time I leave my house	67	27.7
For the most part, I always wear a mask if I leave the house	40	16.5
I wear a mask in all public places and when I'm at my friends/colleagues/neighbors residence	39	16.1
I only wear a mask in public places	57	23.6
I only wear a mask if stores enforce them	31	12.8
I will not wear a mask	8	3.3

*Note.* Skewness analyses were conducted; no skewness was detected.

**Table F15***Response Frequencies to Survey Question 18: Engagement in Mask-Wearing (N=242)*

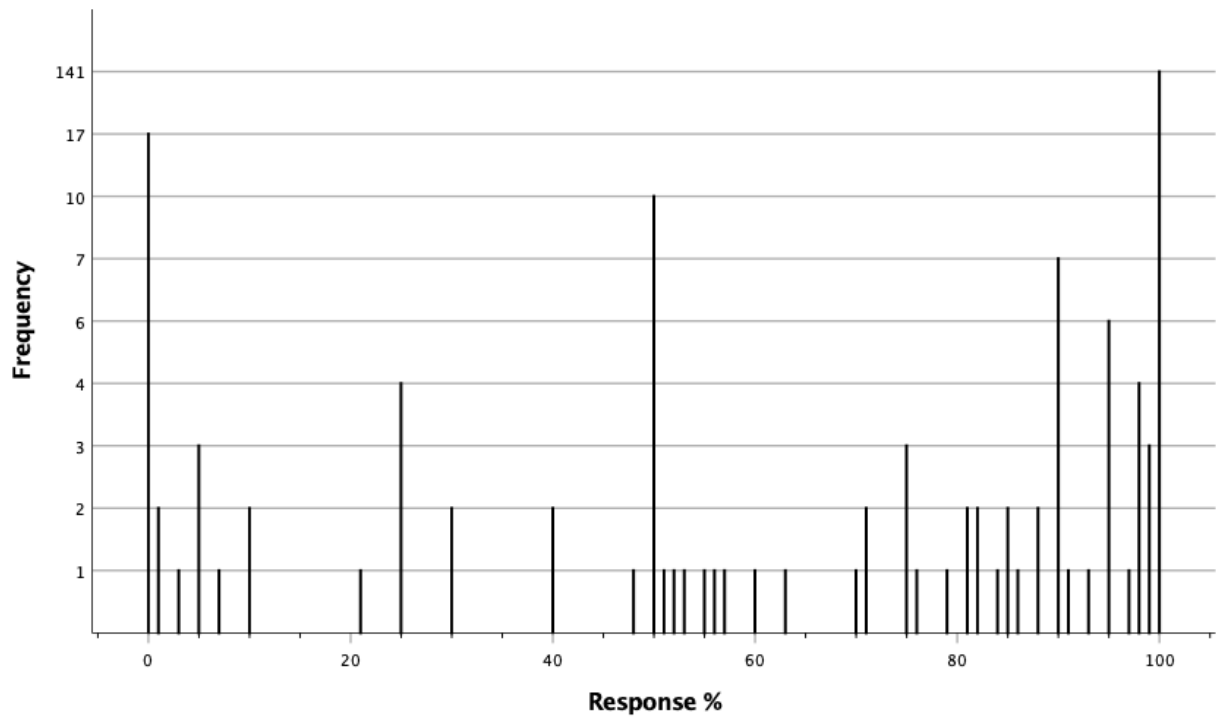
Have you left or not gone to a particular store because they enforce mask-wearing?	<i>F</i>	%
Yes	33	13.6
No	202	83.5
I have not gone to a store	7	2.9

*Note.* Skewness analyses were conducted; no skewness was detected.

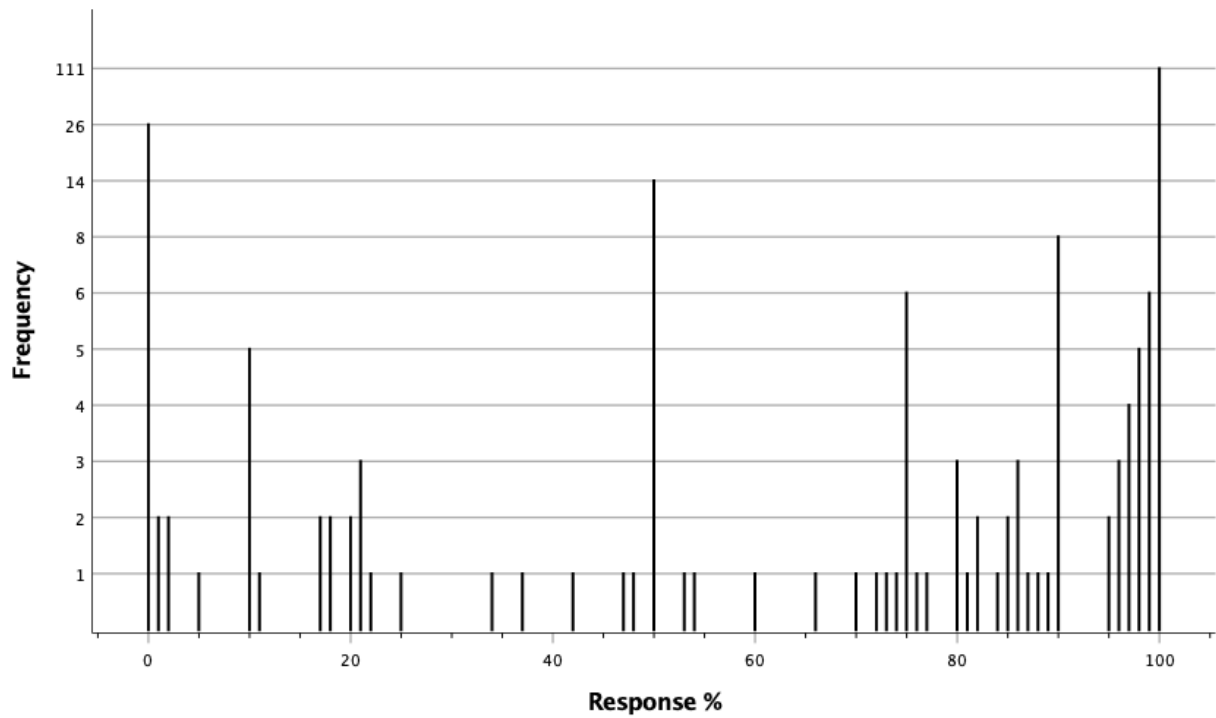
**Table F16***Response Descriptives to Survey Questions 19, 20, 21, and 22: Perception of Mask-Wearing*

<b>On a scale of 0 to 100</b>	<i>N</i>	<i>M</i>	<i>Mdn</i>	<i>SD</i>
I wear a mask not only for myself but most importantly for others	236	80.54 (-1.56)	100	33.25
Not wearing a mask is pure inconsideration	237	73.23 (-1.07)	98	37.34
Above all else, I wear a mask to keep myself safe	237	54.63	50	36.34
My constitutional rights are most important to me	236	68.49	75	32.17

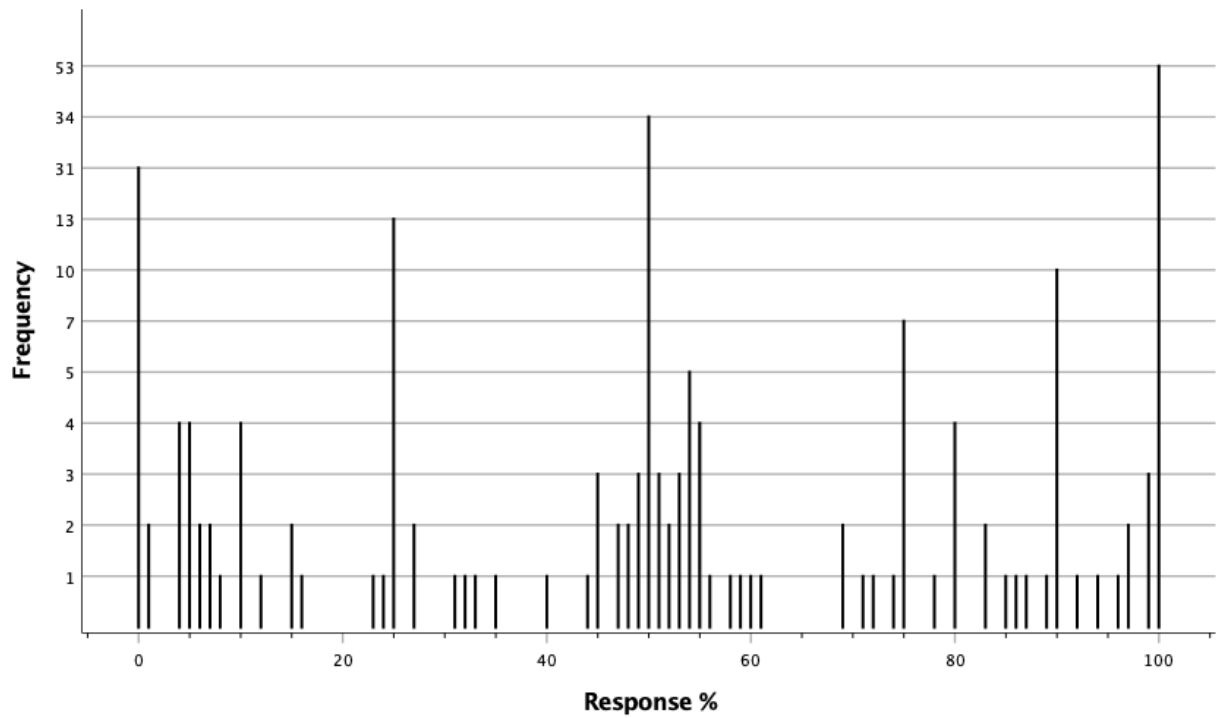
*Note.* *Mo* for all questions = 100. Skewness analyses were conducted; if skewed, skewness statistics provided in parentheses.

**Figure F3***Response Frequencies to Survey Question 19*

*Note.* Question 19 = On a slider scale of 0 to 100, “To what percentage do you agree with the statement; I wear a mask not only for myself but most importantly for others”.

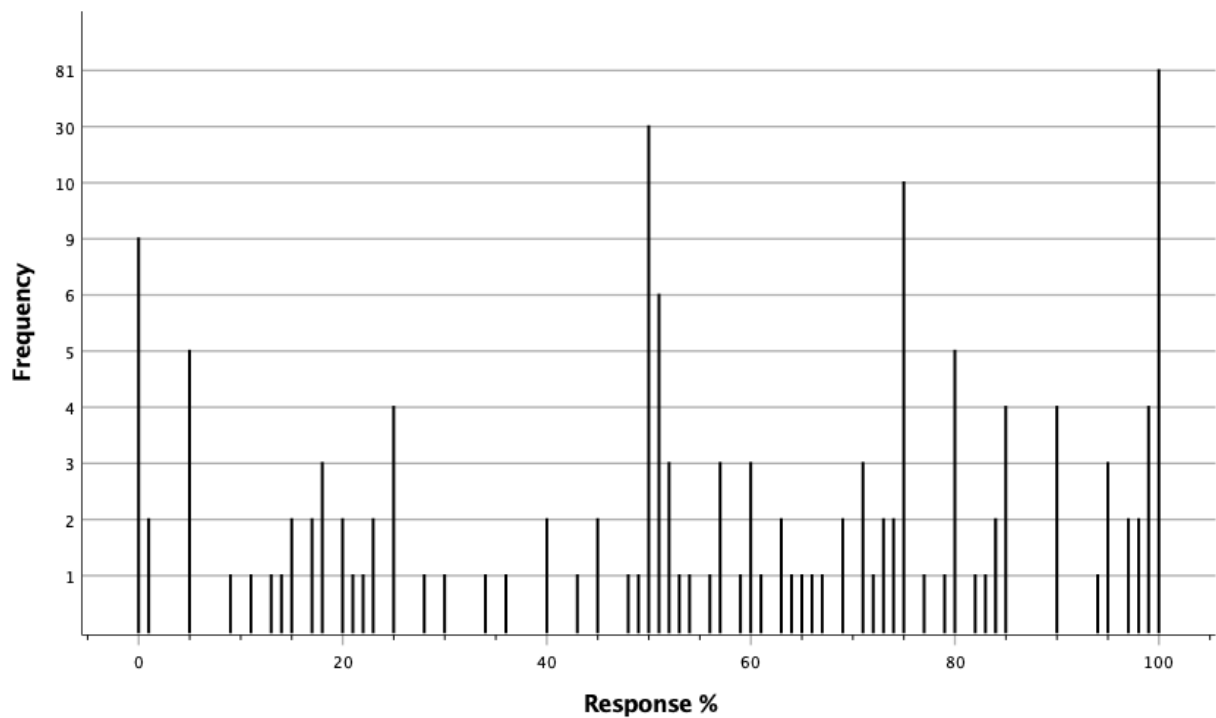
**Figure F4***Response Frequencies to Survey Question 20*

*Note.* Question 20 = On a slider scale of 0 to 100, “To what percentage do you agree with the statement; Not wearing a mask is pure inconsideration”.

**Figure F5***Response Frequencies to Survey Question 21*

*Note.* Question 21 = On a slider scale of 0 to 100, “To what percentage do you agree with the statement; Above all else, I wear a mask to keep myself safe”.



**Figure F6***Response Frequencies to Survey Question 22*

*Note.* Question 22 = On a slider scale of 0 to 100, “To what percentage do you agree with the statement; My constitutional rights are most important to me. (First Amendment right to speech, assembly, and liberty to make decisions about my own health and bodily integrity)”.

**Table F17***Item Statistics to Survey Question 23: Conformity Scale (N = 239)*

Indicate the degree of your agreement or disagreement	<i>M</i>	<i>SD</i>
a. I often rely on and act upon, the advice of others	.12	2.06
b. I would be the last one to change my opinion in a heated argument on a controversial topic	.07	2.05
c. Generally, I'd rather give in and go along for the sake of peace than struggle to have my way	-1.13	2.03
d. I tend to follow family tradition in making political decisions	-2.08	2.10
e. Basically, my friends are the ones who decide what we do together	-1.30	1.79
f. A charismatic and eloquent speaker can easily influence and change my ideas	-1.56	1.80
g. I am more independent than conforming in my ways	-1.72	1.68
h. If someone is very persuasive, I tend to change my opinion and go along with them	-1.59	1.63
i. I don't give in to others easily	-1.37	1.95
j. I tend to rely on others when I have to make an important decision quickly	-1.03	2.10
k. I prefer to make my own way in life rather than find a group I can follow	-1.92	1.79

*Note.*  $\alpha = .76$ . Full measure  $M = -13.51$ ,  $SD = 11.35$ . Skewness analyses were conducted; no skewness detected.

**Table F18***Subscale Statistics to Survey Question 24: BFPT Questionnaire*

Subscales	<i>N</i>	<i>M</i>	<i>SD</i>	<i>α</i>
Extroversion	240	30.96	9.02	.90
Agreeableness	237	43.20	5.71	.80
Conscientiousness	242	37.64	7.34	.84
Neuroticism	239	29.95	9.14	.90
Openness	239	40.80	6.33	.84

*Note.* Skewness analyses were conducted; no skewness was detected.

**Table F19***Item Statistics for Responses on BFPT Questionnaire (N = 231)*

For each statement, mark how much you agree or disagree	<i>M</i>	<i>SD</i>
1. I am the life of the party	2.69	1.27
2. I feel little concern for others	4.58 (-2.51)	1.03
3. I am always prepared	3.81	1.05
4. I get stressed out easily	2.53	1.32
5. I have a rich vocabulary	4.11 (-1.00)	.97
6. I don't talk a lot	3.49	1.34
7. I am interested in people	4.32 (-1.44)	.94
8. I leave my belongings around	3.26	1.47
9. I am relaxed most of the time	3.25	1.18
10. I have difficulty understanding abstract ideas	4.03	1.05
11. I feel comfortable around people	3.65	1.18
12. I insult people	4.17 (-1.14)	1.12
13. I pay attention to details	4.46 (-1.39)	.77
14. I worry about things	1.94 (1.26)	1.10
15. I have a vivid imagination	4.03	1.05
16. I keep in the background	2.98	1.21
17. I sympathize with others' feelings	4.65 (-2.54)	.71
18. I make a mess of things	3.69	1.22

For each statement, mark how much you agree or disagree	<i>M</i>	<i>SD</i>
19. I seldom feel blue	2.69	1.24
20. I am not interested in abstract ideas	3.95	1.11
21. I start conversations	3.77	1.16
22. I am not interested in other people's problems	4.23 (-1.24)	.98
23. I get chores done right away	2.92	1.37
24. I am easily disturbed	3.29	1.25
25. I have excellent ideas	4.00	.87
26. I have little to say	3.87	1.14
27. I have a soft heart	4.34 (-1.47)	.92
28. I often forget to put things back in their proper place	3.41	1.47
29. I get upset easily	3.09	1.29
30. I do not have a good imagination	4.19 (-1.29)	1.07
31. I talk to a lot of different people at parties	3.16	1.43
32. I am not really interested in others	4.29 (-1.43)	.97
33. I like order	4.09 (-1.11)	.99
34. I change my mood a lot	3.17	1.25
35. I am quick to understand things	4.19 (-1.12)	.87
36. I don't like to draw attention to myself	2.19	1.12
37. I take time out for others	4.28 (-1.32)	.86
38. I shirk my duties	4.09	1.00

For each statement, mark how much you agree or disagree	<i>M</i>	<i>SD</i>
39. I have frequent mood swings	3.50	1.25
40. I use different words	4.16 (-1.12)	.97
41. I don't mind being the center of attention	2.67	1.37
42. I feel others' emotions	4.35 (-1.69)	.95
43. I follow a schedule	3.75	1.12
44. I get irritated easily	2.94	1.30
45. I spend time reflecting on things	4.29 (-1.16)	.87
46. I am quiet around strangers	2.46	1.30
47. I make people feel at ease	3.99	.96
48. I am exacting in my work	4.12	.91
49. I often feel blue	3.38	1.31
50. I am full of ideas	3.99	.99

*Note.*  $\alpha = .89$ . Skewness analyses were conducted; if skewed, skewness statistics provided in parentheses.

**Table F20***Subscale Statistics to Survey Question 25: SD4 Questionnaire*

Subscales	<i>N</i>	<i>M</i>	<i>SD</i>	$\alpha$
Machiavellianism	239	21.25	4.25	.70
Narcissism	236	20.46	4.78	.78
Psychopathy	238	13.03	4.61	.76
Sadism	239	14.18	5.15	.78

*Note.* Skewness analyses were conducted; no skewness was detected.

**Table F21***Item Statistics for Responses on SD4 Questionnaire (N = 234)*

Rate your agreement or disagreement with each statement	<i>M</i>	<i>SD</i>
1. It's not wise to let people know your secrets	3.72	.93
2. Whatever it takes, you must get the important people on your side	2.59	1.01
3. Avoid direct conflict with others because they may be useful in the future	2.74	1.00
4. Keep a low profile if you want to get your way	2.53	.97
5. Manipulating the situation takes planning	3.32	.99
6. Flattery is a good way to get people on your side	3.22	1.04
7. I like it when a tricky plan succeeds	3.17	1.12
8. People see me as a natural leader	3.38	1.08
9. I have a unique talent for persuading people	3.10	1.07
10. Group activities tend to be dull without me	2.32	.90
11. I know that I am special because people keep telling me so	2.61	1.00
12. I have some exceptional qualities	3.80	.83
13. I'm likely to become a future star in some area	2.34	1.14
14. I like to show off every now and then	2.89	1.21
15. People often say I'm out of control	1.58 (1.26)	.72
16. I tend to fight against authorities and their rules	2.19	1.08
17. I've been in more fights than most people of my age and gender	1.43 (2.27)	.85
18. I tend to dive in, then ask questions later	2.32	1.07



Rate your agreement or disagreement with each statement	<i>M</i>	<i>SD</i>
19. I've been in trouble with the law	1.74 (1.49)	1.23
20. I sometimes get into dangerous situations	1.86 (1.11)	1.10
21. People who mess with me always regret it	1.99	1.08
22. Watching a fist fight excites me	1.54 (1.89)	1.01
23. I really enjoy violent films and video games	1.71 (1.48)	1.13
24. It's funny when idiots fall flat on their face	2.53	1.29
25. I enjoy watching violent sports	1.59 (1.63)	.96
26. Some people deserve to suffer	2.13	1.15
27. Just for kicks, I've said mean things on social media	1.57 (1.68)	.95
28. I know how to hurt someone with words alone	3.13	1.33

*Note.*  $\alpha = .87$ . Skewness analyses were conducted; if skewed, skewness statistics provided in parentheses.

## Appendix G

## Intercorrelations

**Table G1***Intercorrelations Between Dark Triad Traits and Conformity*

Measure	1	2	3	4	5	6
1. Machiavellianism	-					
2. Narcissism	.29**	-				
3. Psychopathy	.36**	.37**	-			
4. Sadism	.42**	.28**	.57**	-		
5. SD4	.69**	.66**	.79**	.79**	-	
6. Conformity	.08	-.17**	-.19**	-.14*	-.15*	-

*Note.* SD4 = Short Dark Tetrad.\*\* $p < .01$ . \* $p < .05$ .

**Table G2***Intercorrelations Between Dark Triad Traits and Conspiracy Theory Beliefs*

Measure	1	2	3	4	5	6
1. Machiavellianism	-					
2. Narcissism	.29**	-				
3. Psychopathy	.36**	.37**	-			
4. Sadism	.42**	.28**	.57**	-		
5. SD4	.69**	.66**	.79**	.79**	-	
6. COVID-19 Conspiracy Belief	.11	.05	.15*	.04	.12	-
7. GCBS	.19**	.16*	.35**	.21**	.31**	.78**

*Note.* SD4 = Short Dark Tetrad. GCBS = Generic Conspiracist Beliefs Scale.

\*\* $p < .01$ . \* $p < .05$ .

**Table G3***Intercorrelations Between Neuroticism and Level of Perceived Threat*

Measure	1	2	3	4	5	6	7	8
1. Neuroticism	-							
2. Perceived Threat	-.18**	-						
3. Perceived Risk	-.07	.23**	-					
4. Perceived Threat and Risk	-.16*	.82**	.72**	-				
5. Personally known infected	-.11	.10	.40**	.29**	-			
6. General Health	-.18**	-.05	-.01	-.04	-.03	-		
7. % Chance will die from COVID	-.21**	.20**	.09	.20**	-.01	.29**	-	
8. % Chance will contract COVID in next 3 months	-.19**	.07	.20**	.16*	.24**	.01	.23**	-

\*\* $p < .01$ . \* $p < .05$ .

**Table G4***Intercorrelations Between Dark Triad Traits and Engagement in Mask-Wearing*

Measure	1	2	3	4	5	6	7	8	9
1. Machiavellianism	-								
2. Narcissism	.29**	-							
3. Psychopathy	.36**	.37**	-						
4. Sadism	.42**	.28**	.57**	-					
5. SD4	.69**	.66**	.79**	.79**	-				
6. Q16	-.02	-.00	-.18**	-.02	-.08	-			
7. Q17	-.06	.05	-.15*	-.00	-.05	.65**	-		
8. Q18	-.10	-.03	.07	-.05	-.04	-.53**	-.33**	-	
9. 16&17 <i>M</i>	-.05	.03	-.18**	-.01	-.07	.87**	.94**	-.45**	-
10. 16, 17, 18 <i>M</i>	-.07	.03	-.18**	-.02	-.08	.83**	.95**	-.30**	.99**

*Note.* SD4 = Short Dark Tetrad. Q16 = frequency of mask-wearing in public areas; see question 16 of survey. Q17 = frequency of mask-wearing anywhere; see question 17 of survey. Q18 = left or not gone to a particular store due to enforcement of mask-wearing; see question 18 of survey. 16 & 17 *M* = mean score of questions 16 and 17. 16, 17, 18 *M* = mean score of questions 16, 17, and 18.

\*\* $p < .01$ . \* $p < .05$

**Table G5***Intercorrelations Between Machiavellianism and Conspiracy Theory Beliefs*

Measure	1	2	3
1. Machiavellianism	-		
2. COVID-19 Conspiracy Belief	.11	-	
3. GCBS	.19**	.78**	-

*Note.* GCBS = Generic Conspiracist Beliefs Scale.\*\* $p < .01$ .

**Table G6***Intercorrelations Between BFPT and COVID-19 Beliefs and Attitudes*

Measure	1	2	3	4	5	6	7
1. Extroversion	-						
2. Agreeableness	.34**	-					
3. Conscientiousness	.07	.19**	-				
4. Neuroticism	.12	.07	.28**	-			
5. Openness	.28**	.41**	.16*	.09			
6. Q4	.01	.13*	-.09	-.08	.13	-	
7. Q5	-.04	.06	-.23**	-.22**	.05	.74**	-

*Note.* Q4 = effectiveness of actions at keeping you safe from COVID-19; see question 4 of the survey. Q5 = effectiveness of policy measures at curbing the spread of COVID-19; see question 5 of the survey.

\*\* $p < .01$ . \* $p < .05$ .

**Table G7***Intercorrelations Between BFPT and Level of Perceived Threat and Risk*

Measure	1	2	3	4	5	6	7	8	9	10	11
1. E	-										
2. A	.34**	-									
3. C	.07	.19**	-								
4. N	.12	.07	.28**	-							
5. O	.28**	.41**	.16*	.09	-						
6. Q7	.07	.04	-.13*	-.11	-.05	-					
7. Q8	.03	-.02	-.21**	-.18**	.01	-.01	-				
8. PT	.01	.14*	.02	-.18**	.13	.10	-.05	-			
9. PR	-.00	.05	-.09	-.07	-.03	.40**	.01	.23**	-		
10. PT&R	.01	.15*	-.02	-.16*	.07	.29**	-.04	.82**	.72**	-	
11. Q11	-.09	.04	-.04	-.21**	.07	-.01	.29**	.20**	.09	.20**	-
12. Q12	-.05	-.05	-.20**	-.19**	-.04	.24**	.01	.07	.20**	.16*	.23**

*Note.* E = Extroversion, A = Agreeableness, C = Conscientiousness, N = Neuroticism, O =

Openness. Q7 = number of people one knows that has been or has likely been infected with COVID-19; see question 7 of survey. Q8 = ratings of one's general health compared to others; see question 8 of survey. PT = perceived threat, PR = perceived risk, PT&R = perceived threat and risk. Q11 = percent chance of dying if infected by COVID-19; see question 11 of survey. Q12 = percent chance of contracting COVID-19 in the next three months; see question 12 of survey.

\*\* $p < .01$ . \* $p < .05$ .



**Table G8***Intercorrelations Between BFPT and Government Response*

Measure	1	2	3	4	5	6	7
1. Extroversion	-						
2. Agreeableness	.34**	-					
3. Conscientiousness	.07	.19**	-				
4. Neuroticism	.12	.07	.28**	-			
5. Openness	.28**	.41**	.16*	.09			
6. Restriction Scale	-.05	.06	-.24**	-.24**	.08	-	
7. Reactance Scale	.03	-.03	.19**	.17**	-.11	-.84**	-
8. Information Contamination Scale	.05	-.03	.21**	.14*	.02	-.75**	.70**

\*\* $p < .01$ . \* $p < .05$ .

**Table G9***Intercorrelations Between BFPT and Conspiracy Theory Beliefs*

Measure	1	2	3	4	5	6	7	8	9	10	11
1. E	-										
2. A	.34**	-									
3. C	.07	.19**	-								
4. N	.12	.07	.28**	-							
5. O	.28**	.41**	.16*	.09	-						
6. GM	.05	.05	.13*	.05	.08	-					
7. MG	.12	.03	.12	.11	.06	.85**	-				
8. ET	.10	.05	.05	.05	.10	.68**	.71**	-			
9. PW	.08	.06	.17*	.10	.05	.80**	.84**	.67**	-		
10. CI	.02	.04	.14*	.09	.09	.83**	.81**	.62**	.82**	-	
11. GCBS	.08	.03	.13	.09	.07	.93**	.94**	.82**	.92**	.91**	-
12. COVID	.11	.02	.25**	.13*	.01	.71**	.75**	.50**	.83**	.74**	.78**

*Note.* E = Extroversion, A = Agreeableness, C = Conscientiousness, N = Neuroticism, O =

Openness, GM = Government Malfeasance, MG = Malevolent Global Conspiracies, ET =

Extraterrestrial Cover-up, PW = Personal Wellbeing, CI = Control of Information, GCBS =

Generic Conspiracist Beliefs Scale, COVID = COVID-19 conspiracy theory beliefs measure.

\*\* $p < .01$ . \* $p < .05$ .

**Table G10***Intercorrelations Between BFPT and Engagement in Mask-Wearing*

Measure	1	2	3	4	5	6	7	8
1. Extroversion	-							
2. Agreeableness	.34**	-						
3. Conscientiousness	.07	.19**	-					
4. Neuroticism	.12	.07	.28**	-				
5. Openness	.28**	.41**	.16*	.09				
6. Q16	-.04	.03	-.25**	-.19**	-.14*	-		
7. Q17	.01	.07	-.09	-.05	.06	.65**	-	
8. Q18	.04	.04	.13*	.06	.07	-.53**	-.33**	-
9. Q16-Q18 <i>M</i>	-.00	.07	-.16*	-.12	-.01	.83**	.95**	-.30**

*Note.* Q16 = frequency of mask-wearing in public areas; see question 16 of survey. Q17 =

frequency of mask-wearing anywhere; see question 17 of survey. Q18 = left or not gone to a particular store due to enforcement of mask-wearing; see question 18 of survey.

\*\* $p < .01$ . \* $p < .05$ .

**Table G11***Intercorrelations Between BFPT and Perception of Mask-Wearing*

Measure	1	2	3	4	5	6	7	8
1. Extroversion	-							
2. Agreeableness	.34**	-						
3. Conscientiousness	.07	.19**	-					
4. Neuroticism	.12	.07	.28**	-				
5. Openness	.28**	.41**	.16*	.09				
6. Q19	-.06	.02	-.20**	-.16*	-.08	-		
7. Q20	.03	.11	-.12	-.15*	.09	.75**	-	
8. Q21	.03	.11	-.08	-.06	.02	.50**	.57**	-
9. Q22	.12	.01	.12	.17*	.04	-.30**	-.26**	.00

*Note.* Q19 represents the statement, “I wear a mask not only for myself but most importantly for others.”; see question 19 of survey. Q20 represents the statement, “Not wearing a mask is pure inconsideration.”; see question 20 of survey. Q21 represents the statement, “Above all else, I wear a mask to keep myself safe.”; see question 21 of survey. Q22 represents the statement, “My constitutional rights are most important to me.”; see question 22 of survey.

\*\* $p < .01$ . \* $p < .05$ .

**Table G12***Intercorrelations Between BFPT and Conformity*

Measure	1	2	3	4	5
1. Extroversion	-				
2. Agreeableness	.34**	-			
3. Conscientiousness	.07	.19**	-		
4. Neuroticism	.12	.07	.28**	-	
5. Openness	.28**	.41**	.16*	.09	-
6. Conformity	-.10	-.02	-.28**	-.23**	-.39**

\*\* $p < .01$ . \* $p < .05$ .

**Table G13***Intercorrelations Between Dark Triad Traits and GCBS Subscales*

Measure	1	2	3	4	5	6	7	8	9
1. Machiavellianism	-								
2. Narcissism	.29**	-							
3. Psychopathy	.36**	.37**	-						
4. Sadism	.42**	.28**	.57**	-					
5. SD4	.69**	.66**	.79**	.79**	-				
6. GM Subscale	.16*	.14*	.29**	.22**	.28**	-			
7. MG Subscale	.18**	.21**	.35**	.17**	.31**	.85**	-		
8. ET Subscale	.24**	.22**	.43**	.29**	.40**	.68**	.71**	-	
9. PW Subscale	.16*	.12	.29**	.11	.23**	.80**	.84**	.67**	-
10. CI Subscale	.19**	.07	.25**	.18**	.23**	.83**	.81**	.62**	.82**

*Note.* SD4 = Short Dark Tetrad. Subscales are from the GCBS and are as follows: GM =

Government Malfeasance, MG = Malevolent Global Conspiracies, ET = Extraterrestrial

Cover-up, PW = Personal Wellbeing, CI = Control of Information.

\*\* $p < .01$ . \* $p < .05$

**Table G14***Intercorrelations Between Conformity and Mask-Wearing*

Measure	1	2	3	4	5	6	7	8
1. Conformity	-							
2. Engagement Q16	-.29**	-						
3. Q17	-.09	.65**	-					
4. Q18	-.21**	-.53**	-.33**	-				
5. Perception Q19	.22**	-.71**	-.61**	-.40**	-			
6. Q20	.02	-.65**	-.57**	-.32**	.75**	-		
7. Q21	.00	-.53**	-.51**	-.27**	.50**	.57**	-	
8. Q22	-.25**	.28**	.21**	.20**	-.30**	-.26**	.00	-

*Note.* Q16 = frequency of mask-wearing in public areas; see question 16 of survey. Q17 =

frequency of mask-wearing anywhere; see question 17 of survey. Q18 = left or not gone to a

particular store due to enforcement of mask-wearing; see question 18 of survey. Q19 represents

the statement, “I wear a mask not only for myself but most importantly for others.”; see question

19 of survey. Q20 represents the statement, “Not wearing a mask is pure inconsideration.”; see

question 20 of survey. Q21 represents the statement, “Above all else, I wear a mask to keep

myself safe.”; see question 21 of survey. Q22 represents the statement, “My constitutional rights

are most important to me.”; see question 22 of survey.

\*\* $p < .01$

**Table G15***Intercorrelations Between Conformity, Government Response, and Conspiracy Beliefs*

Measure	1	2	3	4	5	6
1. Conformity	-					
2. Restriction Subscale	.14*	-				
3. Reactance Subscale	-.05	-.84**	-			
4. Information Contamination Subscale	-.17**	-.75**	.70**	-		
5. GCBS	-.26**	-.62**	.55**	.73**	-	
6. COVID-19 Conspiracy Belief	-.19**	-.72**	.69**	.76**	.78**	-

*Note.* GCBS = Generic Conspiracist Beliefs Scale.\*\* $p < .01$ . \* $p < .05$



**Table G16***Intercorrelations Between CT Beliefs and Engagement in Mask-Wearing*

Measure	1	2	3
1. Engagement in mask-wearing	-		
2. COVID-19 conspiracy beliefs	-.60**	-	
3. GCBS	-.52**	.78**	-

*Note.* GCBS = Generic Conspiracist Beliefs Scale. Engagement in mask-wearing = grand mean of questions 16, 17, and 18.

\*\* $p < .01$ .

**Table G17***Intercorrelations Between BFPT and SD4*

Measure	1	2	3	4	5	6	7	8
1. Extroversion	-							
2. Agreeableness	.34**	-						
3. Conscientiousness	.07	.19**	-					
4. Neuroticism	.12	.07	.28**	-				
5. Openness	.28**	.41**	.16*	.09	-			
6. Machiavellianism	.08	-.04	-.17*	-.18**	.12	-		
7. Narcissism	.55**	.25**	.20**	.08	.41**	.29**	-	
8. Psychopathy	.17*	-.08	-.17*	-.06	.17*	.36**	.37**	-
9. Sadism	.07	-.12	-.22**	-.01	.11	.42**	.28**	.57**

\*\* $p < .01$ . \* $p < .05$ .