

The Effect of Collectivistic and Individualistic Orientation on Support for COVID-19
Safety Practices

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ABSTRACT

Americans are known for their sense of self, and their fight for individual rights, but could this cause more harm than good during a global pandemic. Statistics provided by WHO and the CDC suggest that the United States was not handling the pandemic well compared to other developed nations. Using the ATP Wave 69 dataset provided by the Pew Research Center, this study examined the effects of collectivist/individualist orientation on the likelihood of complying with pandemic safety practices such as masking, social distancing, and quarantining. Using an OLS regression, this study found that individuals who showed high concern for others (collectivist motivation) were more likely to support safe pandemic practices than those who showed low concern. Individuals who showed high concern for themselves (individualist motivation) were also more likely to support safe pandemic practices than those who showed low concern. Those who were high in concern for self and for others showed the strongest support for safety practices. This study also found that individualist motivation had a stronger effect than collectivist motivation, suggesting that a sense of self-preservation was more important than a concern for others as a motivation for supporting COVID-19 safety practices.

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INTRODUCTION

Statement of the Problem

As of October 2021, there had been almost 248 million confirmed COVID-19 cases, with over five million confirmed deaths worldwide. At least 223 countries had been affected (CDC 2021a; WHO 2021). While the number of COVID-19 cases had fluctuated, the number of new cases remained high. According to WHO, the United States had shown one of the highest rates of infection. In the month of February 2021, there were over 27 million confirmed cases reported, with that number increasing to thirty million by the end of March 2021 (CDC 2021a; WHO 2021). Since then, cases decreased into early summer and once again spiked in August 2021. Nearing the end of 2021, there is approximately 48 million confirmed COVID-19 cases (CDC 2021a; WHO 2021).

As COVID-19 continued to spread across the countries of the world, some had enacted restrictions, guidelines, quarantine orders, and other pandemic practices, trying to slow the spread of the disease; yet we continued to see an increase in the number of COVID-19 cases (CDC 2021a; WHO 2021). Without a clear end in sight or a unified global response, there seemed to be no reprieve from the pandemic. The United Nations had acknowledged that the social consequences of the pandemic could be dire.

In the U.S. the economy hit a downward spiral after the COVID-19 pandemic, primarily as the result of business shut-downs and “Stay at Home” orders issued by state and local governments. The reason U.S. officials later agreed to lessen restrictions was mainly attributed to the declines in the global and national economy (IMF 2021b). People were left unemployed, though according to the IMF, “the U.S. economy rebounded strongly by an annualized rate of 33.1 percent after the initial declines caused by the pandemic.” The UN provided evidence that

showed those bearing the brunt of the pandemic are disproportionately poor people (United Nations 2020). If the pandemic is not properly addressed, it could lead to drastic consequences: inequality, exclusion, discrimination and global unemployment in the short, medium, and long term (Bernard-Donals 2020; Bremmer 2021; United Nations 2020).

The number of COVID-19 cases skyrocketing created a need for research concerning attitudes toward pandemic safety practices. Research regarding the impact of societal beliefs such as individualism and collectivism could be useful in determining whether such attitudes increase or decrease the susceptibility of contracting coronavirus through their impact on compliance with pandemic practices such as masking or quarantining. There was already research that claimed that collectivism garnered compliance (Oh 2013, 2013; Pascual et al. 2012). However, there needed to be research specific to the pandemic that investigated the impact of individualistic and collectivist orientations on support for compliance to safety protocols while controlling for other variables.

Understanding whether a sense of community fostered consideration for the safety and wellbeing of others was an important factor in determining whether certain attitudes, beliefs, values, or behaviors made people more likely to spread the virus. It was imperative to understand if and how individualistic self-preservation or a broader concern for public welfare motivate individuals to follow pandemic guidelines and restrictions. Such knowledge could be used to create more effective and relevant promotional and marketing strategies that encourage people to follow safety practices and get vaccinations

LITERATURE REVIEW

Background

The U.S.' first COVID-19 case was confirmed in January 2020. In the months to follow the outbreak of COVID-19 caused an increase in cases. Though the number of new cases slowly declined once the U.S. enacted various health and safety measures, this changed over the summer when various federal and state officials removed restrictions to reopen the economy and people could resume travel. COVID-19 cases have fluctuated with safety measures and restrictions being removed and reinstated at different points by individual states and cities (CDC 2021a; IMF 2021a).

Out of eight OECD countries surveyed for a study on *Gender Differences in COVID-19 Attitudes and Behavior*, Australia seemed to provide a quick and efficient response (Bremmer 2021; Galasso et al. 2020). After the first confirmed cases in the country, the National Cabinet enacted strict measures to contain the virus. This included but was not limited to extreme lockdown restrictions including the metropolitan cities (Bremmer 2021; IMF 2021a; WHO 2021). As the number of new cases declined, Australia has eased restrictions in four stages. They also provided more than a 10% GDP stimulus to eligible Australian citizens which provided wages, free childcare, and doubled unemployment (Bremmer 2021; IMF 2021a).

Contrary to Australia's response, the United States' federal government had not provided strict guidelines or restrictions, instead they had allowed states to choose the policies they would instate (IMF 2021a). The federal government however offered recommendations provided by the Center for Disease Control that states could choose from, allowing the "You are free..." technique to take precedence (CDC 2021b; Pascual et al. 2012). As of March 2021, states like Texas have removed the mandates enacted early on in the pandemic such as requiring masks

indoors and requiring certain businesses to close due to lack of social distancing and safety measures. However, there were a few states like California that had still enacted pandemic restrictions like mask mandates both indoors and outdoors.

While there may be a correlation between restrictions enacted in the U.S. and the number of coronavirus cases, the lack of a unified and consistent approach by all states on pandemic restrictions meant there was no easy way of determining whether restrictions had improved recovery during the pandemic. On a national level, even when restrictions were enacted and increased there was a spike in cases and when restrictions were decreased there was a slight decrease in cases. This could easily be confirmed by the statistics that were provided by the CDC and WHO (CDC 2021a; WHO 2021). This was not always the case, the number of confirmed cases tended to fluctuate throughout the year with no clear pattern and therefore is difficult to pinpoint any one cause to the changing numbers.

The United States' response to the pandemic had been found inadequate in the economic, social, and health settings. For instance there had been little economic relief provided, little to no pandemic restrictions, and inadequate available healthcare and healthcare preparedness (Bremmer 2021; IMF 2021a; Newman 2020; Ward 2020). Therefore, determining whether cultivating collectivistic attitudes positively impact compliance of pandemic practices could lead to an understanding of community and self. In doing so, we could garner a better overall understanding of behaviors and actions during pandemics or health emergencies.

Jean-Jacques Rousseau: The General Will

According to Rousseau, under the social contract, the individual becomes a member of the collective. Once the individual has become a member of the body, they are asked to place the group above the individual's interest (Hiley 1990; Kain 1990; Rousseau 1762). Although the

individual's interest could at times conflict with the collective's, the group's interests are placed first, but this does not lead to a loss of personal rights for the individual (Hiley 1990; Kain 1990; Rousseau 1762). An important component of the social contract is when an individual becomes one with the whole, therefore giving themselves to the general will of the people and receiving freedom in return.

Rousseau described the general will as the common interest and not simply the interest of the majority. With regard to the COVID-19 pandemic, the general interest should be for societies to lower coronavirus cases and death tolls. If we were to take the path of Jean-Jacques Rousseau, the individual's interest must not outweigh the common interests of the whole. In theory, an individual who follows a collectivist orientation would be more likely to place the general will above the individual's self-interest (Hiley 1990; Kain 1990; Rousseau 1762). By this standard, an individual who held a collectivist orientation would be more inclined to comply with pandemic practices to safeguard their community. On the other hand, a person who held a more individualistic orientation would be less likely to follow pandemic safety practices, and therefore place their self-interest above others' health.

U.S. Individualism & Collectivism

People in the U.S. aren't usually taught to place the collective above the self. They tend to take a more individualistic approach to life, championing their individual freedoms. This could be caused by the need to establish their own sense of autonomy within a broader community that upholds democracy (O'Brien 2015). There doesn't seem to be the same sense of prescribed loyalty, reciprocity, and solidarity among family members that other cultures may have (Valenzuela 1994). The pandemic has reimagined a new era of collectivism. It has highlighted the social and political strain, and brought back the idea of collective behavior (Gerbaudo 2020;

United Nations 2020). Campaigns for pandemic practices have focused on the other, they encourage practicing social distancing, mask wearing, and hand washing as a way to protect others as well as the self.

The discourse of rights in America has continuously allowed for the perspective in which people are held accountable for their personal needs, leading to a “self over others” mentality. This discourse is grounded in the ideals of individualism in which the common good or interest is seldom included (Oh 2013; Triandis et al. 1988; Triandis and Gelfand 1998). In this case, we could view health as a communal effort: in order for one person to prosper, the entire group must be willing to comply with pandemic practices. However individualistic ideals or beliefs could become a hindrance to the recovery rate during the pandemic, if individuals have the mindset of “you are responsible for your own health,” those who refuse to comply with practices could become a danger to the community by way of spread of the virus.

Michelle Kirtley argued that in order for there to be justice in the health care setting, people must be willing to embrace a sense of responsibility for their community (Kirtley 2017). In other words, they would be upholding the common good, or as Rousseau stated, the General Will. Herd immunity or community immunity, has some merit in this case. If an entire community is willing to comply with pandemic practices, the community as a whole is less likely to contract the virus. This would no longer be the choice of the individual, because as the virus spreads, failure to comply could impact those surrounding you even if you think you only made the choice for yourself (Kirtley 2017). The community’s interests should become intertwined with the interests of the individual’s and the general will should be placed above the self. However, those with individualistic ideals would be more likely to place the self’s interest above the collectives.

Research shows how people coming from collectivistic cultures are more likely to conform, and therefore are more likely to comply (Chen and West 2008; Oh 2013). However, an argument could be made in which people who practice collectivism are more likely to break pandemic practices in order to meet with those they hold close ties with. In a study comparing compliance in students from Poland and the U.S., American students were more likely to comply in order to show commitment and consistency, whereas Polish students complied because they saw social proof of their compliance—evidence that their compliance has positive effects (Chen and West 2008). During the pandemic, due to the increased number of infections, Americans may be less willing to comply due to their lack of social proof that things are in fact getting better.

Self-Preservation Principle

Based on previous literature, this study could show that individuals who are more concerned with self-preservation, or concerned for being infected by others, would be more likely to conform with pandemic restrictions. Karni and Schmeidler argued that attitudes towards the level of risk impact what people chose as their optimal strategy for self-preservation (Karni and Schmeidler 1986). Therefore, in this case people's optimal strategy would be to conform to pandemic safety regulations in order to avoid the risk that contracting the virus would pose on the individual. However, many of the pandemic practices or guidelines had been opposed by Americans in the interest of individual rights (Gerbaudo 2020). Pandemic regulations were viewed as authoritarian and many had forgone wearing masks out in public, social distancing, or quarantining as a form of protest. This brought about a more social sense of self preservation, in which individuals were more interested in protecting their individual freedoms and beliefs over conforming to government safety regulations (Gerbaudo 2020; Karni and Schmeidler 1986).

Research Question

There is a potential causal relationship between compliance of pandemic practices and the number of COVID-19 cases due to individualistic and collectivistic ideals, beliefs, and behaviors. One could assume that if people's behaviors lean towards a more individualistic approach, the less likely they are to comply with pandemic practices due to less consideration for the group, which could in turn cause an increase in the number of COVID cases. Therefore, there should be further research on how collectivism could be positive or negative towards pandemic recovery rates. **How do individualistic and collectivistic ideals, values, and behaviors affect the willingness to comply with pandemic practices?**

Hypothesis

H1: Respondents who express high levels of concern for contracting COVID from others will express greater willingness to conform to COVID restrictions than those who do not.

(Individualistic motivation)

H2: Respondents who express high levels of concern for transmitting COVID to others will express greater willingness to conform to COVID restrictions than those who do not.

(Collectivist motivation)

H3: Respondents who express high levels of concern for transmitting COVID to others but lower levels of concern about contracting COVID from others will express a greater willingness to conform to COVID restrictions than those expressing high levels of concern for contracting COVID from others and lower levels of concern about transmitting COVID to others. (Collectivist over individualist motivation)

H4: Respondents who express high levels of concern for transmitting COVID to others AND high levels of concern from contracting COVID from others will express the greatest

willingness to conform to COVID restrictions. (Combined collectivist and individualistic motivation)

METHODOLOGY

Given that this study seeks to examine cultural ideals/ behaviors and the impact on actions during a pandemic at a certain point in time, a pre-existing dataset will be used. Since behaviors, ideals, or actions change with time, a survey taken at the peak of hysteria caused by the COVID-19 pandemic would provide helpful insight. Another reason why this pre-existing data would work best is due to the fact that during the month of June, there was a spike in confirmed cases of COVID-19 followed by a steady decrease into the following months. This study will follow a quantitative approach, consisting of a statistical analysis as a means of determining whether concern for public safety or self-preservation influence the likelihood of participating in masking or likelihood to attend social events. The Pew Research Center collected surveys and used a series of close ended survey questions, demographic questions, as well as social questions concerning the COVID-19 pandemic. The responses provided will be used to determine the extent to which collectivistic/individualistic beliefs, values, or behaviors influence actions during a pandemic.

Data & Sample

The data from this survey was retrieved from the Pew Research Center's American Trends Panel (ATP) Wave 69 June 16-June 22 2020 (Anon 2020). The target population for this study was non-institutionalized persons age 18 and over, living in the US, including Alaska and Hawaii. This sample consisted of N=6,080 ATP members that were still active, and there was a response rate of 77.43% (n=4,708). The survey was conducted in Spanish and English.

Members of the ATP were recruited from previously conducted surveys (national, overlapping, dual-frame landline and cellphone random-digit-dial (RDD) and national address-based sample (ABS)) by the Pew Research Center. Once the recruitment survey was concluded, members were asked to join the ATP. The first recruitment was conducted in early 2014, and the fifth was conducted in late 2019. The surveys tended to be a mixed modes survey, with some participants completing the survey using the internet, and some using mail in surveys.

Measures

The survey collected descriptive characteristics including individual characteristics and socioeconomic characteristics. For the purpose of this study, data collected regarding beliefs, behaviors, and actions, and general demographics will be used. This study's purpose is to determine the impact that collectivistic/individualistic attitudes may have on pandemic practices, such as masking and quarantining/social distancing.

Dependent Variables

A comfort index will serve as a dependent variable and will consist of questions concerning an individual's willingness to attend certain social situations. The index will be treated as an interval level variable as it is a count of how many different social situations out of those listed a respondent would feel comfortable attending. The questions that make up the comfort index asks respondents to indicate whether they are (0) Uncomfortable or (1) Comfortable in response to the question "Given the current situation with the coronavirus outbreak, would you feel comfortable or uncomfortable doing each of the following...?" The question is followed by various social scenarios, such as: going out to the grocery store, visiting with a close friend or family member at their home, eating out in a restaurant, attending an indoor sporting event, attending a crowded party, and going to a hair salon or barbershop.

Respondents were only asked four of the six situations creating a variable that ranges from 0-4 with 4 indicating the greatest level of comfort and 0 the least.

The first group of 4 items included going to the grocery, visiting others, going to a restaurant, and attending an indoor event. Cronbach's alpha was calculated to be .708 indicating high inter-item reliability. Additionally, factor analysis indicated all 4 items loaded on a single factor with loadings ranging from .469 to .651.

The second group of 4 items included going to the grocery, visiting others, going to a party, and visiting hair salon. Cronbach's alpha was calculated to be .665 indicating an acceptable level of inter-item reliability. Factor analysis again indicated all four items loaded on a single factor with loadings ranging from .575 to .802.

The variable examining opinions on masking, Should Mask, is measured using the question "How often do you think people should wear a mask?" with ordinal response options (0) Never, (1) Rarely, (2) Some of the time, (3) Most of the time, or (4) Always. However, during regression analysis, this variable will be analyzed as an interval variable.

Independent Variables

The variable that will measure collectivism or concern for others' wellbeing will serve as an independent variable, Infect Others. It is measured using the question "How concerned, if at all, are you that you might spread the coronavirus to other people without knowing that you have it?" with ordinal responses (0) Not at all concerned, (1) Not too concerned, (2) Somewhat concerned, and (3) Very concerned. This will serve to measure the willingness to place the collective or public good above the self. The variable that will measure individualism or self-preservation will serve as an independent variable, Be Infected. It is measured using the question "How concerned, if at all, are you that you will get the coronavirus and require hospitalization?"

with ordinal responses (0) Not at all concerned, (1) Not too concerned, (2) Somewhat concerned, and (3) Very concerned. This will serve to measure how much concern is placed on personal wellbeing or a sense of self preservation.

Control Variables

Descriptive variables concerning sex, race, ethnicity, region, age, religion, education, income, political ideology, political affiliation, marital status, and whether a person lives in or out of a metropolitan area are used as control variables. Sex is measured using the variable SEX with response options (0) Male or (1) Female. Race is measured using the variable RACE with response options (0) White, (1) Black or African American, (2) Asian or Asian American, (3) Mixed Race, or (4) Some other race. Ethnicity is measured using the variable HISPANIC with response options (0) Not Hispanic or (1) Hispanic. Region is measured using the variable REGION with response options (0) Northeast, (1) Midwest, (2) South, or (3) West. Age is measured using the variable AGE with response options (0) 18-29, (1) 30-49, (2) 50-64, or (3) 65+. Religion is measured using the variable (0) Protestant, (1) Catholic, and (2) Other Religion. Education is measured using the variable EDUC with response options (0) High School graduate or less, (1) Some college, or (2) College Graduate+. Income is measured using the variable INCOME with response options (0) <\$30,000, (1) \$30-\$74,999, or (2) \$75,000+. Political ideology is measured using the variable IDEOLOGY with response options (0) Conservative, (1) Moderate, or (2) Liberal. Political Affiliation is measured using the variable PARTY with response options (0) Republican, (1) Democrat, (2) Independent, and (3) Other. Marital Status is measured using the variable MARITAL with response options (0) Married/ Living with partner, (1) Divorced/Separated, (2) Widowed, and (3) Never been married. Whether a person lives in or out of a metropolitan area is measured using the variable METRO with response options (0) Not

metropolitan and (1) Metropolitan. For the regression analysis, dummy variables were created for all categorical variables.

Analysis

In addition to frequency distributions of all variables included in the study, I conducted One-way ANOVA to assess the bivariate effect of concern about infecting others and concern about being infected on the comfort index and the masking variable. Additionally, Ordinary Least Squares regression was conducted to assess the effect of the two independent variables on the two dependent variables while controlling for a variety demographic and personal characteristics.

FINDINGS

Characteristics of the Sample

The frequencies of the variables used for this study can be seen in Table 1 and Table 2. Table 1 focuses on the Dependent and Independent variables. The dependent variable, Should Mask—measuring opinions on how often participants thought people should wear a mask—has five categories ranging from Never to Always with 51.8% of participants answering always, 22.4% answering most of the time, 15.3% answering some of the time, 6.7% answering rarely, and 3.8% answering never. Thus, over 70% of respondents supported masking at least most of the time. The second dependent variable, Comfort Index—measuring the level of comfort participants had in attending social events during the pandemic—has scores that ranged from zero to four with 11.4% of respondents scoring a zero, 16.1% scoring a one, 27.9% scoring two, same percentage scoring three, and 16.5% scoring a four. Hence, approximately 60% of respondents scored in the middle of the distribution indicating they would be comfortable at two or three of the listed situations.

The Independent Variable Infect Others—measuring the level of concern participants had for the likelihood that they would infect another—ranged from not at all concerned to very concerned with 12.4% of participants showing no concern, 24.7% of respondents being not too concerned, 32.5% showing somewhat concerned, and 30.3% being very concerned. The Independent Variable Be Infected—measuring the level of concern a participant had for the likelihood that they would be infected by another—ranged from not at all concerned to very concerned with 14.6% of participants showing no concern, 32.8% of participants being not too concerned, 29.5% of participants being somewhat concerned, and 23% of participants being very concerned.

Table 2 focuses on the twelve control variables used for this study. Over half (56.6%) of the respondents who participated in this study were Female. More than three-fourths of the sample were white, while 10.6% were Black or African American, 3.3% were Asian or Asian American, only 4% were of mixed race, and 3.8% were of another race. The majority (84.2%) of respondents were not Hispanic. Respondents who answered living in a metropolitan area were 87.7%. A little over a quarter (25.7%) of respondents made less than \$30,000 in income, whereas over 36.4% had an income of \$30,000-74,999 and 37.9% had an income of over \$75,000. Less than half (42.8%) of respondents indicated they had a college degree or more, while less than 28.3% have a High School degree or less and 28.8% have some college education. Over one third (40.6%) of respondents consider themselves Protestant, whereas 19.9% consider themselves Catholic, and 39.6% answered other religion. The differences in political ideology are shown as 39.4% view themselves as moderate, while only 29% are liberal, and 31.7% are conservative. For age, 13% of respondents were between 18-29, 31% of respondents were 30-49, just under one third (30.9%) of respondents were 50-64, and 25.1% of respondents were 65 and

over. Less than half (40.9%) of respondents lived in the South, whereas only 16% lived in the Northeast, 20.8% lived in the Midwest, and 22.3% lived in the West. A little over one third (34.7%) of respondents for the sample responded that they are Democrat, while 26.6% answered Republican, 28.2% were Independent, and 10.5% answered other. The majority (59.7%) of respondents in the sample are married or living with a partner, 13.9% were either divorced or separated, 6.6% were widowed, and 19.9% of respondents have never been married.

One Way ANOVA Showing Effect of Concern for Being Infected on Support for Masking and Comfort in Attending Social Settings

Table 3A and 3B show the results from the One Way ANOVA analysis. In Table 3A, comparing mean comfort index scores by level of concern about being infected shows that as concern for being infected increases, the comfort index score decreases. These differences are statistically significant with $F=428.43$ ($p<.001$). In Table 3B, comparing mean should mask scores by level of concern about being infected shows that as concern for being infected increases, should mask score increases. These differences are statistically significant with $F=492.43$ ($p<.001$).

Tukey's HSD Test for multiple comparisons found that the mean value of concern for being infected and attitudes towards masking was significantly different between the following groups: Group 0 (Not at all Concerned) and Group 1 (Not Too Concerned) ($p <.001$; 95% C.I. = [-1.03, -.80]), Group 0 (Not at all Concerned) and Group 2 (Somewhat Concerned) ($p <.001$; 95% C.I. = [-1.56, -1.33]), Group 0 (Not at all concerned) and Group 3 (Very Concerned) ($p <.001$; 95% C.I. = [-1.81, -1.57]), Group 1 (Not too concerned) and Group 2 (Somewhat Concerned) ($p <.001$; 95% C.I. = [-.62, -.44]), Group 1 (Not too concerned) and Group 3 (Very

Concerned) ($p < .001$; 95% C.I. = $[-.88, -.68]$), and Group 2 (Somewhat Concerned) and Group 3 (Very Concerned) ($p < .001$; 95% C.I. = $[-.35, -1.14]$).

Tukey's HSD Test for multiple comparisons found that the mean value of concern for being infected and comfort attending social settings was significantly different between the following groups: Group 0 (Not at all Concerned) and Group 1 (Not Too Concerned) ($p < .001$; 95% C.I. = $[.4401, .6970]$), Group 0 (Not at all Concerned) and Group 2 (Somewhat Concerned) ($p < .001$; 95% C.I. = $[1.0493, .1.3106]$), Group 0 (Not at all concerned) and Group 3 (Very Concerned) ($p < .001$; 95% C.I. = $[1.5658, 1.8392]$), Group 1 (Not too concerned) and Group 2 (Somewhat Concerned) ($p < .001$; 95% C.I. = $[.5078, .7151]$), Group 1 (Not too concerned) and Group 3 (Very Concerned) ($p < .001$; 95% C.I. = $[1.0228, 1.2451]$), and Group 2 (Somewhat Concerned) and Group 3 (Very Concerned) ($p < .001$; 95% C.I. = $[.4089, .6362]$).

One Way ANOVA Showing Effect of Concern for Infecting Others on Support for Masking and Comfort in Attending Social Settings

Table 4A and 4B show the results from the One Way ANOVA analysis. In Table 4A, comparing mean comfort index scores by level of concern about infecting others shows that as concern for infecting others increases, the comfort index score decreases. These differences are statistically significant with $F=293.12$ ($p < .001$). In Table 4B, comparing mean should mask scores by level of concern about infecting others shows that as concern for infecting others increases, the should mask score increases. These differences are statistically significant with $F=382.59$ ($p < .001$).

Tukey's HSD Test for multiple comparisons found that the mean value of concern for infecting others and attitudes towards masking was significantly different between the following groups: Group 0 (Not at all Concerned) and Group 1 (Not Too Concerned) ($p < .001$; 95% C.I. =

[-.85, -.59]), Group 0 (Not at all Concerned) and Group 2 (Somewhat Concerned) ($p < .001$; 95% C.I. = [-1.32, -1.07]), Group 0 (Not at all concerned) and Group 3 (Very Concerned) ($p < .001$; 95% C.I. = [-1.68, -1.43]), Group 1 (Not too concerned) and Group 2 (Somewhat Concerned) ($p < .001$; 95% C.I. = [-.58, -.38]), Group 1 (Not too concerned) and Group 3 (Very Concerned) ($p < .001$; 95% C.I. = [-.94, -.74]), and Group 2 (Somewhat Concerned) and Group 3 (Very Concerned) ($p < .001$; 95% C.I. = [-.45, -.26]).

Tukey's HSD Test for multiple comparisons found that the mean value of concern for infecting others and comfort attending social settings was significantly different between the following groups: Group 0 (Not at all Concerned) and Group 1 (Not Too Concerned) ($p < .001$; 95% C.I. = [.2153, .5100]), Group 0 (Not at all Concerned) and Group 2 (Somewhat Concerned) ($p < .001$; 95% C.I. = [.6450, .9275]), Group 0 (Not at all concerned) and Group 3 (Very Concerned) ($p < .001$; 95% C.I. = [1.2669, 1.5523]), Group 1 (Not too concerned) and Group 2 (Somewhat Concerned) ($p < .001$; 95% C.I. = [.3106, .5366]), Group 1 (Not too concerned) and Group 3 (Very Concerned) ($p < .001$; 95% C.I. = [.9322, 1.1617]), and Group 2 (Somewhat Concerned) and Group 3 (Very Concerned) ($p < .001$; 95% C.I. = [.5165, .7302]).

OLS Regression Predicting Support for Masking

Model 1: Predicted Effect of Independent Variables on Support for Masking

An ordinary least square regression was used to test if the independent variables, Be Infected and Infect Others, significantly predicted the Should Mask dependent variable. The results for this analysis can be seen in Table 5, Model 1. Based upon the regression analysis, about 21% of the variance in the attitudes on masking ($R^2 = .21$) is explained by the two independent variables ($F = 639.12$; $p < .001$). The results showed that the Infect Others variable significantly predicted the Should Mask variable ($b = .57$, $p < .001$), with those showing high

concern for infecting others being more likely to think that people should wear a mask. The variable Be Infected was also found to significantly predict the Should Mask variable ($b = .66$, $p < .001$), with those showing high concern for being infected more likely to think people should wear a mask. The standardized beta for Be Infected was .29, while it was .25 for Infect Others; thus, indicating concern about being infected had a slightly stronger effect than concern for infecting others.

Model 2: Predicted Effects of Independent Variables and Control Variables on Support for Masking

An OLS regression was used to test if the independent variables Be Infected and Infect Others, as well as a set of control variables, significantly predicted the Should Mask dependent variable. The results for this analysis can be seen in Table 5, Model 2. Based upon the regression analysis, about 32% of the variance in the attitudes toward masking ($R^2 = .32$) is explained by the independent variables Infect Others and Be Infected and the control variables ($F = 71.48$; $p < .001$). When controlling for all other variables, results showed that the Infect Others variable continued to significantly predict the Should Mask variable ($b = .48$; $p < .001$) with those who showed higher concerns with infecting others being more likely to think people should wear a mask. The variable Be Infected was also continued to significantly predict the Should Mask variable ($b = .46$; $p < .001$) when controlling for the other variables with those who showed higher concerns with being infected more likely to think people should wear a mask.

Looking at the control variables respondents living in the South were not significantly different ($b = -.07$; $p = .12$) when compared to those in the Northeast, whereas the respondents living in the Midwest ($b = -.23$; $p < .001$) and West ($b = -.11$; $p < .05$) were found to be less likely to think people should wear a mask. Respondents between the ages of 30-49 were not significantly

different from those 18-29 ($b=.06$; $p=.22$), but respondents between the ages of 50-64 ($b=.28$; $p<.001$) and those 60 and up ($b=.54$; $p<.001$) were found to be significantly more likely to support masking. Women were found to average .12 points higher than men on the Should Mask scale ($p<.001$). Respondents who identified as Hispanic were significantly more likely to support masking than non-Hispanics ($b=.19$; $p<.001$). Racial differences in support for masking were limited, Asian or Asian American ($b=.15$; $p=.06$), mixed race ($b=.05$; $p=.50$), or other racial groups ($b=-.02$; $p=.774$) were not found to be significantly different from whites in their support of masking. However, respondents who identified as Black or African American averaged .23 ($p<.001$) points higher on support for masking than did whites.

While income differences in support for masking were insignificant, respondents with a college degree or more ($p<.001$) averaged .19 higher on the should mask scale than those with a high school degree or less, but those with some college education were not significantly different ($p=.193$). Catholics were significantly different and averaged .17 higher ($p<.001$) than protestants and those who identified as an Other religion were not be significantly different ($b=.07$; $p=.069$). Respondents who identify themselves as Liberal ($b=.45$; $p<.001$) averaged higher than Moderate ($b=.27$; $p<.001$), and Conservatives, and were therefore more likely to support masking. Respondents who were a part of the Democratic party were found to be significantly different and averaged higher ($b=.34$; $p<.001$) than Independent ($b=.16$; $p<.001$), and Republicans, but Other Party was found to be not statistically different ($b=.08$; $p=.14$). Respondents who were widowed were found to be statistically different, and averaged higher on the should mask scale ($b=.14$; $p<.05$) than married respondents and respondents who have never been married ($b=.08$; $p<.05$), whereas respondents who were divorced or separated ($b=.000$; $p=.996$) were found to not be statistically different. Respondents who lived in a metropolitan area

were found to average .181 higher and more likely to support masking than those who did not live in a metropolitan area ($p < .001$).

Model 3: Predicted Effects of Independent Variables, Control Variables and the Interaction on Support for Masking

An OLS regression was used to test if the independent variables Be Infected and Infect Others, the control variables and an interaction between the two independent variables significantly predicted the Should Mask dependent variable. The results for this analysis can be seen in the continuation of Table 5, Model 3. Based upon the regression analysis, about 34% of the variance in the attitudes toward masking ($R^2 = .34$) is explained by the variables in the model ($F = 72.69$; $p < .001$). When adding the interaction, results showed that the Infect Others variable significantly predicted the Should Mask variable as before with those who showed higher concerns with infecting others more likely to think people should wear a mask ($b = .70$; $p < .001$). The variable Be Infected also remained significant indicating that those who showed higher concerns with being infected are more likely to think people should wear a mask ($b = .85$; $p < .001$). While the interaction term was significant, suggesting the effects of each of the two independent variables varies at different levels of the other, the general effect of the two variables remained the same, and since the addition of the interaction did not appreciably increase the R^2 (from .32 to .34, the model without the interaction would appear to be the better model. Further, there were few changes in the control variables other than a slight difference in the strength that ranged from $\pm .01$. The level of significance changed for only one variable as having never been married became insignificant.

Reconstructed Means Showing Effects of Concern about Being Infected and Concern about Infecting Others on Whether People Should Wear Masks

Nevertheless, Table 6 shows the reconstructed means for the effects of concern about being infected and concern about infecting others including their interaction on whether respondents thought people should wear a mask. The table assumes all control variables are set to zero. Respondents who showed low concern for being infected and low concern for infecting others averaged 1.5 on the Should Mask scale, lower than the other three categories. Those who had low concern for being infected and high concern for infecting others averaged 2.2, whereas a more self-centered approach with high concern for being infected and low concern for infecting others averaged higher at 2.35. Respondents who were found to have high concern for infecting others and high concern for being infected were found to average higher than all the other groups at 3.05. These differences are significant given that main effects and the interaction term are all significant.

OLS Regression Predicting Comfort Index Score

Model 1: Predicted Effect of Independent Variables on Comfort Index

An ordinary least squares regression was used to test if the independent variables Be Infected and Infect Others significantly predicted the Comfort Index dependent variable. The results for this analysis can be seen in Table 7, Model 1. Based upon the regression analysis, about 19% of the variance in the Comfort Index score ($R^2=.19$) is explained by the two independent variables Infect Others and Be Infected. ($F= 566.66$; $p< .001$). The results showed that the Infect Others variable significantly predicted the Comfort Index score ($b= -.45$, $p< .001$), with those showing high concern for infecting others scoring lower on the Comfort Index, thus showing that they are less comfortable attending certain settings during the pandemic. The

variable Be Infected was also found to significantly predict the Comfort Index score ($b = -.81$, $p < .001$), with those showing high concern for being infected scoring lower on the Comfort Index, and showing that they are less comfortable attending certain settings during the pandemic.

Model 2: Predicted Effects of Independent Variables and Control Variables on Comfort Index

An OLS regression was used to test if the independent variables Be Infected and Infect Others, as well as the chosen control variables, significantly predicted the Comfort Index dependent variable. The results for this analysis can be seen in Table 7, Model 2. Based upon the regression analysis, about 27% of the variance in the Comfort Index score ($R^2 = .27$) is explained by the independent variables Infect Others and Be Infected, and the control variables ($F = 54.51$; $p < .001$). When controlling for all other variables, results showed that the Infect Others variable remained a significant predictor of the Comfort Index score with those who showed higher concerns with infecting others being less comfortable attending certain settings during the pandemic ($b = -.341$; $p < .001$). The variable Be Infected was also remained a significant predictor of the Comfort Index score with those who showed higher concerns with being infected being less comfortable attending certain settings ($b = -.659$; $p < .001$).

When looking at the results of the control variables, all the regional groups were found to be statistically insignificant from the Northeast group. Respondents between the ages of 30-49 were not significantly different from those 18-29, while respondents between the ages of 50-64 ($b = -.15$; $p < .05$) and 60 and up ($b = -.363$; $p < .001$) had significantly lower Comfort Index scores. Women were found to average a lower score on the Comfort Index than men ($b = -.082$; $p < .05$). Respondents who identified as Hispanic had scores lower than those who identified as non-Hispanic ($b = -.203$; $p < .001$). Those who identified as mixed race or other race were found statistically insignificant from Whites, whereas respondents who identified as Asian or Asian

American ($b = -.342$; $p < .001$) and Black or African American ($b = -.264$; $p < .001$) had significantly lower scores than Whites. Those who earned an income of \$75,000 or more ($b = .159$; $p < .001$) and those who had an income of \$30,000 to \$74,999 ($b = .098$; $p < .05$) had significantly higher Comfort Index Scores than those who earned less than \$29,999. Respondents with a college degree or more ($b = -.154$; $p < .001$) averaged lower scores than those with a high school degree or less, but respondents with some college education were statistically insignificant. Catholics were not significantly different from Protestants but those who identified as an other religion had significantly lower scores ($b = -.141$; $p < .001$). Respondents who identify themselves as Liberal ($b = -.426$; $p < .001$) averaged lower Comfort Index scores than Conservatives, as did Moderates ($b = -.209$; $p < .001$). Democrats ($b = -.312$; $p < .001$), Independents ($b = -.188$; $p < .001$), and respondents from Other Parties ($b = -.257$; $p < .001$), had significantly lower scores than Republicans. Marital status was not a statistically significant predictor of Comfort Index Score, nor was urban versus rural living.

Model 3: Predicted Effects of Independent Variables, Control Variables and the Interaction on Comfort Index

An OLS regression was used to test if the independent variables Be Infected and Infect Others, as well as the chosen control variables, and the interaction between the two independent variables significantly predicted the Comfort Index dependent variable. The results for this analysis can be seen in the continuation of Table 7, Model 3. Based upon the regression analysis, about 27% of the variance in the Comfort Index score ($R^2 = .267$) is explained by the independent variables Infect Others and Be Infected, the control variables, and the interaction term ($F = 52.850$; $p < .001$). As before, the Infect Others variable significantly predicted the Comfort Index score with those who showed higher concerns with infecting others being less comfortable

attending certain settings during the pandemic ($b = -.400$; $p < .001$). The variable Be Infected also remained a significant predictor of the Comfort Index score with those who showed higher concerns with being infected less comfortable attending social gatherings ($b = -.762$; $p < .001$). In this analysis, the interaction term was not significant, nor did adding it change the R^2 appreciably, indicating the model without the interaction term is the better model. Further, when reviewing the results of the control variables, there were no significant changes in the variables other than a slight difference in strength that ranged from $\pm .01$. The level of significance remained the same for all control variables.

Reconstructed Means Showing Effects of Concern about Being Infected and Concern about Infecting Others on Comfort Index

Analyzing the reconstructed means from the model that includes the interaction term we see the effects of concern about being infected and concern about infecting others on the Comfort Index ($p < .001$) with scores ranging from 2.45 to 3.62. Respondents who showed low concern for being infected and low concern for infecting others had averaged a 3.62 on the Comfort Index, higher than the other three categories, meaning they were more comfortable with attending social gatherings. Those who had low concern for being infected and high concern for infecting others averaged a 3.22, whereas a more self-centered approach with high concern for being infected and low concern for infecting others averaged lower with a 2.85. Respondents who were found to have high concern for infecting others and high concern for being infected were the most concerned about attending social situations with average lower than all the other groups at 2.45. However, keep in mind that since the interaction term was not significant ($p < .052$), these differences are not all significant.

Implications for Hypotheses

Consistent with Hypothesis 1, results from the bivariate ANOVA (Tables 3A and 3B) show that those who have higher levels of concern for being infected by others are significantly more likely to support masking and less likely to feel comfortable attending social functions than those with lower levels of concern. Regression analyses (Tables 5 and 7) find a similar relationship when controlling for other variables. Thus, these findings **support Hypothesis 1** that *respondents who express high levels of concern for contracting COVID from others will express greater willingness to conform to COVID restrictions than those who do not.*

Similarly, both bivariate ANOVA (Tables 4A and 4B) and regression analyses (Table 5 and 7) are consistent with Hypothesis 2, finding that those who show high concern for infecting others are also more supportive of masking and less comfortable attending social functions than those with low levels of concern for infecting others. Thus, **Hypothesis 2**, which states that *respondents who express high levels of concern for transmitting COVID to others will express greater willingness to conform to COVID restrictions than those who do not* is also **supported**.

To address Hypothesis 3, a term representing the interaction of concern for being infected and concern for infecting others was added to the regression analysis (Model 3 in Tables 5 and 7). The interaction was found to be significant with support for masking as the dependent variable. This means that the effect of concern about being infected on support for masking differs depending on whether a respondent is low or high in their concern about infecting others and vice versa. In the reconstructed means table (Table 6) we see that respondents who expressed high levels of concern for transmitting COVID to others but lower levels of concern about contracting COVID from others averaged a 2.2 on the Should Mask scale, whereas those expressing high levels of concern for contracting COVID from others and lower levels of

concern about transmitting COVID to others averaged a 2.3. Therefore, those who showed a more individualistic motivation were more likely to support following COVID restrictions, which **rejects** what was hypothesized in **Hypothesis 3**.

We find a similar pattern when the interaction term is added to model with the Comfort Index as the dependent variable (Table 7), However, in this instance, the interaction term did not achieve significance, though it was close ($p=.052$). Nevertheless, the pattern of the reconstructed means (Table 8) is the similar with those high on concern about being infected and low on concern about infecting others showing more reluctance to be involved socially (Mean=2.9) than those low in concern about being infected and high on concern about infecting others (Mean=3.2). (Remember lower scores on the Comfort Index means respondents feel less comfortable in selected social situations, thus more supportive of COVID restrictions.)

Finally, the findings presented in the regression models with the interaction term (Model 3 in Tables 5 and 7) and the reconstructed means tables based on those analyses (Tables 6 and 8) provide some support for Hypothesis 4 which states *respondents who express high levels of concern for transmitting COVID to others AND high levels of concern from contracting COVID from others will express the greatest willingness to conform to COVID restrictions*. As indicated above, the interaction term was significant with support for masking as the dependent variable and near significant with the Comfort Index as dependent. In both cases, the reconstructed means tables (Tables 6 and 8) show that respondents who expressed high levels of concern for transmitting COVID to others AND high levels of concern from contracting COVID from others were the most likely to support masking (Mean=3.05) and had the lowest Comfort Index scores (Mean=2.5) as was hypothesized.

DISCUSSION

After reviewing relevant literature, four hypotheses were formed: one addressing collectivist motivation's effect on willingness to conform to COVID restrictions, one addressing individualistic motivation's effect; one addressing whether collectivist or individualist motivation had greater impact, and one stating that the combination of collectivist and individualistic motivation on willingness to conform to COVID restrictions would be strongest. Analyses found support for the first two hypotheses indicating that both concern for others and about self have a positive impact on support for pandemic practices. The third hypothesis was not supported due to the fact the participants with a strong individualistic motivation were more likely to support pandemic practices than those with strong collectivistic motivation. The fourth hypothesis was supported by the analysis showing that individuals with high individualistic and collectivistic motivation were most likely to support COVID practices. This remained true when controlling for numerous other variables.

The OLS regression found that various control variables had a significant effect on support for pandemic practices. Women were found to be more supportive than men throughout all models, as well as people who identified as Hispanic over those who were non-Hispanic. Location also had a significant impact, whether it was region or inside or outside a metropolitan area. Income, education, and religion had varying effects throughout the models, but some groups were found to impact compliance levels. Older people were also found to be more compliant with pandemic practices, which could be due to the fact that the elderly were at higher risks of contracting COVID-19 and were likely to experience an increase in severity in symptoms. Political party and ideology also impacted attitudes on pandemic practices. Respondents who identified as liberal or Democrat were more likely to comply.

Contrary to previous literature that found people with a collectivist orientation more likely to comply, this study found that people with individualistic orientation were more likely to support compliance with pandemic practices. Inconsistent with Rousseau's *The General Will*, Americans who placed concern for others over concern for self were found to be less likely to support compliance of pandemic practices. The self-preservation principle could be taking effect in the case of the pandemic in the United States, in which case Americans' optimal strategy for self-preservation would be to worry about oneself before they concern themselves with those around them. Therefore, they would be more likely to comply in order to preserve their physical self and not their social self. Individuals who showed high concern for self-preservation (individualistic motivation) and high concern for others (collectivistic motivation) were still more likely to support compliance of pandemic practices.

This leads to the possibility of a different approach to individualism. Durkheim theorizes that the moral/democratic state of authority western nations are beholden to only holds power if it upholds and continues the advancement of individual freedom (Cristi 2012; Durkheim 1893; Westley 1978). Durkheim's concept of social solidarity within a community focuses on the individual, or the sacredness that has been attributed to mankind, therefore creating "the cult of the individual" (Durkheim 1893, 1915). Society in America could easily be viewed as Durkheim discusses, that individual rights are revered above all else and yet creating a "melting pot" or a collective conscious in which the collective benefits.

Based on the findings of this study, since individuals who were concerned about being infected were more likely to support compliance, there should have been an increase in compliance with pandemic practices. We can see that this is not the case within American society, especially with the constant increases and decreases in confirmed COVID cases.

Further, since Americans are considered to be more individualistic than other nations, one would assume that the number of COVID-19 cases would be lower due to a sense of self-preservation (Chen and West 2008; Kirtley 2017; Newman 2020). However, statistics provided by the CDC and WHO show that this is not the case when comparing the number of COVID cases by country. There could be some unknown underlining factors that may impact our likelihood to comply with pandemic regulations, and therefore would require further study.

LIMITATIONS

Given this study used a secondary data set, there was little control in the way questions were formed and how they were asked. There was some difficulty in finding questions that could measure the concepts used in this study. For example, there were six questions that concerned comfort levels on attending certain social settings, but not all respondents were asked all the questions. However, a reliability analysis and a factor analysis were both conducted to choose the questions that could best create the Comfort Index. Another issue with finding questions was that there weren't questions that specifically asked about collectivist or individualist attitudes, the independent variable. Two questions were chosen based on whether respondents answered with a more collectivist approach or an individualist one. The questions were whether the respondent was concerned about infecting others (collectivist approach) or concerned about being infected (individualist approach). However, given the rigid constraints on the questions, this study was still able to focus on a broader spectrum of collectivist/individualist ideals, values, or behaviors, and only measures one dimension—self-preservation.

This study did not directly measure masking behaviors or quarantining, it addressed levels of support for masking and concern about going out in public. The comfort index did not directly measure social distancing or quarantining, but measured support for this pandemic safety

practice. Future research could address these issues more in depth, as well as support for other pandemic safety practices such as vaccinations and the closure of businesses.

Given that this study was a quantitative secondary analysis, it did not allow for a more in-depth analysis on the impact of collectivist/individualist attitudes on willingness to conform to pandemic practices. A recommendation for future research could be made that allows for a more qualitative approach. Open-ended survey questions or interviews could be used to garner a better understanding on what motivations people have for conforming to pandemic guidelines. A study using the same sets of questions has not been conducted yet, and therefore would make it difficult to compare attitudes at different times throughout the pandemic. There was a time constraint limitation as well, data continues to change every day as new COVID-19 cases are documented, and requires continuous updating. Another constraint was the collection of this data earlier on in the pandemic, and could possibly lead to changes in perceptions due to evolving attitudes of the American population.

Since there is a small difference in the way the questions are worded, concerning attitudes on masking whether the respondent thinks others should wear a mask, and concerning the comfort index whether the respondent is comfortable attending certain social events, a more in-depth study could be helpful. This could be useful by determining if there is a change in who would have to follow the pandemic guidelines. Is there a difference between thinking others should wear a mask and thinking you should wear a mask yourself, or are you comfortable with attending certain social settings and are you comfortable with others attending certain social settings? This could possibly have an impact on how the interaction variable was found to be statistically insignificant for the Comfort Index.

All six models produced significant F-ratios and explained between 21-34% (Table 5: 21% for model 1, 32% for model 2, and 34% for model 3; Table 7: 19% for model 1, 27% for model 2, and 27% for model 3) of the variation in willingness to comply with pandemic restrictions in the respondents, leaving around 66% of the variation in willingness to comply with pandemic restrictions to variables that were not included in the analyses. Future research should attempt to identify those variables that were not accounted for, and perhaps go in depth regarding attitudes that could be considered collectivist/individualist and their impact on compliance during pandemics.

CONCLUSION

Due to the nature of the COVID-19 pandemic, there has been an attempt to gather quick research in order to fight the overall global crisis. New COVID-19 cases are recorded every day and government officials are attempting to ebb the rising number of cases and deaths, especially with the new Delta and Omicron strain of COVID-19 that were only recently found. This study attempted to find what motivated people into following pandemic regulations such as masking and social distancing/quarantining. Using data provided by the Pew Research Center, representative of adults in the U.S, this study found that adults who showed high concern for being infected and low concern for infecting others were more likely to follow pandemic practices. Self-preservation had a more meaningful impact than worry for one's community. Therefore, by this standard, vaccine and pandemic regulation campaigns in the U.S. could be curated to reach a more individualistically motivated audience. On the other hand, individuals who showed high concern for infecting others and high concern for being infected showed the highest level of support for pandemic safety practices.

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APPENDIX A: TABLES

Table 1: Frequencies (Number and %) for the Dependent and Independent Variables						
	Never	Rarely	Some of the time	Most of the time	Always	Total
People Should Wear Masks	179 (3.8%)	313 (6.7%)	720 (15.3%)	1,050 (22.4%)	2435 (51.8%)	4,697 (100%)
Comfort Index	0	1	2	3	4	Total
	538 (11.4%)	756 (16.1%)	1313 (27.9%)	1315 (27.9%)	785 (16.5%)	4,707 (100%)
Concern About Infecting Others	Not at All	Not to	Somewhat	Very		Total
	583 (12.4%)	1,162 (24.7%)	1,531 (32.5%)	1,426 (30.3%)		4,702 (100%)
Concern About Being Infected	Not at All	Not to	Somewhat	Very		Total
	688 (14.6%)	1,544 (32.8%)	1,389 (29.5%)	1,081 (23.0%)		4,702(100%)

Table 2: Frequencies (Number and %) for the Control Variables					
Sex	Male 2,041 (43.4%)	Female 2,659 (56.6%)			Total 4,700 (100%)
Race	White 3,601 (78.2%)	Black/AfricanAmer 487 (10.6%)	Asian/AsianAmer 154 (3.3%)	Mixed Race 185 (4%)	Other 177 (3.8%) Total 4,604 (100%)
Hispanic	No 3,946 (84.2%)	Yes 742 (15.8%)			Total 4,688 (100%)
Metro	No 580 (12.3%)	Yes 4,218 (87.7%)			Total 4,708 (100%)
Income	<\$30k 1,154 (25.7%)	\$30k-74.9k 1,633 (36.4%)	>\$75k 1,703 (37.9%)		Total 4,490 (100%)
Education	HS or Less 1,330 (28.3%)	SomeCollege 1,354 (28.8%)	College + 2,012 (42.8%)		Total 4,696 (100%)
Religion	Protestant 1,900 (40.6%)	Catholic 931 (19.9%)	Other 1,854 (39.6%)		Total 4,685 (100%)
Ideology	Conservative 1,457 (31.7%)	Moderate 1,813 (39.4%)	Liberal 1,333 (29%)		Total 4,603 (100%)
Age	18-29 607 (13%)	30-49 1,453 (31%)	50-64 1,449 (30.9%)	65+ 1,175 (25.1%)	Total 4,684 (100%)
Region	Northeast 754 (16%)	Midwest 979 (20.8%)	South 1,926 (40.9%)	West 1,049 (22.3%)	Total 4,708 (100%)
Party	Republican 1,239 (26.6%)	Democrat 1,615 (34.7%)	Independent 1,314 (28.2%)	Other 488 (10.5%)	Total 4,656 (100%)
Marital	Married/Living w 2,799 (59.7%)	Divorced/Separated 651 (13.9%)	Widowed 310 (6.6%)	Never Married 932 (19.9%)	Total 4,692 (100%)

Table 3A: Results of One Way ANOVA Comparing Mean Comfort Index Scores By Level of Concern about Being Infected

	Number	Mean Comfort Index Score	Standard Error
Not at All Concerned	688	3.15	0.04
Not Too Concerned	1,543	2.58	0.03
Somewhat Concerned	1,389	1.97	0.03
Very Concerned	1,081	1.44	0.04

F= 428.43, p<.001

Table 3B: Results of One Way ANOVA Comparing Mean Should Mask Scores By Level of Concern about Being Infected

	Number	Mean Should Mask Score	Standard Error
Not at All Concerned	686	2	.05
Not Too Concerned	1,540	2.92	.03
Somewhat Concerned	1,388	3.45	.02
Very Concerned	1,078	3.69	.02

F: 492.80, p<.001

Table 4A: Results of OneWay ANOVA Comparing Mean Comfort Index Scores By Level of Concern about Infecting Others

	Number	Mean Comfort Index Score	Standard Error
Not at All Concerned	583	2.99	.05
Not Too Concerned	1,161	2.63	.03
Somewhat Concerned	1,531	2.21	.03
Very Concerned	1,426	1.58	.03

F= 293.12, p<.001

Table 4B: Results of OneWay ANOVA Comparing Mean Should Mask Scores By Level of Concern about Infecting Others

	Number	Mean Should Mask Score	Standard Error
Not at All Concerned	582	2.08	.06
Not Too Concerned	1,157	2.8	.03
Somewhat Concerned	1,529	3.28	.02
Very Concerned	1,424	3.64	.02

F= 382.59, p<.001

Table 5: Regression Models Predicting Respondents Position on Whether People Should Wear a Mask

Variable	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)
Constant	2.41 (.03)**	1.57 (.09)**	1.50 (.09)**
Infect Others	0.57 (.03)**	.48 (.03)**	0.70 (.04)**
Be Infected	.66 (.03)**	.46 (.03)**	0.85 (.06)**
Interaction			-0.58 (.07)**
Region:			
Midwest		-0.23 (.05)**	-0.23 (.05)**
South		-0.07 (.04)	-0.06 (.04)
West		-0.11 (.05)*	-0.11 (.05)*
Age:			
Age 30-49		0.06 (.05)	0.07 (.05)
Age 50-64		0.28 (.05)**	0.29 (.05)**
Age 60+		0.54 (.06)**	0.55 (.06)**
Sex		0.12 (.03)**	0.12 (.03)**
Hispanic		0.19 (.05)**	0.21 (.05)**
Race:			
Black or African Am		0.23 (.05)**	0.24 (.05)**
Asian or Asian Am		0.15 (.08)	0.15 (.08)
Mixed Race		0.05 (.07)	0.04 (.07)
Other Race		-0.02 (.08)	-0.003 (.08)
Income:			
\$30,000-74,999		-0.05 (.04)	-0.04 (.04)
More than \$75,000		-0.001 (.04)	-0.01 (.04)
Education:			
Some College		0.05 (.04)	0.04 (.04)
College Graduate +		0.19 (.04)**	0.18 (.04)**
Religion:			
Catholic		0.17 (.04)**	0.17 (.04)**
Other Religion		0.07 (.04)	0.07 (.04)
Political Ideology:			
Moderate		0.27 (.04)**	0.26 (.04)**
Liberal		0.45 (.05)**	0.43 (.05)**
Political Party:			
Democrat		0.34 (.05)**	0.34 (.05)**
Independent		0.16 (.04)**	0.16 (.04)**
Other Party		0.08 (.06)	0.10 (.06)

Table 5: Regression Models Predicting Respondents Position on Whether People Should Wear a Mask Continued

Variable	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)
Marital Status:			
Divorced/Sep		0.00 (.04)	0.00 (.04)
Widowed		0.14 (.06)*	0.14 (.06)*
Never Married		0.08 (.04)*	0.07 (.04)
Metro		0.18 (.04)**	0.18 (.04)**
	R ² : .21 F: 639.12	R ² : .32 F: 71.48	R ² : .34 F: 72.69

*p<.05

**p<.001

Table 6: Reconstructed Means Showing Effects of Concern about Being Infected and Concern about Infecting Others on Whether People Should Wear Masks

Concern I'll Be Infected	Concern I'll Infect Others	Mean
Low	Low	1.50
Low	High	2.2
High	Low	2.35
High	High	3.05

Table 7: Regression Models Predicting Respondents Position on Comfort Index

Variable	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)
Constant	2.93 (.03)**	3.56 (.10)**	3.62 (.10)**
Infect Others	-.45 (.04)**	-0.34 (.04)**	-0.40 (.05)**
Be Infected	-.81 (.04)**	-0.66 (.04)**	-0.76 (.07)**
Interaction			0.15 (.05)
Region:			
Midwest		0.07 (.05)	-0.07 (.05)
South		-0.07 (.05)	-0.07 (.05)
West		-0.01 (.05)	-0.01 (.05)
Age:			
Age 30-49		-0.08 (.06)	-0.09 (.06)
Age 50-64		-0.15 (.06)*	-0.15 (.06)*
Age 60+		-0.36 (.06)**	-0.36 (.06)**
Sex		-0.08 (.03)*	-0.08 (.03)*
Hispanic		-0.20 (.05)**	-0.21 (.05)**
Race:			
Black or African Am		-0.26 (.06)**	-0.27 (.06)**
Asian or Asian Am		-0.34 (.09)**	-0.34 (.09)**
Mixed Race		-0.02 (.08)	-0.02 (.08)
Other Race		0.12 (.09)	0.12 (.09)
Income:			
\$30,000-74,999		0.10 (.04)*	0.10 (.04)*
More than \$75,000		0.16 (.05)**	0.16 (.05)**
Education:			
Some College		-0.05 (.04)	-0.04 (.04)
College Graduate +		-0.15 (.04)**	-0.15 (.04)**
Religion:			
Catholic		-0.06 (.05)	-0.06 (.05)
Other Religion		-0.14 (.04)**	-0.14 (.04)**
Political Ideology:			
Moderate		-0.21 (.05)**	-0.21 (.05)**
Liberal		-0.43 (.06)**	-0.42 (.06)**
Political Party:			
Democrat		-0.31 (.06)**	-0.31 (.06)**
Independent		-0.19 (.05)**	-0.19 (.05)**
Other Party		-0.26 (.06)**	-0.26 (.06)**

Table 7: Regression Models Predicting Respondents Position on Comfort Index Continued

Variable	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)
Marital Status:			
Divorced/Sep		0.07 (.050)	0.07 (050)
Widowed		0.02 (.07)	0.02 (.07)
Never Married		0.04 (.05)	0.04 (.05)
Metro		-0.09 (.05)	-0.09 (.05)
	R ² : .19	R ² : .27	R ² : .27
	F: 566.66	F: 54.51	F: 52.85

p< .05*

p< .001**

Table 8: Reconstructed Means Showing Effects of Concern about Being Infected and Concern about Infecting Others on Comfort Index

Concern I'll Be Infected	Concern I'll Infect Others	Mean
Low	Low	3.62
Low	High	3.22
High	Low	2.85
High	High	2.45

APPENDIX B: INSTITUTIONAL REVIEW BOARD APPROVAL

IRB

INSTITUTIONAL REVIEW BOARD

Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129
FWA: 00005331/IRB Regn.. 0003571



IRBN007 – EXEMPTION DETERMINATION NOTICE

Tuesday, April 12, 2022

Protocol Title *The Effect of Collectivisitic and Individualistic Orientation on Support for COVID-19 Safety Practices*
Protocol ID *22-1137 4*
Principal Investigator *Jennifer Arzate (Student)* **Faculty Advisor:** Brandon Wallace
Co-Investigators NONE
Investigator Email(s) *jennifer.arzate@mtsu.edu; brandon.wallace@mtsu.edu*
Department/Affiliation *Sociology*

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXEMPT** review mechanism under 45 CFR 46.101(b)(2) within the research category **(4) Study involving existing data** (*Analysis of Previously Conducted Survey*). A summary of the IRB action and other particulars of this protocol are shown below:

IRB Action	EXEMPT from further IRB Review Exempt from further continuing review but other oversight requirements apply
Date of Expiration	4/30/2023 <i>Date of Approval: 4/12/22</i> <i>Recent Amendment: NONE</i>
Sample Size	SIX THOUSAND FIVE HUNDRED (6,500)
Participant Pool	Survey Data Administered to Adult American Trends Panel recruited by the Pew Research Center (2014-19)
Exceptions	NONE
Type of Interaction	☒ Non-interventional or Data Analysis ☐ Virtual/Remote/Online Interview/survey ☐ In person or physical– Mandatory COVID-19 Management (refer next page)
Mandatory Restrictions	1. All restrictions for exemption apply. 2. The participants must be 18 years or older. 3. Mandatory ACTIVE informed consent. 4. Identifiable information, such as, names, addresses, and voice/video data, must not be obtained. 5. NOT approved for data collection.
Approved IRB Templates	<i>IRB Templates:</i> NONE <i>Non-MTSU Templates:</i> NONE
Research Inducement	NONE
Comments	NONE

Summary of the Post-approval Requirements: The PI and FA must read and abide by the post-approval conditions (Refer “Quick Links” in the bottom):

- **Final Report:** The Faculty Advisor (FA) is responsible for submitting a final report to close-out this protocol before **4/30/2023**; if more time is needed to complete the data collection, the FA must request an extension by email. **REMINDERS WILL NOT BE SENT. Failure to close-out (or request extension) may result in penalties** including cancellation of the data collected using this protocol or withholding student diploma.
- **Protocol Amendments:** IRB approval must be obtained for all types of amendments, such as:
 - Addition/removal of subject population and sample size.
 - Change in investigators.
 - Changes to the research sites – appropriate permission letter(s) from may be needed.
 - Alternation to funding.
 - Amendments must be clearly described in an addendum request form submitted by the FA.
 - The proposed change must be consistent with the approved protocol and they must comply with exemption requirements.
- **Reporting Adverse Events:** Research-related injuries to the participants and other events, such as, deviations & misconduct, must be reported within 48 hours of such events to compliance@mtsu.edu.
- **Research Participant Compensation:** Compensation for research participation must be awarded as proposed in Chapter 6 of the Exempt protocol. The documentation of the monetary compensation must Appendix J and MUST NOT include protocol details when reporting to the MTSU Business Office.
- **COVID-19:** Regardless whether this study poses a threat to the participants or not, refer to the COVID-19 Management section for important information for the FA.

COVID-19 Management:

The FA must enforce social distancing guidelines and other practices to avoid viral exposure to the participants and other workers when physical contact with the subjects is made during the study.

- The study must be stopped if a participant or an investigator should test positive for COVID-19 within 14 days of the research interaction. This must be reported to the IRB as an “adverse event.”
- The FA must enforce the MTSU’s “Return-to-work” questionnaire found in Pipeline must be filled and signed by the investigators on the day of the research interaction prior to physical contact.
- PPE must be worn if the participant would be within 6 feet from the each other or with an investigator.
- Physical surfaces that will come in contact with the participants must be sanitized between use
- **FA’s Responsibility:** The FA is given the administrative authority to make emergency changes to protect the wellbeing of the participants and student researchers during the COVID-19 pandemic. However, the FA must notify the IRB after such changes have been made. The IRB will audit the changes at a later date and the PI will be instructed to carryout remedial measures if needed.

Post-approval Protocol Amendments:

The current MTSU IRB policies allow the investigators to implement minor and significant amendments that would not result in the cancellation of the protocol’s eligibility for exemption. **Only THREE procedural amendments will be entertained per year (changes like addition/removal of research personnel are not restricted by this rule).**

Date	Amendment(s)	IRB Comments
NONE	NONE.	NONE

Post-approval IRB Actions:

The following actions are done subsequent to the approval of this protocol on request by the PI or on recommendation by the IRB or by both.

Date	IRB Action(s)	IRB Comments
NONE	NONE.	NONE

Mandatory Data Storage Requirement:

All research-related records (signed consent forms, investigator training and etc.) must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data must be stored for at least three (3) years after the study is closed. Additionally, IRBN007 – Exemption Notice (Stu)

the Tennessee State data retention requirement may apply (*refer "Quick Links" below for policy 129*). Subsequently, the data may be destroyed in a manner that maintains confidentiality and anonymity of the research subjects. **The IRB reserves the right to modify/update the approval criteria or change/cancel the terms listed in this notice.** Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:

- Post-approval Responsibilities: <http://www.mtsu.edu/irb/FAQ/PostApprovalResponsibilities.php>
- Exemption Procedures: <https://mtsu.edu/irb/ExemptPaperWork.php>
- MTSU Policy 129: Records retention & Disposal: <https://www.mtsu.edu/policies/general/129.php>