

**Implications of Masks on Interpersonal Communication**

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### **Abstract**

Results of an online survey administered to 86 adults October 9 through November 16, 2020 found overall satisfaction with communication while wearing masks was related to attitudes about mask compliance. Communication satisfaction wearing masks was positively related to attitudes that everyone should comply with mask mandates, demonstrating concern for self and others by wearing a mask, having a negative perception of those who do not wear masks in public, and believing that people who do not comply with mask mandates should be punished. Level of satisfaction was negatively related to the belief that government mandates are not necessary, and belief that people who do not wear masks are demonstrating personal freedom. Older adults were more likely to agree that everyone should comply with mask mandates, and more likely to disagree that mask mandates are not necessary. Teachers were more likely than non-teachers to agree that those who do not comply with mask mandates should be punished. Participants' political ideology measured from extremely liberal to extremely conservative was related to all items measuring attitudes about mask wearing in public spaces. Level of comfort while communicating with masks in public spaces was found to be positively related to a condition where both communicators wore masks, and negatively related when the respondent did not wear a mask, but the other communicator did. Overall satisfaction with communication wearing masks was negatively related to six perceived barriers caused by facial coverings: level of difficulty others may experience trying to identify the respondent's emotional feelings, level of difficulty both clearly hearing and understanding each other, and level of difficulty identifying if the other person seems happy or joyful, sad or unhappy, angry or frustrated, and anxious or fearful. Overall satisfaction with communicating with masks was positively related to the change of length of conversations.

### **Implications of Masks on Interpersonal Communication**

The first confirmed transmitted cases of COVID-19 in the United States were announced on January 30, 2020 by the Center for Disease Control and Prevention (CDC, 2020). In the months that followed, the COVID-19 virus became a worldwide pandemic. In order to slow the spread of the virus in the United States, many state governments mandated citizens to stay at home, wear masks in public spaces, and practice social distancing at least 6 feet away from others (Arkin, Smith, Sundberg, Capoot & Syed, 2020). This study examines how the use of face masks impact human communication. It focuses on questions about interpersonal communication, particularly the factors that may be related to communication satisfaction. How does mask wearing impact our ability to hear what others are saying and be heard by others that may, in turn, interfere with our ability to listen? How do face masks impact our ability to both express and interpret emotions when much of our faces are covered? How does mask wearing impact our level of comfort when communicating with others in public spaces? How might our attitudes about mask wearing mandates relate to our level of satisfaction wearing masks or relate to our political beliefs?

The transactional model of communication explains the function of both sending and receiving information to negotiate meaning (Barnlund, 1962; Wilmot, 1987). Nonverbal communication studies related to facial expressions and vocalics explain the importance of being able to see faces and clearly hear vocal messages (Ekman & Rosenberg, 2005; Mehrabian, 1981; Richmond & McCroskey, 2004). Uncertainty reduction theory explains how our attitudes and behavioral responses are used to reduce uncertainty through communication (Berger & Calabrese, 1975). These interpersonal communication models and theories steered the design of research questions for this study and interpreting the results.

### **Review of Literature**

The transactional model of communication (Barnlund, 1962) shows us that meaning is achieved in a communication transaction that is not only based on each of the communicators' fields of experience, but especially where those fields of experience overlap. Noise permeates the communication transaction and includes psychological, semantic, physical, and physiological aspects. In this first year of the COVID-19 pandemic, the threat of coronavirus seemed to inject "noise" into our face-to-face transactions. The coronavirus provided a shared field of experience for communicators, but it also brought with it the physical restrictions of distance and mask wearing (Arkin, et al, 2020). COVID-19 became the context of many of our communication transactions in public spaces. We worried about getting too close to others, we were uncertain about what was safe to touch, and we had to learn to communicate through masks that caused both verbal and nonverbal "noise" barriers.

Communicating in public spaces with strangers wearing masks restricted to a six-foot distance may have elevated levels of both uncertainty and anxiety. In 1975 Charles Berger and Richard Calabrese originated Uncertainty Reduction Theory (URT). Berger (2011) explains, "...when strangers meet, they are faced with myriad uncertainties about each other's attitudes, beliefs, values, and potential actions. In the service of predicting and, in some cases explaining, each other's beliefs and actions so that communicative choices can be made, individuals seek to reduce their uncertainties by acquiring information about each other" (p. 215). The theory helps us understand that uncertainty is something people want to alleviate because it causes cognitive stress, and when people are uncomfortable in their environment they may become anxious.

Our verbal language is only one way we communicate our face-to-face expressions of emotion. The other two ways are through our nonverbal behaviors such as body language and

facial expressions, and the tone of our voice (Mehrabian, 1981; Richmond & McCroskey, 2004; Ekman & Rosenberg, 2005). Face masks impede our ability to read facial expressions. When only the eyes are revealed, communicators may find it difficult to determine if someone is smiling or frowning. Face masks also interfere with nonverbal expression of emotion when they muffle speech and vocal elements including sighs or utterances such as “mmm”, or they may cause some speakers to raise their voices much more than normal in order to be heard under their masks.

A survey conducted by the Brookings Institute in June and July 2020, found that about 20% of respondents reported not wearing masks (Vargas & Sanchez, 2020). Primary reasons for not wearing masks were because it was considered their right as an American to decide not to wear one, masks are uncomfortable, they didn't have access to a mask, they thought the coronavirus was a conspiracy, and they didn't want to be mistaken for a criminal. A Gallup, Inc. poll conducted in late June and early July 2020 reported less than half of Americans (44%) always wore face masks outside their homes, but 18% reported they never or rarely wore masks outside their homes (Brenan, 2020). The poll revealed gender and political party differences in mask wearing with 54% of women and 61% of Democrats reporting they always wore masks outside their homes (Brenan, 2020). Researchers Valerio Capraro and H el ene Barcelo examined gender differences in mask compliance and found, “Men more than women agree that wearing a face covering is shameful, not cool, a sign of weakness, and a stigma; and these gender differences also mediate gender differences intentions to wear a face covering” (Capraro & Barcelo, 2020).

Trade publications such as the Association of American Medical Colleges focused primarily on the need for mask compliance, but they also recognized human communication

needs. The AAMC published an interview with David Abrams, a professor of social and behavioral sciences at the School of Global Public Health at New York University and former director of the Office of Behavioral and Social Sciences Research at the National Institutes of Health. "...[H]umans rely on nonverbal communication — and particularly facial expressions — to read and connect with each other; so, there's an inclination not to want to cover your face or to want to see the other person's face. Seeing and observing facial expressions is important to us" (Balch, 2020, para. 8).

In November 2020, there is not an abundance of peer reviewed literature available on the implications of masks on interpersonal communication, so this study will hopefully provide a basis for further scholarly consideration. The research questions that follow are designed to be foundational in nature that will, hopefully, be explored in more ways by in future research.

### **Research Questions**

Following a review of the available literature from both scholarly sources and popular press, six research questions were developed and measured by survey participant responses using an online questionnaire.

RQ1: Is quantity of mask wearing in public spaces related to attitudes about mask compliance?

RQ2: Is overall satisfaction of communication while wearing masks related to attitudes about mask compliance?

RQ3: Is overall satisfaction of communication while wearing masks related to level of comfort while wearing masks?

RQ4: Is overall satisfaction of communication while wearing masks related to perceived barriers in the (a) ability to hear/understand and (b) ability to communicate emotion?

RQ5: Are attitudes about mask compliance influenced by demographic variables of (a) occupation, (b) age, (c) gender, (d) race, (e) geographic location, (f) parental status, (g) political view, and (h) knowing someone close to them who tested positive for COVID19?

RQ6: Has mask wearing caused any change in the length of our conversations with others in public spaces, and how might any change in conversation length relate to overall communication satisfaction while wearing masks?

It would be helpful to know how one's political view or attitudes about mask mandates may relate to how much time masks are worn in public or how political attitudes relate to overall satisfaction with communication while wearing masks. It is also important to understand if a person's satisfaction with wearing a mask is related to their level of comfort communicating with others wearing masks. Questions were designed to measure how satisfaction communicating with masks relates to one's ability to hear and be understood by others wearing masks, their ability to express their emotions wearing a mask, and the ability to interpret emotions of others when they are masked. Finally, the research questions would help identify demographic differences in attitudes about mask compliance and how conversation length may have changed because of mask wearing.

## **Methodology**

### **Sample**

Eighty-six adults participated in the study distributed through social media. The majority were female (79.5%), White (94.8%), and personally knew someone who had tested positive for COVID-19 (82.1%). Ages ranged from 18 to 83 with an average age of 50, and 79.5% had no children under age 18 living at home with them. Most of the participants lived in Indiana

(58.4%) and Tennessee (18.2%), with other respondents reporting they lived in Alabama, Arizona, Colorado, Florida, Illinois, Kentucky, New York, Ohio, South Carolina, Virginia, and Washington.

The majority of respondents were employed (74.6%). Nearly half of the participants reported they were either employed at a school or attending classes (47.8%), and seven people were classroom teachers (9%). Thirteen respondents were health care providers (16.7%), and one person identified as a first responder (police, fire, emergency worker).

### **Instrumentation**

A series of survey questions were developed using Qualtrics software to operationalize variables for each research question. The initial questionnaire was tested by a group of 13 faculty colleagues in the University of Southern Indiana Department of Communications after the study received IRB approval. They were emailed a link to the pilot questionnaire that also had a concluding section to provide feedback on the time to complete the survey items, ease of navigation, ease of understanding, and other comments. Minor revisions were made, and a copy of the survey questions appear in the appendix of this paper. The final survey questionnaire was distributed via social media from October 9 through November 16, 2020.

For RQ1, “Is quantity of mask wearing in public spaces related to attitudes about mask compliance?”, a series of scale questions measure hours per week wearing masks (Q6), demonstrating concern for self and others by wearing a mask (Q27), belief that government mask mandates are unnecessary (Q28), belief that people should comply with mask mandates (Q29), perceived negative perception of people who do not wear masks (Q30), belief that people who do not wear masks are demonstrating personal freedom (Q31), and belief that people who do not comply with mask mandates should be punished (Q32).



RQ2 “Is overall satisfaction of communication while wearing masks related to attitudes about mask compliance?” was measured by satisfaction with conversations when wearing a mask in public spaces (Q25) and Q27-Q32. RQ3 “Is overall satisfaction of communication while wearing masks related to level of comfort while wearing masks?” is measured with Q25 and level of comfort when both communicators wear masks (Q10), when the participant is wearing a mask, and the other communicator is not wearing one (Q11), and when the participant is not wearing a mask, but the other communicator is wearing one (Q12).

Q25 is also used to answer RQ4 “Is overall satisfaction of communication while wearing masks related to perceived barriers in the (a) ability to hear/understand and (b) ability to communicate emotion?”. Other survey questions measure perceived communication barriers: (a) level of difficulty of both clearly hearing and understanding each other (Q16) and (b) level of difficulty identifying if the other person seems happy or joyful (Q19), sad or unhappy (Q20), anxious or fearful (Q21), angry or frustrated (Q22), and level of difficulty that others may experience trying to identify your emotional feelings (Q23).

RQ5 asks, “Are attitudes about mask compliance influenced by demographic variables of (a) occupation, (b) age, (c) gender, (d) race, (e) geographic location, (f) parental status, (g) political view, and (h) knowing someone close to them who tested positive for COVID-19?”. Attitudes about mask compliance are measured by Q27-32, while occupation focuses on whether the respondent is a healthcare provider (Q34), a classroom teacher (Q35), or a first responder (Q36). Geographic location is the participant’s state of residence (Q39), parental status refers to children under age 18 living at home (Q41), and political view is a measurement from extremely liberal to extremely conservative (Q38).

RQ6 sought to discover if wearing masks while communicating in public spaces has impacted the length of our conversations and if any such change impacts communication satisfaction. Q25 measures our communication satisfaction, and Q24 measures any change in the length of conversations wearing masks in public spaces.

### **Results**

Quantity of mask wearing was not found to be related to attitudes about mask compliance. RQ1 was tested by conducting a series of correlation tests to examine any relationship between the average hours per week wearing masks during September and October 2020 (Q6) with each of the attitudes about mask compliance items (Q27-32). Results were not statistically significant.

RQ2 asked if overall satisfaction of communication while wearing masks related to attitudes about mask compliance, and statistically significant results indicate it does. Overall communication satisfaction wearing masks was negatively related to “government mask mandates are unnecessary”,  $r(63) = -.566, p < .001$ ; positively related to “everyone should comply with mask mandates”,  $r(60) = .510, p < .001$ ; positively related to “demonstrating concern for self and others by wearing a mask”,  $r(58) = .497, p < .001$ ; positively related to “people who do not comply with mask mandates should be punished”,  $r(58) = .379, p < .01$ ; positively related to “negative perception of people who do not wear masks”,  $r(59) = .378, p < .01$ ; and negatively related to “people who do not wear masks are demonstrating personal freedom”,  $r(57) = -.321, p < .05$ .

RQ3 asked if overall satisfaction with communication wearing masks was related to level of comfort communicating with masks under three conditions. Results of a test of correlation showed a strong positive relationship when both communicators were wearing masks,

$r(63) = .655$ ,  $p < .001$ , and a weak negative relationship when the respondent was not masked, and the other communicator was masked,  $r(62) = -.266$ ,  $p < .04$ . Results for the condition when the respondent was masked and the other communicator was not masked were not significant.

Results showed statistically significant negative correlations between perceived mask barriers to communication and overall satisfaction of communication wearing masks. RQ4 asked about the impact of masks not only on verbal communication, but on nonverbal communication of emotion by masking facial expression. A series of correlation tests on overall satisfaction of communication showed it was negatively related to “level of difficulty that others may experience trying to identify your emotional feelings”,  $r(59) = -.660$ ,  $p < .001$ , “level of difficulty of both clearly hearing and understanding each other”,  $r(60) = -.567$ ,  $p < .001$ , “level of difficulty identifying if the other person seems sad or unhappy”,  $r(62) = -.474$ ,  $p < .001$ , “level of difficulty identifying if the other person seems anxious or fearful”,  $r(60) = -.467$ ,  $p < .001$ , “level of difficulty identifying if the other person seems happy or joyful”,  $r(63) = -.406$ ,  $p < .001$ , and “level of difficulty identifying if the other person seems angry or frustrated”,  $r(57) = -.399$ ,  $p < .01$ .

It is important to note that language accents may also impact one’s ability to clearly hear and understand the other person when wearing masks. General ability to clearly hear and understand other persons with masks averaged a mean of 4.79; however, “when communicating with a person from another region or country that has a heavy language accent very different from your own” resulted in a mean of 5.44. These scores indicate that being able to clearly hear and understand someone from another language culture when you are both wearing masks is rated more difficult.

RQ5 asked if attitudes about mask compliance were dependent upon demographic variables: (a) occupation, (b) age, (c) gender, (d) race, (e) geographic location, (f) parental status, (g) political view, and (h) knowing someone close to them who tested positive for COVID19. Three specific occupations were measured, and participants were asked if they were a health care worker, if they were a classroom teacher, or if they were a first responder (police, fire, emergency worker). T-tests were used to measure responses regarding attitudes about mask compliance from health care workers compared to non-health care workers, and results were not significant. Only one first responder participated, so that occupation was not tested. A t-test was conducted on responses from seven classroom teachers compared to non-teachers, revealing a significant difference on the attitudes about the mask compliance item “people who do not comply with mask mandates should be punished”. Teachers ( $M=5.5714$ ,  $SD = 1.81$ ) were more likely to agree with the statement than non-teachers ( $M=3.2656$ ,  $SD = 2.11$ ). Levene’s test for equality of variances was not significant ( $F = 1.75$ ,  $p = .19$ ), so equal variances were assumed  $t(69) = -2.77$ ,  $p = .007$ .

Correlation tests with age and items measuring attitudes about mask compliance yielded weak, but statistically significant relationships between age and “government mask mandates are unnecessary”,  $r(70) = -.261$ ,  $p < .05$ , and “everyone should comply with mask mandates”,  $r(68) = .273$ ,  $p < .05$ . No statistically significant gender differences were noted for any of the other attitudes about mask compliance items. Differences according to race were not tested because only four respondents were non-White. The largest two groups of participants from 13 states resided in Indiana and Tennessee, and t-tests revealed no differences in their responses to the attitudes about mask compliance items, neither was any difference found in responses from participants with or without children under age 18 living with them.

Participants' political ideology was measured on a scale of extremely liberal to extremely conservative, and these results were used in correlation tests to examine possible relationships to attitudes about mask compliance. The correlation tests results were all statistically significant for "negative perception of people who do not wear masks",  $r(61) = -.726, p < .001$ , "government mask mandates are unnecessary",  $r(65) = .683, p < .001$ , "demonstrating concern for self and others by wearing a mask",  $r(60) = -.605, p < .001$ , "everyone should comply with mask mandates",  $r(62) = -.515, p < .01$ , "people who do not wear masks are demonstrating personal freedom",  $r(59) = .461, p < .001$ , and "people who do not comply with mask mandates should be punished",  $r(61) = -.428, p < .01$ .

RQ 5 sought to discover if personally knowing someone close to them who had tested positive for COVID-19 made a difference in participants' responses to the attitudes about mask compliance items. Results of t-tests were not significant. Additional t-tests sought to discover if knowing someone close to them who personally tested positive for COVID-19 would impact their responses to (a) overall satisfaction with their communication with others while wearing masks or (b) their level of comfort when communicating with others in any of the mask scenarios: both wearing masks, only you wearing a mask, and only the other person wearing a mask. No significant differences were found for any of those tests.

RQ6 examined the change in the length of conversations in public spaces when masks were worn. Responses to Q24 measured any change in conversation length from much less to much more on a scale of 1 to 7 with 4 as a midpoint indicating no change at all. The mean score for 73 respondents was 2.75 indicating that the length of conversations had been affected by wearing masks. Overall satisfaction with conversations wearing masks was positively correlated with the change of length of conversations while wearing masks,  $r(63) = .421, p < .01$ .

### Discussion

Results of this study revealed that attitudes about mask compliance during COVID-19 were related to overall satisfaction of communication wearing masks and one's political ideology. Masks could be considered both physical and psychological "noise" barriers that impede satisfactory communication transactions. In the model of transactional communication (Barnlund, 1962), noise can interfere with one's ability to send or receive messages.

Additionally, background, beliefs, or personal experience might include political ideals that influence their attitudes about government mandates to wear masks during the COVID-19 pandemic. To some, governmental mask mandates benefit society as a whole; but for others, mask mandates infringe upon personal freedom of choice. As we consider the model of transactional communication, messages must be successfully sent and received in order for meaning to be negotiated; and the physical, psychological, and cultural "noise" associated with mask wearing may be influencing our attitudes of satisfactory communication exchanges while wearing masks.

Results of this study showed that the level of difficulty nonverbally expressing our emotions while masked or identifying emotions of others wearing a mask was related to overall communication satisfaction. The ability to receive complete verbal as well as nonverbal messages from others may be impeded by mask wearing. When we are not able to fully interpret facial expressions that are covered by masks, it may become more difficult to successfully negotiate meaning. If masks impede our own ability to convey our emotions through our facial expressions to others, we risk being misunderstood. If masks muffle or distort our voice or that of the other person, conversation may become awkward, difficult to understand, and may lead to unsatisfactory communication exchanges. Our nonverbal behaviors, including our facial

expressions and tone of voice, are critical elements of the overall communications experience (Ekman & Rosenberg, 2005; Mehrabian, 1981; Richmond & McCroskey, 2004). Dissatisfaction in how those nonverbal elements are impacted by masks likely impacts our overall satisfaction of communication when wearing masks.

When we are unable to observe another person's facial expression, or they are not able to see ours, this condition may also impede our ability to reduce uncertainty through communication. When we are uncomfortable in our environment, it can cause cognitive stress and cause us to be anxious (Berger & Calabrese, 1975). Masks that impede our nonverbal communication may also hamper our ability to reduce uncertainty and lead to less satisfactory communication.

This study on the implications of masks on human communication provides information about factors that may affect overall satisfaction with communication wearing masks. It was not surprising that nonverbal aspects of mask wearing would be related to our level of communication satisfaction; however, inability to see and interpret facial expressions or nonverbal aspects of vocalics may also impede uncertainty reduction strategies. Results also indicated communicating with masks shortened conversations on average, and that these briefer exchanges were also related to levels of overall communication satisfaction. The positive correlation points to the possibility that as conversations decrease in length because of mask wearing, overall satisfaction may also decrease. One must also consider that the risks individuals take when communicating with others outside their own households may be driving those decisions to keep conversations short rather than any inconvenience or perceived barrier caused by wearing masks.

This study used a survey instrument; however, it could be extended to include interviews or other ethnographic techniques to provide additional data. Females outnumbered male participants in the study, and other studies on mask wearing behaviors have shown that males may be more likely to avoid wearing masks (Capraro & Barcelo, 2020); therefore, more participation by males may yield more information about perceived communication barriers when wearing masks. Communicating with “a person from another region or country that has a heavy language accent very different from your own” seemed to increase the level of difficulty of clearly hearing and understanding when both communicators wear masks. Additional research might examine how much this perceived barrier is based upon language differences or the lack of certain nonverbal cues covered by face masks.

It’s uncertain how successful COVID-19 vaccination efforts will be and how soon the pandemic may end; consequently, mask wearing in public spaces may continue in 2021 and beyond. The more we learn about the factors that affect our attitudes and behaviors communicating with masks, the more we can understand how this impacts our ability to have both satisfying and effective communication.

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**Appendix**

Q3 In the **spring of 2020 during March through May**, many states mandated "Stay at Home" orders as a response to slow the spread of COVID-19. Large gatherings were restricted, "non-essential" businesses and schools were closed, masks were required in essential businesses that remained open, and social distancing guidelines of 6 feet were established. Did you wear a face mask at any location that was not your home during this time? Move the slider to indicate how many *average hours per week* you wore a mask **outside the home at any other location during March through May 2020.**

0 10 20 30 40 50 60 70 80 90 100

Q6 In the **fall of 2020 during September through October**, did you wear a face mask at any location that was not your home? Move the slider to indicate how many *average hours per week* you wore a mask **outside the home at any other location during September through October 2020.**

0 10 20 30 40 50 60 70 80 90 100

Q59 Were you employed in 2020? Yes/No

Q4 In the **spring of 2020 during March through May**, how many average hours per week did you wear a face mask at **your workplace or on the job?**

0 10 20 30 40 50 60 70 80 90 100

Q7 In the **fall of 2020 during September through October**, how many average hours per week did you wear a face mask at **your workplace or on the job?**

0 10 20 30 40 50 60 70 80 90 100

Q60 Were you employed at a school or attended classes at a school in 2020? Yes/No

Q8 In the **fall of 2020 during September through October**, how many average hours per week did you wear a face mask at your **school?**

0 10 20 30 40 50 60 70 80 90 100

Q10 Please rate your **level of comfort** if you are communicating with another person in a public space and **you are both wearing masks.**

Very Uncomfortable      Very Comfortable

1      2      3      4      5      6      7

Q11 Please rate your **level of comfort** if you are communicating with another person in a public space and **you are wearing a mask, but the other person is not wearing a mask.**

Very Uncomfortable      Very Comfortable

1      2      3      4      5      6      7

Q12 Please rate your **level of comfort** if you are communicating with another person in a public space and **you are not wearing a mask, but the other person is wearing a mask.**

Very Uncomfortable      Very Comfortable

1    2    3    4    5    6    7

Q14 Please rate your **level of difficulty clearly hearing** a person who is speaking through a mask.

No Difficulty      Very Difficult

1    2    3    4    5    6    7

Q15 Do you believe it is difficult for you to be heard clearly by others when you are wearing a mask? Please rate the **level of difficulty you experience in being heard clearly** when you speak through a mask.

No Difficulty      Very Difficult

1    2    3    4    5    6    7

Q16 Please rate your **level of difficulty of both clearly hearing and understanding each other** when you and the other person are both wearing masks.

No Difficulty      Very Difficult

1    2    3    4    5    6    7

Q17 Consider a scenario where you are communicating with a person from another region or country that has a heavy language accent very different from your own. Please rate your **level of difficulty of clearly hearing and understanding each other** when you and the other person are both wearing masks.

No Difficulty      Very Difficult

1    2    3    4    5    6    7

Q19 Please rate your **level of difficulty identifying if another person seems happy or joyful** when they are wearing a mask.

No Difficulty      Very Difficult

1    2    3    4    5    6    7

Q20 Please rate your **level of difficulty identifying if another person is sad or unhappy** when they are wearing a mask.

No Difficulty      Very Difficult

1    2    3    4    5    6    7

Q21 Please rate your **level of difficulty identifying if another person is anxious or fearful** when they are wearing a mask.

No Difficulty				Very Difficult		
1	2	3	4	5	6	7

Q22 Please rate your **level of difficulty identifying if another person is angry or frustrated** when they are wearing a mask.

No Difficulty				Very Difficult		
1	2	3	4	5	6	7

Q23 Do you believe others may have difficulty identifying how you are feeling when you are wearing a mask? Please rate the **level of difficulty others may experience when they try to identify your emotional feelings** when you are wearing a mask.

No Difficulty				Very Difficult		
1	2	3	4	5	6	7

Q24 Has wearing a mask affected the length of your face-to-face conversations with others in public spaces? Use the slider to indicate any **change you experienced in the length of conversations** when wearing a mask.

Much Shorter				Much Longer		
1	2	3	4	5	6	7

Q25 How satisfying were your conversations with others when wearing a mask in public spaces? Please rate your **overall satisfaction with face-to-face communication you had with others while wearing a mask in a place outside your home**. Use the slider to indicate any your satisfaction level.

Very Dissatisfied				Very Satisfied		
1	2	3	4	5	6	7

Q27 Wearing a mask when required demonstrates your concern for your own health and for the health of others.

Strongly Disagree				Strongly Agree		
1	2	3	4	5	6	7

Q28 Government mandates for people to wear masks in public are unnecessary.

Strongly Disagree				Strongly Agree		
1	2	3	4	5	6	7

Q29 When masks are mandated in public, I believe everyone should comply.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Q30 When I see someone in a public space without a mask, I have a negative perception of that person.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Q31 When I see someone in a public space without a mask, I think they are demonstrating their personal freedom.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Q32 People should be punished if they do not comply with a mandate to wear masks.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Q34 Are you a health care provider? Yes/No

Q35 Are you a classroom teacher? Yes/No

Q36 Are you a first responder (police/fire/emergency worker)? Yes/No

Q37 Do you personally know someone who has tested positive for COVID-19? Yes/No

Q38 Please consider your political ideology ranging from "Extremely Liberal" to "Extremely Conservative". Use the slider to identify your political ideology on the scale below.

Extremely Liberal Extremely Conservative

1 2 3 4 5 6 7

Q39 Please select the state where you reside.

▼ Alabama (1) ... I live outside the U.S. (51)

Q40 Use the slider to indicate your age.

18 26 34 43 51 59 67 75 84 92 100

Q41 Do you have children under the age of 18 living with you? Yes/N

Q42 Please select the gender identity that you feel best describes you.

- Female (1)
- Male (2)
- Non-binary (3)
- Other (4)

Q43 Please select the racial or ethnic identity that you feel best describes you.

- African American/Black (1)
- Asian/Pacific Islander (2)
- Biracial (3)
- Hispanic (7)
- Native American/American Indian (4)
- White (5)
- Other (6)