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The Influence of Self- and Other-Oriented Persuasive Messages on the Intention to
Engage in Health-Oriented Behavior Change

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Abstract

Although there is research investigating the influence of self- and other-oriented persuasive messages on health-oriented behavior change, little exists on the influence of these messages on mask-wearing behaviors during the COVID-19 pandemic. Additionally, much of the research on persuasive health messages uses advertisements and other textual presentations of these persuasive messages, and little research exists on vocal presentations. This study examined how the vocal presentation of these self- and other-oriented persuasive messages can influence an individual’s self-reported likelihood of engaging in mask-wearing. Analyses showed that hearing a self-oriented persuasive message led participants to give reasons to wear a mask that dealt with the protection of themselves, while other-oriented persuasive messages led participants to give reasonings for wearing a mask that dealt with the protection of others. This indicates that the manipulation of argument type was perceived by participants and their reasoning for wearing a mask was systematically affected by the argument type they were presented with. Even though argument type was shown to impact reasoning for mask wearing, follow up analyses did not indicate that argument type systematically effected participant responses regarding their behavioral intention and their perceptions of persuasiveness of the given message. These findings suggest that further research is needed to learn about how verbally presented self- and other-oriented messages impact the intention to engage in health behaviors such as mask-wearing.

Keywords: persuasion, health behavior, self-oriented message, other-oriented message
The Influence of Self- and Other-Oriented Persuasive Messages on the Intention to Engage in Health-Oriented Behavior Change

Persuasion is studied in many different contexts and settings and is defined as a form of communication that aims to influence the judgments and actions of individuals (Simons, 1976). Persuasion is also the process of communication where an individual makes other people believe or decide to do something by giving them reasons to engage in a behavior. The tools used in persuasive messages exert the influence needed to change minds (Fârte, 2019). Persuasive communication is a powerful tool used in society for both personal advantage and social purposes, such as mobilizing effort and resolving conflict (McGuire, 2000). There are many applications of persuasion as well.

Persuasion encourages individuals to engage in many behaviors, including certain health-related behaviors. Health behaviors are those behaviors that encourage or hope to enhance one’s overall health and lower one’s risk of experiencing adverse effects such as disease, pain, or even death. Recently, individuals are persuaded to engage in health behaviors related to the COVID-19 Pandemic, and certain persuasive techniques are beneficial in inducing health-oriented behavior change. Therapists can persuade individuals to engage in certain health-related behaviors such as these. Some other examples would be therapists encouraging clients to not engage in smoking or drinking alcohol in excess. Therapists in the field of mental health use persuasive messages in many contexts, and knowing what types of persuasive message factors, argument types, and influences can maximize the persuasive content of a message given to a client.

Generally, persuasion influences an individual and changes their attitudes, opinions, or behaviors concerning a specific topic or idea. Factors such as message quality, the context of the information, and the salience of the persuasive information to the individual are important to persuasive message reception (Joyce & Harwood, 2014).
Other message factors increase persuasive message salience and attitude change as well. Research has indicated that commitment or emotional involvement with an idea functions as an important moderator for persuasive influence and how much opinion, attitude, or behavior change takes place when presented with persuasive messages (Agrawal & Maheswaran, 2005; Wood et al., 1985). Opinion change specifically, and behavior change by association, is a function of the degree of access an individual has to information related to persuasive communication (Wood et al., 1982). This further shows how several factors impact how persuasion is processed, received, and then acted on.

Some of the forms and techniques of persuasion regarding health behaviors include tailoring messages to the recipient of them and then framing the messages in terms of losses and gains (Orbell & Kyriakaki, 2008). Gain-oriented messages, which are persuasive messages that present the benefits of engaging in the desired behavior, are more persuasive than loss-framed persuasive messages, which describe the costs of not engaging in the desired behavior (Vezich et al., 2017). Additionally, studies have shown that argument quality, characteristics of the health behavior, and certainty of the outcomes of engaging in the health behavior all moderate the relationship that persuasion has with outcomes (Orbell & Kyriakaki, 2008). Health-oriented persuasive messages additionally can produce emotional responses, which are positively associated with the perceived effectiveness of the message (Dunlop et al., 2010). Furthermore, health risk perceptions embedded in persuasive communication are positively associated with behavior change and the intention to change (Dunlop et al., 2010).

When specifically considering health behavior persuasion concerning getting vaccinated, researchers have indicated many factors that impact the perception of these persuasive messages. Mood of the recipient of persuasion has an impact on persuasion message processing when presented with health-related persuasive information, specifically information concerning an individual’s intention to get a vaccine (Sar &
Rodriguez, 2019). Additionally, expert power, or the use of someone perceived as a professional in a particular field as the source of information, is a facilitator of patient vaccination (Shay et al., 2016). The style of practitioner recommendation influences how likely an individual is to take a vaccine. In addition, rationale impacts how persuasive expert communications are, specifically therapist communications (Shay et al., 2016). Further, government regulations and public policy can not only impact decision-making but can enforce persuasive information, can influence public perception, and can impact individual willingness to respond to persuasive information (Lillvis et al., 2014). For example, in recent times governmental, state, and local mandates have been encouraging individuals to social distance, wear masks, and get vaccinated during the COVID-19 pandemic.

One specific form of persuasion surrounds the idea of utilizing different argument types based around the self and others. These are persuasive arguments that encourage individuals to engage in a target behavior by providing reasons to do something either for the benefit or protection of oneself or others. Self-oriented messages can have individuals focus on core values and self-reliance, whereas other-oriented messages can have individuals focus more heavily on the importance of social and interpersonal processes in coping with threats and risks (Brown et al., 2019). When presented with reasons to engage in a behavior for the sake of others, individuals may need to first perceive that those who are close and relevant to them emotionally are at risk for the symptoms of the health behavior in question (Zhao et al., 2021). When a behavior is engaged in privately, self-oriented messages are more effective, whereas when a behavior is publicly engaged in, other-oriented messages are more effective (Cai et al., 2014). This could be due to factors such as social desirability. Further, while individuals tend to prioritize other-oriented motivations when presented with persuasive arguments due to their prosocial nature, self-serving and self-oriented motivations are more predictive of behavior change.
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(Vezich et al., 2017). Additionally, research indicates that sex differences may exist when looking at persuasion in general as well as the persuasive influence of self- and other-oriented persuasive messages (Brunel & Nelson, 2014; Canary & Hause, 1993; Putrevu, 2004).

In the domain of health, findings have indicated that decisions made for oneself as opposed to decisions made for others are seen as riskier in situations where individuals should avoid risk (Stone et al., 2013). Research on kidney donation found that a self-oriented argument was more predictive of willingness to donate one’s kidney, but this is perhaps due to the prosocial nature of kidney donation in comparison to such behaviors as smoking cessation (Barnett et al., 1987). As kidney donation has little benefit for the self, it may require more thinking and elaboration to make the self-oriented argument salient, indicating that individuals in this condition may have engaged in more self-persuasion (Baldwin et al., 2017; Barnett et al., 1987; Dunlop et al., 2010). Research on persuasive communication concerning hand washing and hygiene in hospitals suggests that other-oriented messages were more persuasive than presenting arguments on why hand washing is beneficial for the self (Grant & Hofmann, 2011). Additionally, other-oriented health messages increase message effects on outcomes associated with future behavior change. Individuals in one study were more likely to stop smoking when presented with other-oriented persuasive messages, especially those that discuss the negative effects on an individual’s close family members, partners, or friends (Lipkus et al., 2013; Yilmaz et al., 2006 as cited in Luttrell & Petty, 2020). The message framing that is more effective overall is dependent on the health behavior in question.

This form of persuasive technique could be a helpful tool to induce health behavior change, specifically when looking at the recent COVID-19 pandemic. In the United States, federal, state, and local government institutions as well as national institutions of importance, like the Centers for Disease Control, have been attempting to persuade...
individuals to engage in mandated health behaviors such as mask-wearing and social distancing. Recently, with the introduction of the COVID-19 vaccine, it has become harder than before to encourage some individuals to continue to engage in these healthy behaviors (Trogan & Caplan, 2021). Some ways in which the media has attempted to incite behavior change in individuals in the United States is through using fear appeals to motivate individuals to stay home unless necessary, wear masks, and stay apart when they must be in public (Heffner et al., 2021). Research has indicated that other-oriented messages concerning the risks of not engaging in social distancing behavior particularly are more persuasive and are more indicative of behavior change (Luttrell & Petty, 2020). This finding also translates to more general research concerning persuasive messages advocating for engaging in COVID-19 health behaviors, where self-oriented message framing was not more persuasive or effective for behavior change in comparison to other-oriented message framing (Jordan et al., 2020).

The purpose of this study was to see whether persuasive argument type, specifically self- or other-oriented argument type, impacted how likely individuals were to be persuaded to engage in a target health behavior when presented with an audio recording. Vocal presentation of persuasive messages added to the previous literature on self- and other-oriented persuasive health communications presented in other formats, specifically textual formats. Additionally, focusing on the specific health behavior of mask-wearing added to the previous literature on self- and other-oriented message framing concerning health behaviors that particularly relate to COVID-19. The goal of this study was to provide information utilizing a randomized experiment to see if argument type, specifically if self- or other-oriented persuasive messages, impacted how likely an individual was to report that they would engage in a target behavior. The study aimed to answer the following questions: When participants were presented with a persuasive message, did they report that they were more likely to engage in a target health behavior
when presented with an other-oriented message or a self-oriented message? Did the type of message that they were presented with affect how persuasive they found the message? Did vaccination status or biological sex moderate the relation between argument type and likelihood to engage in a target health behavior?

**Method**

**Participants**

159 participants were recruited from undergraduate psychology courses at the University of Memphis through the Sona Systems network. The data reflected that when asked about biological sex 17.5% of participants identified as male, and 76.3% identified as female. When asked about gender identity, 18.1% identified as men, 75.0% identified as women, and 2.5% identified as non-binary. Ages of participants overall were from 18-48 years of age, with 93.1% of them being between the ages of 18 and 25. 48.8% of the students identified as White, 38.1% identified as Black, 6.3% identified as Hispanic, 4.4% identified as Asian, 1.9% identified as an American Indian/Alaskan, 1.3% identified as a Native Hawaiian/Pacific Islander, and 3.1% reported that they identified otherwise. Regarding ethnicity, 43.1% identified as Caucasian, 5.0% identified as Hispanic or Latino, 22.5% identified as African, 0.6% identified as Caribbean, 3.8% identified as Asian, 8.1% identified as mixed/multiple ethnic groups, and 9.4% identified as being a part of another unspecified ethnic group. When asked about marital status, 5.6% of participants identified as married and 90.0% identified as not married. All participants needed to be 18 years or older to participate and must have had access to a computer. The study took participants an average of around 15 minutes to complete. This study was described to participants as having the aim of seeing how information from a therapist is received. The study received IRB approval through the University of Memphis Institutional Review Board before being distributed. Participants were compensated with course credit through the Sona System.
Measures

**Likelihood to Engage in Behavior.** Participants were asked to answer questions indicating their willingness to engage in mask-wearing. Although participants only reported intention, the aim was for this measure to be as indicative of actual behavior as possible. Therefore, the researcher created a questionnaire that was based on previous behavioral intention literature that looked at how to measure intention that best correlated with actual behavior change (Abraham et al., 1999; Ajzen, 2019; Motl et al., 2002). For example, a question that was asked of participants was “I would wear a mask on most days even if there was not an option to wear one” (see Appendix A). The measure was rated on a 10-point scale ranging from 1 (strong disagreement) to 10 (strong agreement). The questionnaire was pilot tested by research assistants before survey distribution.

**Persuasiveness.** Participants were asked to answer a question regarding how persuasive they found the message to be. Participants were asked the question “How persuasive is this message to you” (see Appendix C). A variation of this question was used in previous research concerning self- and other-oriented message framing and health behaviors (Luttrell and Petty, 2020). The measure was rated on a 10-point scale ranging from 1 (strong disagreement) to 10 (strong agreement).

**Demographics.** Participants were asked to answer questions concerning their demographics and background, such as their age, gender, sex, race, marital status, etc. as well as whether they have past therapy experience (see Appendix E).

**Procedure**

The researcher created scripts that attempted to persuade individuals to engage in mask-wearing behaviors using either self-oriented or other-oriented persuasive messages. These scripts were based on research, feedback from graduate students actively administering therapy, and therapy videos obtained through the American Psychological Association database. These scripts were recorded as audio files by an undergraduate
research assistant under the supervision of a graduate student. These audio files were recorded in a conversational style that best emulated how a therapist might convey this information. The audio recordings only had one speaker that spoke from the viewpoint of a therapist, as the point of this study was not to measure observer effects of persuasive messages. The goal of the audio recordings was for the participant to take on the viewpoint of a potential client.

There were three audio clips in total, which include a self-oriented message, an other-oriented message, and a control group. The self-oriented script described that wearing a mask would be beneficial to oneself by highlighting the negative aspects of not wearing a mask and the ways the COVID-19 virus might affect a person (see Appendix E). The other-oriented script described why wearing a mask would be beneficial to others by discussing how the individual in question wearing a mask can keep others from dealing with adverse consequences (Appendix F). These scripts were designed to be as parallel as possible, with the main difference being the manipulation of the persuasive technique. An example of this would be that both scripts talk about how wearing masks are simple and effective ways to protect individuals from contracting COVID-19. However, the self-oriented message highlights how this can help oneself, and the other-oriented message highlights how this can help protect others. The control group received an informational message, still using the conversational style used in other messages, about the COVID-19 virus (see Appendix G). This message highlighted aspects of the virus, how it spreads, and how important being informed about the virus was. This message was as parallel to the other two conditions as possible but did not include persuasion to engage in mask-wearing. Each audio clip was less than four minutes long. Participants listened to one of the three recordings based on which group they were randomly assigned to.
This study was administered via Qualtrics, which is a free online survey tool. Each participant was provided with a consent form at the beginning of the survey where they must have confirmed that they were 18 years of age or older and must have agreed to be able to complete the survey and listen to the audio clip in an environment that had limited to no distractions. Participants were also asked to use any tools necessary, such as listening devices, to hear the audio clearly from their computer. Once subjects consented to participate, they were randomly assigned to one of the conditions using the randomizer function on Qualtrics. Participants then listened to an audio recording based on which condition they were randomly assigned, and the survey advanced only when the participant had listened to the recording. After the audio clip was presented, participants were given an attention check that correlated with the audio recording they heard (see Appendix B). If they failed the attention check, they were directed to listen to the designated audio clip again. If the attention check was passed, participants were directed to answer questions indicating how likely they were to engage in the behavior in question, how persuasive the statement was, and questions concerning demographics and background questions. Participants were debriefed at the end the survey before being redirected to SONA and receiving credit.

**Results**

A preliminary analysis was conducted to see whether there was a difference in participants reported best reasoning for wearing a mask based on persuasive message type they received (see Appendix D). This question was used as a manipulation check. This response was rated with a 1 or 2, with a response of 1 representing that the best reason to wear a mask is to help yourself, and a response of 2 representing that the best reason is to help others. Linear contrast analyses showed a statistically significant main effect between persuasive argument type and ratings concerning the best reason for wearing a mask, $F(1, 146) = 4.44, p = 0.04$, indicating that their reasoning for wearing a
mask depended on the persuasive argument type they were presented with. Individuals who were presented with a self-oriented message were more likely to indicate that the best reason to wear a mask was for oneself ($M = 1.54, SE = .07$). In comparison, those who were presented with an other-oriented persuasive message were more likely to indicate that the best reason to wear a mask is for others ($M = 1.75, SE = .07$) when compared to self-oriented messages and controls ($M = 1.65, SE = .07$).

Further analyses were conducted to see whether behavioral intention differed by which persuasive message type participants were presented with. Behavioral intention scores were rated on a scale of 1-10, with a rating of 1 indicating low behavioral intention and a score of 10 indicating high behavioral intention. The linear contrast analysis did not show a significant difference in behavioral intention responses across groups $F(1, 150) = 0.21, p = 0.88$), which indicates that participants’ behavioral intention was not changed by the persuasive message type they heard. Ratings of their behavioral intention did not significantly differ regardless of whether they heard a self-oriented ($M = 6.98, SE = 0.30$), other-oriented ($M = 6.92, SE = 0.30$), or control ($M = 6.92, SE = 0.31$) message.

Further analyses were conducted to see whether participant ratings of persuasiveness varied by which persuasive message type participants were presented. Contrast analyses did not show a significant difference of persuasiveness across groups $F(1, 150) = 1.62, p = 0.21$), which indicates that the participant impressions of persuasiveness were not changed by the persuasive message type that was received (see Table 1).

Follow-up tests were conducted to investigate if variables moderated the relationship between behavioral intention and persuasive message type. When considering if biological sex moderates the relationship between behavioral intention and persuasive message type, a statistically significant relationship was not found $F(1, 147) = 0.13, p = 0.72$). Of this sample, 120 participants (81.00%) identified as female, and 28 participants (23.00%) identified as male. Moreover, vaccination status did not significantly moderate
the relationship between behavioral intention and persuasive message type $F(1, 149) = 3.21, p = 0.08$). Of this sample, 111 participants (74.00%) identified as being fully vaccinated, and 39 participants (26.00%) identified as not being fully vaccinated. There was not a statistically significant moderation of therapy attendance when examining the relationship between behavioral intention and persuasive message type $F(1, 150) = 0.37, p = 0.55$). Of those who had attended therapy in the past, all participants who responded indicated that their previous therapy experiences were positive. Therefore, therapy experience could not moderate the relationship between behavioral intention and persuasive message type due to a lack of variation in responses.

**Discussion**

This study aimed to investigate whether self- or other-oriented persuasive messages influenced individuals differently when asked about their willingness to change their behavior. The type of persuasion presented significantly impacted what reasoning individuals gave when asked about reasonings for mask-wearing. This means that those who heard a self-oriented persuasive message found mask-wearing to be more important for their protection, whereas those who heard an other-oriented message found the best reason to wear a mask was for others. However, persuasive message type did not significantly alter individuals’ behavioral intention to engage in mask-wearing nor how persuasive they found the message to be. This indicates that participants coded the experimental manipulation in their reasonings, but it did not have a substantial impact on behavior. Further, when looking at variables that might moderate the relationship between behavioral intention and persuasive message type, COVID-19 vaccination status surprisingly did not moderate the relationship. Biological sex, attendance in therapy, and experience in therapy did not moderate the relationship between persuasive message type and behavioral intention either.
Findings indicated that behavioral intention reports were not significantly different across groups when presented with self- and other-oriented persuasive message types. Because of the strong personal feelings that this behavior can induce within individuals, the theory of psychological reactance may apply to explain the results seen. Psychological reactance refers to the idea that when an individual feels as though their freedom is being limited, they are motivated to gain that freedom back (Brehm, 1989). Research has shown that during the COVID-19 pandemic, there have been several potential instances of psychological reactance. Research has shown a higher level of psychological reactance among those who believe that masks are ineffective when they are presented with messages concerning mask effectiveness (Taylor & Asmundson, 2021). This could potentially indicate that when hearing persuasive messages, participants in this study who believed that masks were ineffective may have unconsciously created their own counterarguments that impacted behavioral intention responses. In addition to this, research has shown that persuasive health-oriented messages about the pandemic may be seen as a threat to freedom that can potentially lead to an unwanted outcome (Dimoff et al., 2020). Considering the results of this study, this could indicate that the lack of change in behavioral intention ratings between groups could be due to reactance from hearing persuasive messages about pandemic-related health behaviors. Overall, because of the nature of mask-wearing and opinions related to it, psychological reactance could have played a part in the results.

Another potential explanation for this aside from psychological reactance is the terror health management model. This is a fear management model based on the terror management theory, which is a framework that explains how people cope when faced with the awareness and risk of death (Pyszczynski et al., 2021). When thinking within this framework, research has found that when compared to other countries, the United States had more individuals on average who engaged in destructive forms of proximal
defenses (Kwon & Park, 2022). An example of this would be thinking that the virus is a
conspiracy. These proximal defenses are those that actively work to suppress the thoughts
of imminent death from an individual’s consciousness (Pyszczynski et al., 2021). The
terror health management model applies this theory to health behaviors and proposes that
an individual would engage in proximal defenses that reduce their perceived vulnerability
to a life-threatening health concern (Dimoff et al., 2021). Therefore, if individuals are
working to suppress their thoughts of imminent death, their behavior may not be easily
changed because they may be working to reduce their perceived vulnerability in several
ways. The fear of death may have informed participants’ preexisting behaviors per the
context of this model, which may explain why their behavioral intention did not
significantly differ across groups despite differential stimuli presentation.

Analyses indicated that argument type significantly impacted participants’
reasonings for wearing a mask even though argument type did not impact their
willingness to change their behavior. One potential area of research that might explain
why this may have been seen looks at attitudes and reasoning for engaging in behavior
change. Research on attitudes has shown that implicit attitudes, those attitudes that
individuals do not have conscious control over, may be easier to change when presented
with contextual stimuli than explicit attitudes (Rydell & McConnell, 2006). Taking this
into consideration, the contextual stimuli that were presented to participants in this study
may have changed their implicit attitudes as opposed to their explicit attitudes. The self-
and other-oriented persuasive messaging may not have changed their explicit attitudes
surrounding mask-wearing, but it may have unconsciously impacted their reasonings for
wearing a mask. Participants may not have been aware of this influence on implicit
attitudes, and therefore may have not had reactance concerning self- or other-oriented
reasonings. However, they may have been aware of the attempt to change their explicit
attitudes towards the behavior of mask-wearing, which might have led to greater reactance and could explain these results.

Another potential reason that the results show an effective manipulation but no change in behavioral intention could be the idea of self-persuasion. Participants may have created their own narratives for what reasons to wear a mask when presented with the stimuli. When persuasive messages are presented to individuals, they can initiate behavior change on their own, but persuasive messages can become more influential when the individual being persuaded creates internal reasonings to engage in the behavior themselves. Self-persuasion has been seen to increase the moral obligation to engage in a desired behavior in comparison to conditions where it was not utilized (Drążkowski et al., 2020). Compared to hearing and looking at persuasive messages only, self-persuasion leads to behavior change more often. In the context of these results, the persuasive messages may have fostered a narrative within the participant to use self-persuasion for their reasonings to wear masks. However, one message may have not encouraged individuals to change their behavior differently in relation to the other messages. This could be due to the nature in which the message was presented, where the persuasive reasoning for engaging in the health behavior of mask-wearing was the main focus.

Regarding the finding that persuasiveness of the different persuasive argument types did not significantly differ by group, this may depend on how individuals conceptualize mask-wearing. Mask-wearing is a behavior that one engages in while in public, so one would think that this would follow previous research findings that other-oriented message types would be more persuasive (Jordan et al., 2020). However, because wearing masks have been seen as prosocial behavior, it could fall in line with the findings about prosocial health behaviors and self-oriented persuasive types could have been seen as more persuasive (Baldwin et al., 2017). The lack of differences in persuasiveness across message type groups could be due to the specific health behavior and its complex nature.
Mask-wearing is easy to do in theory, but it became very complex over the course of the pandemic due to the political and emotional implications of the behavior.

Both vaccination status and biological sex did not significantly moderate the relation between behavioral intention and persuasive argument type. Though vaccination status is likely related to mask-wearing, as they are both protective measures against the COVID-19 pandemic, these behaviors are different and distinct. Adherence to mask-wearing is associated with the acceptance of vaccines (Matytsin, 2021). Due to the timing of data collection, those who were vaccinated may not have felt as though masking was necessary, which may have impacted the relationship between vaccination status and mask-wearing that was observed. Biological sex has been shown to have different results in the context of certain types of persuasion, but in the context of mask-wearing research has shown that there was no significant difference between mask-wearing behaviors among males and females (Howard, 2021). Intention to engage in wearing a mask did not significantly differ based on biological sex, which may be because of the lack of differences in engaging in masking behaviors across groups. Overall, more research is needed to understand what variables, if any, moderate the relationship between behavioral intention and persuasive message type.

**Strengths and Limitations**

Multiple strengths and limitations can be identified with the study at hand. Because the sample was collected from one university, these results may not generalize to the population. Another potential limitation is the health behavior chosen in the study, as it was a health behavior that is polarizing and, in some places, mandated. This could have affected the responses, as some individuals may have had personal opposition to engaging in the mask-wearing behavior, or they might have felt like it was required as opposed to optional. However, a strength of the study comes in using a health behavior that has strong emotional and social implications, as the opinions that participants had on
mask-wearing were likely varied before being randomly assigned to the different groups. Another point might be that individuals may have felt like the persuasive messages, regardless of argument type, were messages that they had heard before. Due to the nature of the health behavior chosen and governmental and societal pressures to engage in mask-wearing, it may have desensitized participants to the stimuli in some ways. Mask-wearing was a behavior that people were already being persuaded to do, so they may have seen the message as less persuasive because it was familiar. However, the comparison group for this project was an informational message about COVID-19 and mask-wearing, which might have mitigated this limitation to some degree. Another potential limitation deals with attention, as participants’ attention was not measured after participating in the attention check questions. Because of the online format of the study, there were opportunities for participants to complete the survey quickly or inaccurately. Additionally, all behavioral intention scales were researcher-created, so there is a chance that they did not adequately measure behavioral intention, which is a potential limitation. However, the scales were created with a literature basis and were pilot tested before data collection began. Another potential limitation was that there was only one version of each stimulus, though the comparison condition helped mitigate this concern to some degree. Further, stimuli were presented as information from a therapist, but a therapist did not create the vocal presentation from the stimuli. Because of this, the audio clip may not perfectly reflect a true therapy session. However, aspects of the messages provided to participants attempted to be as parallel as possible and the vocal presentation was done by the same individual for all stimuli to help with confounding factors, which is a potential strength of the study as it attempted to reduce confounding variables.

**Future Directions**

Future research related to this study could include utilizing multiple forms of persuasive message type per condition to see if different presentations of each argument
type differently affect participant ratings. Future studies could also involve using multiple voices from multiple presenters as stimuli. To keep things consistent between conditions, this study used one female vocal presenter for all recordings. However, different voices could have different effects on participants, so seeing what differences may be present when using different presenters may be interesting. Similar to this, further research could utilize actual therapy sessions as opposed to audio recordings to better understand how persuasive argument type impacts therapeutic outcomes. Future studies could also look at actual behavior change over time and collect participant data multiple times over the course of a longitudinal study. This would have a much higher potential risk of attrition, but looking at behavioral measures over time might indicate actual behavior change. These findings could be extended by using different behavioral intention measures to look at behavioral intention. Even though the measures used in this study were literature-based and pilot tested, they were researcher-created. Because of this, the measure may not have been the most accurate measure of the desired construct. Another measure may more effectively get at the construct that is attempting to be tested. Future research could also look to see if changes in mask mandates across time could impact the results seen. Finally, further research could look at the effects of utilizing self- and other-oriented persuasive argument types with different health behaviors like mask-wearing.

**Conclusion**

The current study aimed to examine the relative effects of persuasive message type on behavioral intention and persuasiveness. Results of this study indicated that while those who were in the self-oriented group reported that the best reason to wear a mask was for themselves and those in the other-oriented group reported that the best reason to wear a mask was for others, persuasive message type did not significantly alter participant’s ratings of behavioral intention. Participants also did not report significantly different ratings for persuasiveness across message-type groups. The research findings
provide evidence suggesting that self- and other-oriented persuasive arguments may not significantly impact the intention to engage in behaviors such as mask-wearing when examined in relation to one another. Mask-wearing is a complex behavior, though simple to engage in, and more research is needed to determine what types of persuasive messages may be most impactful when looking at behaviors such as this.
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Appendix A

Likelihood to Engage in a Target Behavior Questionnaire

1) I have tested positive for the COVID-19 virus previously.
   a. Yes/No/I have not been tested before

2) I have lived with someone or have a loved one who has tested positive for the COVID-19 virus previously.
   a. Yes/No/I am not aware or unsure

3) I expect that I will stay healthier by wearing a mask than if I didn’t wear my mask.
   a. Agree-Disagree

4) Not contracting the COVID-19 virus is good.
   a. Agree-Disagree

5) Wearing a mask when I’m around others in public will result in a reduced spread of the COVID-19 virus.
   a. Agree-Disagree

6) If someone didn’t want me to wear a mask, I would find it easy to refuse them.
   a. Agree-Disagree

7) When it comes to mask-wearing, I want to do what my friends and close ones are doing.
   a. Agree-Disagree

8) If I were to wear my mask on most days, it would help me protect myself.
   a. Agree-Disagree

9) If I were to wear my mask on most days, it would help me protect others.
a. Agree-Disagree

10) I find it easy to bring up mask-wearing to another person.
   a. Agree-Disagree

11) I have planned how to refuse to take my mask off in public if someone was pressuring me to remove it.
   a. Agree-Disagree

12) I have been wearing my mask in public since the COVID-19 Pandemic began.
   a. Agree-Disagree

13) Once I am vaccinated, I am likely to continue to wear my mask.
   a. Agree-Disagree

14) I’ve planned how to bring up mask-wearing with other people.
   a. Agree-Disagree

15) My mask-wearing in public would be a good thing.
   a. Agree-Disagree

16) I would wear a mask on most days even if there was an option not to wear one.
   a. Agree-Disagree

17) I would wear a mask on most days even if the majority of people around me were not wearing their masks.
   a. Agree-Disagree

18) My friends and family encourage me to wear a mask.
   a. Agree-disagree

19) I have control over whether or not I wear my mask most days.
   a. Agree-disagree

20) I find it easy to wear a mask in public.
a. Agree-disagree

21) I know when to properly wear my mask in public.
   a. Agree-disagree

22) When it comes to health and safety, I believe that wearing a mask is a good way to protect people from the COVID-19 virus.
   a. Agree-disagree

23) I intend to wear a mask on most days.
   a. Agree-Disagree

24) Despite potential scrutiny, I find it easy to not wear my mask in public.
   a. Agree-Disagree

25) I believe that masks are still necessary even though individuals are getting vaccinated.
   a. Agree-Disagree

26) I know when to suggest mask-wearing.
   a. Agree-Disagree

27) I know how to properly wear my mask in public.
   a. Agree-Disagree
Situational Questions

(Answer the questions on a scale of 1-10; with a 1 indicating strong disagreement and a 10 indicating strong agreement)

1. If you were in a room with low ventilation and other people were not wearing their masks, would you wear your mask?

2. If you were the only person wearing your mask while shopping in a crowded grocery store full of strangers, and masks were not required by the establishment, would you still wear your mask?

3. If you were in a very crowded outdoor public space, such as a sporting event or concert, and the majority of people around you were not wearing masks would you still wear yours?

4. If you were dining in a restaurant would you still wear your mask even if those around you are not wearing one and it is not required of guests to wear masks by the restaurant?

5. If your close friends or extended family wanted to get together indoors, were not wearing their masks, and you were unsure whether they were vaccinated or not, would you wear your mask while around them?
Appendix B

Attention Check Questions

Self-Oriented

1. What are some of the ways that COVID might affect you?
   a. Hospitalization & Separation from the outside world
   b. Financial problems & possible long-term health concerns
   c. Wearing a mask in public even though we don’t want to & social distancing

2. What is important to consider that accompanies infection?
   a. The health consequences, how serious they could be, and how inconvenient they can be
   b. The isolation if you need to quarantine, how it can make you feel, and how hard it would be to take the time off
   c. The potential hospitalization that can occur, the time that you may be there, and the financial burden that can come from that

Other-Oriented

1. What are some of the ways that COVID might affect other people?
   a. Hospitalization & Separation from the outside world
   b. Financial problems & possible long-term health concerns
   c. Wearing a mask in public even though they don’t want to & social distancing

2. What is important to consider that accompanies infection?
   a. The health consequences, how serious they could be, and how inconvenient they can be
   b. The isolation if they need to quarantine, how it can make them feel, and how hard it would be to take the time off
c. The potential hospitalization that can occur, the time that they may be there, and the financial burden that can come from that

Control/Comparison Group

1. How long can the possible long-term side effects potentially last for?
   a. A week or less
   b. Four weeks or more
   c. Twenty-one days

2. What do individuals who are asymptomatic pose a risk to?
   a. Your doctor, nurses, and hospital staff
   b. The scientists, educators, and managers
   c. The community, loved ones, and you
Appendix C

Persuasiveness Question

3. How persuasive is this message to you?
   a. Scale of 1-10 (1 being not persuasive, 10 being the most persuasive)
Appendix D

Misc. Questions

1. Are you fully vaccinated against the Covid-19 virus?
   b. Yes/No

4. What’s the most important reason to wear a mask?
   a. To protect yourself
   b. To protect others
Appendix E
Demographics Questions

1. What is your age?

2. Which of the following best describes you? (Select all that apply)
   a. American Indian or Alaskan Native
   b. Asian
   c. Black or African American
   d. Hispanic or Latino
   e. Native Hawaiian or Other Pacific Islander
   f. White
   g. Identify Otherwise

3. How would you identify yourself in terms of ethnicity?
   a. Hispanic or Latino
   b. White
   c. Asian
   d. African
   e. Caribbean
   f. Mixed/Multiple ethnicities
   g. Other ethnic group

4. What is your biological sex?
   a. Male
   b. Female

5. What gender do you most identify with?
   a. Man
   b. Woman
   c. Non-binary
d. Transgender

e. Identify Otherwise

f. Prefer not to say

6. What is your marital status?

a. Married
b. Widowed
c. Divorced
d. Separated
e. Never been married

7. Have you ever attended therapy?

a. Yes
b. No

8. How would you describe your therapy experience? (Only presented if answered “yes” to ‘Have you ever attended therapy?’).

a. Good
b. Bad
c. Neither good nor bad
Appendix F

Self-Oriented Script

I know you have some questions about why you’re having to take precautions, like mask-wearing, due to COVID-19. If you’d like, I want to tell you what I know about the spread of COVID and why mask-wearing is so important in regard to your health. As we know, COVID can cause some potentially severe health consequences. And I know that wearing a mask isn’t fun, but there are many good reasons to wear your mask, as it is one of the best ways to protect yourself from COVID. The CDC has shown that the virus can travel from a sick person through the air and infect you. Wearing a mask could help prevent you from becoming sick if you come across someone who is infected. I also want to stress that people you know could be sick without showing any symptoms, so it’s important to wear a mask so that you don’t get sick from those people who are asymptomatic. Wearing a mask, even around others who don’t feel sick, could potentially keep you from getting COVID. Basically, mask-wearing is a super simple and effective way to prevent catching COVID, and this is even more important when considering the health consequences that can pop up after infection. Because those can also be very serious, potentially life-threatening, and can be really inconvenient for you. Now, I want you to think about all the ways that COVID might affect you, from financial problems to possible long-term health concerns. You could be affected in several different ways, you know? Wearing a mask is a very easy way to prevent you from getting sick in the first place and can hopefully help life get back to normal faster. COVID could be really difficult for you for many reasons, and wearing a mask is the best way to protect yourself. Does this fall in line with what you’ve heard about COVID and mask-wearing?
Appendix G

Other-Oriented Script

I know you have some questions about why you’re having to take precautions, like mask-wearing, due to COVID-19. If you’d like, I want to tell you what I know about the spread of COVID and why mask-wearing is so important in regard to the health of others. As we know, COVID can cause some potentially severe health consequences. And I know that wearing a mask isn’t fun, but there are many good reasons to wear your mask, as it is one of the best ways to protect others from COVID. The CDC has shown that the virus can travel from a sick person through the air and infect others. Wearing a mask could help prevent others from becoming sick if they happened to come across someone who is infected. I also want to stress that anyone could be sick without showing any symptoms, so it’s important to wear a mask so that others don’t get sick from you if you are asymptomatic. Wearing a mask, even when you don’t feel sick, could potentially keep others from getting COVID. Basically, mask-wearing is a super simple and effective way to prevent others from catching COVID, and this is even more important when considering the health consequences that can pop up after infection. Because those can also be very serious, potentially life-threatening, and can be really inconvenient for them.

Now, I want you to think of all the people in your life and how COVID may affect them, from financial problems to possible long-term health concerns. The people around you could be affected in several different ways, you know? Wearing a mask is a very easy way to prevent others from getting sick in the first place and can hopefully help life get back to normal faster. COVID could be really difficult for many reasons, and wearing a mask is the best way to protect others. Does this fall in line with what you’ve heard about COVID and mask-wearing?
Appendix H
Comparison Group Script

I know you have had some questions about COVID-19, as the virus has had a major impact on the world in recent times. If you’d like, I want to tell you what I know about the spread of COVID. The CDC has shown that the virus can spread in many different ways, including inhaling virus particles in the air, having viral droplets land on your body, or through touching your eyes, nose, or mouth after the virus is already on your hands. We all know that COVID can cause some potentially severe health consequences. These can pop up after the initial infection, which can last for anywhere to four weeks if not even longer. These long-term issues can be very serious, potentially life-threatening, and can be really inconvenient for those who are impacted. The virus spreads easily and while most people only experience mild symptoms, some experience severe symptoms that can even lead to death. Additionally, people you know could be sick without showing any symptoms, which poses a big risk to you, others, and the community overall. If people think they have been infected or if they have been exposed to the COVID-19 virus, research has suggested to isolate and get tested. If they go on to test positive, the CDC and the Health Department say to quarantine and isolate from others for a minimum of 10 days and monitor symptoms closely. COVID might affect people in several ways, from financial problems to possible long-term health concerns. COVID could be really difficult for many reasons, so it’s important to know as much information about this virus as possible. Does this fall in line with what you’ve heard about the COVID-19 virus?
Table 1

*Interaction between Persuasive Argument Type and Participant Ratings*

<table>
<thead>
<tr>
<th>Argument type</th>
<th>Self</th>
<th>Other</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant response</td>
<td>M</td>
<td>SE</td>
<td>M</td>
</tr>
<tr>
<td>Behavioral Intention(^a)</td>
<td>7.01</td>
<td>0.31</td>
<td>6.92</td>
</tr>
<tr>
<td>Persuasiveness(^b)</td>
<td>5.55</td>
<td>0.42</td>
<td>6.30</td>
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<tr>
<td>Why Wear a Mask(^c)</td>
<td>1.54</td>
<td>0.07</td>
<td>1.75</td>
</tr>
</tbody>
</table>

*Note. n = 159*

\(^a\)Behavioral Intention Row. The measure uses a 1-10 scale, with 1 indicating strong disagreement with a statement, and a 10 indicating strong agreement. Higher numbers would indicate stronger intention.

\(^b\)Persuasiveness Row. The measure uses a 1-10 scale, with 1 indicating strong disagreement with a statement, and a 10 indicating strong agreement. Higher numbers would indicate more persuasiveness.

\(^c\)Why Wear a Mask Row. The measure uses a 1-2 scale. A response of 1 indicates that the best reason to wear a mask is for the protection of oneself, and a 2 indicates the best reason is for the protection of others.

\(^*p < .05. (Include if asterisk used in table to indicate p value.)*
Institutional Review Board
Division of Research and Innovation
Office of Research Compliance
University of Memphis
315 Admin Bldg
Memphis, TN 38152-3370

December 14, 2021

PI Name: Kierstynn Hunter
Co-Investigators:
Advisor and/or Co-PI: Jeffrey Berman
Submission Type: Initial
Title: The Influence of Self- and Other-Oriented Persuasive Messages on the Intention to Engage in Health-Oriented Behavior Change
IRB ID: #PRO-FY2022-186
Exempt Approval: December 13, 2021

The University of Memphis Institutional Review Board, FWA00006815, has reviewed your submission in accordance with all applicable statuses and regulations as well as ethical principles.

Approval of this project is given with the following obligations:

1. When the project is finished a completion submission is required
2. Any changes to the approved protocol requires board approval prior to implementation
3. When necessary submit an incident/adverse events for board review
4. Human subjects training is required every 2 years and is to be kept current at citiprogram.org.

For any additional questions or concerns please contact us at irb@memphis.edu or 901.678.2705