Keeping safe versus staying healthy: The effect of regulatory fit on social distancing

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abstract

Some states’ COVID-19 social distancing directives spotlight the goal of health promotion (that is, staying healthy), whereas others underscore illness prevention (that is, keeping safe). Regulatory fit theory holds that persuasiveness is influenced by how well the framing of a message resonates with fundamental motivations that influence recipients’ behavior. People who are motivated to approach desirable outcomes generally respond best to health messages having a promotion frame, whereas people who are motivated to avoid undesirable outcomes respond best to health messages having a prevention frame. In the research presented in this article, we show that the effectiveness of COVID-19-related directives is influenced by the fit between promotion or prevention framing and the recipients’ identity—whether they view themselves as independent actors or as part of a larger community. We found that an appeal that highlighted health promotion and benefits to the individual (as in “what you can do to help you stay healthy”) or one that highlighted disease prevention and protection of society (as in “what you can do to keep America safe”) led to greater intent to practice social distancing than did appeals using other pairings of framing and identity, particularly in people who were not already practicing rigorous social distancing. The findings suggest that policymakers should consider regulatory fit—and specifically, the pairings described above—when designing public health communications relating to COVID-19 and other directives.

Public health experts have determined that social distancing is important to slowing the spread of COVID-19. After the declaration of a national emergency on March 13, 2020, many state and local governments issued stay-at-home or shelter-in-place orders. Some directives have used a "stay healthy" appeal, emphasizing health promotion (as has occurred in Arizona, Kentucky, Nebraska, and Washington), but others have used a "keep safe" appeal, emphasizing disease prevention (as in Connecticut, Michigan, Utah, and Vermont). In this article, we report on two experiments that draw on regulatory fit theory to examine whether the effectiveness of such appeals also depends on which of the participants’ identities is made salient—that is, on whether the recipients’ view of themselves as either an independent actor or a part of a larger, interdependent community is emphasized. The studies were conducted nine days apart in March 2020.

Regulatory fit theory posits that people become more engaged in pursuing a goal when their goal-pursuit strategy matches their regulatory orientation: the motivation that guides their attention, attitudes, and behaviors. For instance, some people are driven primarily by approaching desirable outcomes (that is, they are promotion oriented), whereas other people are driven by avoiding undesirable outcomes (that is, they are prevention oriented). The regulatory fit literature indicates that communications do a better job of persuading people to act if they are framed to match the recipients’ regulatory orientation. For example, people who are motivated to attain desirable outcomes would respond best to health-promotion-oriented "stay healthy" messages, whereas those who are motivated to avoid undesirable outcomes would respond best to disease-prevention-oriented "keep safe" messages.

In the studies reported in this article, we hypothesized that the persuasiveness of messaging that emphasized health promotion or disease prevention would be influenced by whether the language appealed to a particular aspect of the recipients’ identity—that is, their view of themselves as independent actors or as part of a larger, interdependent community. We based our proposal in part on past research showing that people who view themselves as an independent, autonomous individual tend to be more promotion oriented and that people who view themselves as interdependent with others in a social collective tend to be more prevention oriented. Consequently, appeals that make an individual identity salient while advocating a promotion goal or appeals that make a group identity salient while advocating a prevention goal should be more persuasive than appeals that mismatch identity and goal.

In the first experiment, we explored whether a "stay healthy" health-promotion-oriented COVID-19 appeal would be more effective in spurring people to practice social distancing if distancing was highlighted as a benefit to the individual (as in "what you can do to stay healthy") rather than as a benefit to a larger group (as in "what you can do to help America stay healthy"). Likewise, we explored whether a "keep safe" COVID-prevention-oriented appeal would be more effective if social distancing was highlighted as a benefit to the individual (as in "what you can do to keep America safe") rather than to the individual (as in "what you can do to keep you safe"). It turned out that, indeed, the most effective messages either paired an emphasis on staying healthy with an appeal to people’s concerns about themselves or paired an emphasis on keeping safe with an appeal to people’s concerns about the safety of their fellow Americans.

In the second experiment, we added another prediction. Prior research had suggested that people who are already adopting a recommended action are less sensitive to whether a message’s promotion or prevention focus matches their inclination to seek positive outcomes or avoid negative ones. We proposed that the regulatory fit effect on people’s intention to comply with social distancing guidance would be strongest among people who were not already practicing social distancing rigorously. The results support this notion.

For both studies, we preregistered a primary plan of examining people’s perceptions of the pandemic and the effect of regulatory fit on the
adoption of various precautionary measures (see note A). After we collected the data, we decided to concentrate on social distancing intentions as our primary outcome. We also made the decision to examine the moderating role of current social distancing practice after the data had been collected. See the Supplemental Material for fuller details of the procedures and analyses discussed in this article and for findings related to outcomes other than social distancing.

**Experiment 1**

**Method**

In Experiment 1, our main objective was to examine how the salience of participants’ identity influenced their responses to an appeal that emphasized health promotion (“stay healthy”) or disease prevention (“keep safe”) as the goal of adopting precautionary measures against COVID-19 advocated by the U.S. Centers for Disease Control and Prevention (CDC). We fielded the experiment on March 18, 2020, delivering an online survey through CloudResearch. The cumulative numbers of infections and deaths in the United States on that day were reported as 7,624 and 115, respectively. After removing responses that could have been duplicates, we ended up with 1,201 participants. The mean age of the participants was 39.89 years (range: 18–78 years); 51% of the participants were male.

Participants responded to all survey items using interval scales. We first asked them to judge the seriousness of the risk posed by COVID-19 to themselves, their community, and the United States separately. They also estimated the number of confirmed cases and deaths and reported the outbreak’s perceived emotional, economic, and social impact on them. Then they indicated the extent of their current adherence to recommended public health guidelines, such as various social distancing and hygiene measures (by responding “yes,” “trying to,” or “no” to each measure; see the Supplemental Material for the full list of items).

Next, all participants read the same message describing what the government was doing to curb the spread of COVID-19 and outlining the CDC guidelines on social distancing and other precautionary measures. This message was presented under one of six headlines. Half of the participants saw a headline that emphasized the goal of health promotion but varied in the highlighted audience; it said, “Here’s what you can do to help ______ stay healthy,” with either you, your community, or America appearing in the blank. The other half of the participants saw a headline that emphasized illness prevention. It said, “Here’s what you can do to keep ______ safe,” with again either you, your community, or America appearing in the blank. Participants then indicated their intention to practice a number of precautionary measures: staying home more; reducing in-person socializing; increasing socializing by phone or online; washing hands for 20 seconds; using hand sanitizer; sneezing or coughing into their elbow or a tissue; and avoiding touching their eyes, nose, and mouth. (These outcome measures were rated on a scale ranging from 1 = do much less to 11 = do much more.) Finally, participants reported demographic information, including their political party affiliation.

**Analyses & Results**

After we collected the data, we decided to focus on participants’ intentions to social distance as the key outcome measure, because social distancing is considered the best way to reduce the spread of COVID-19; social distancing intentions can also serve as a proxy for recipients’ intentions to adopt other precautionary measures. We assessed this outcome by averaging the responses to the items that measured intentions to stay home, to socialize with friends online or by phone, and to socialize with friends in person (which was reverse-coded so that greater compliance with CDC recommendations was indicated by a higher score, as with the other two items). See the Supplemental Material for the results relating to the other precautionary measures.

We ran regression analyses to examine whether appeals that matched identity and benefit led to better outcomes than did those that mismatched identity and benefit. We also directly compared the outcomes when each of the two framing...
approaches ("stay healthy" and "keep safe") was paired with each of the three highlighted identities (individual, community, America).

As predicted, we found that an appeal that matched a promotion benefit to an individual identity and one that matched a prevention benefit to the group identity of America were most effective in persuading participants to practice social distancing (b = 0.73, 95% CI (0.26, 1.21), p = .002). (See note B for information about the statistical notations used in this article.) More specifically, as Figure 1 shows, when the message highlighted an individual identity (emphasizing consequences to the self), participants expressed higher intentions to social distance if the appeal also advocated a promotion ("stay healthy") benefit (M = 9.32) rather than a prevention ("keep safe") benefit (M = 9.01, d = 0.19, p = .072). In contrast, when the message highlighted America as a group identity (emphasizing consequences to America), participants expressed higher intentions to social distance if the appeal also advocated a prevention ("keep safe") benefit (M = 9.32) rather than a promotion ("stay healthy") benefit (M = 8.90, d = 0.25, p = .013). Looked at from a different perspective, the results indicated, as predicted, that in the context of a health-promotion ("stay healthy") appeal, the message was more effective in persuading participants to social distance when their individual identity was highlighted than when their American identity was highlighted (d = .25, p = .013). Also as predicted, in the context of a disease-prevention ("keep safe") appeal, giving salience to participants’ American identity resulted in higher social distancing intentions than did giving salience to their individual identity (d = .18, p = .071).

However, contrary to our predictions, when participants’ community group identity was highlighted, the effect of frame was similar to when participants’ individual identity was highlighted. Specifically, the appeal advocating a promotion benefit (M = 9.31) led to higher intentions to practice social distancing than did that advocating a prevention benefit (M = 9.00, d = 0.17, p = .077). Perhaps the reason for the unexpected results is that participants were reflecting more on themselves when the message referenced the community. Given this pattern of findings, we do not discuss the community-related outcomes in the text that follows (see details on community-related data in the Supplemental Material).

Because political party affiliation might influence people’s perception of the pandemic and their social distancing practices, we examined participants’ party affiliation as a potential moderator of the proposed regulatory fit effect for framing and identity. In general, Democrats perceived themselves to be more vulnerable to COVID-19 than Republicans and those with other affiliations did, and a higher percentage of Democrats (78.8%) reported that the pandemic had led them to stay home more compared with Republicans (65.9%) and those with other affiliations (69.0%; see Tables S1–S2 in the Supplemental Material). However, the regulatory...
fit effect on social distancing intention was not contingent on party affiliation; none of the interactions among identity, message frame, and political party were significant (all $p$s > .31).

**Experiment 2**

**Method**
We launched Experiment 2 on March 27, 2020, to see if the findings would confirm the effect of regulatory fit on people’s intentions to take precautions against COVID-19. After removing duplicates and one respondent who was not a U.S. resident, we had a final sample of 998 participants. The mean age of the participants was 39.54 years (range: 19–84 years); 45% were male. The cumulative number of infections and deaths in the United States exceeded 86,000 and 1,300, respectively, on the day of survey launch.16

We followed procedures similar to those of Experiment 1, with two key modifications. First, we eliminated the consideration of the local community identity. Second, we added another measure of intention to practice social distancing. After participants saw the health communication, we asked them to indicate the number of times they planned to leave home in the next seven days for various reasons (for work, to shop for groceries and other daily necessities, to pick up medication, to exercise, to get together with friends or family, to get some fresh air, and to exercise their right to freedom) on a scale ranging from $0 = \text{not going out for this reason}$ to $8 = \text{more than once a day}$. We reasoned that the more effective the messaging was, the fewer trips participants would plan to make. We excluded work-related trips in these analyses because we considered these to be out of participants’ control. In line with this assumption, we did not observe a fit effect on participants’ intention to leave home for work (see Tables S39–S40 in the Supplemental Material).

**Analyses & Results**
Compared with participants who provided data nine days earlier, those in Experiment 2 perceived themselves and the United States as being more vulnerable to COVID-19 ($p < .001$ in both cases). Also, a higher percentage of participants indicated that they were staying at home more due to the pandemic (85% versus 73%, $p < .001$) and were more likely to work remotely (68% versus 62%, $p = .005$), but participants were less likely to engage in virtual socializing (67% versus 62%, $p = .025$).

To our initial surprise, we were not able to replicate Experiment 1’s regulatory fit effect on participants’ social distancing intentions. We also found no effect of regulatory fit on the measure of social distancing we had added; the total number of times participants planned to leave home for the six non-work-related reasons was not influenced by frame or identity.

Soon, however, we found an explanation for the discrepancy between the experiments. Prior research has shown that the regulatory fit effect is attenuated among people who are actively engaged in activities advocated by a message or who perceive themselves to be at high risk from a threat discussed in a message.13,14 Given that Experiment 2’s participants reported that they felt more vulnerable to COVID-19 and also that they were staying at home more than were the participants in Experiment 1, we decided to examine participants’ current staying-at-home practice as a potential moderator of the regulatory fit effect.

We categorized participants as strong or lax stay-at-home adopters on the basis of their saying that they were “for sure” staying home more, as opposed to saying “no” or “trying to.” By this measure, 839 participants were strong adopters and 149 were lax adopters.

We first ran regression analyses to examine whether intention to social distance after reading the public health communication could be enhanced by any combination of frame, identity, and adopter type. The results showed a fit effect that approached significance among lax adopters on intention to reduce in-person socializing ($b = 1.36$, 95% CI $[-0.25, 2.97]$, $p = .097$) but not on the other two social distancing measures we had also used in Experiment 1. In other words, pairing “stay healthy” messages with concern for the individual and pairing “keep safe” messages with concern for Americans
increased intentions to reduce in-person socializing among current lax adopters of stay-at-home guidance. (Find detailed results on these three measures in Tables S20–S25 in the Supplemental Material.)

A comparison of the data across the two experiments showed, as noted above, that Experiment 2 included a higher proportion of strong adopters (85% versus 73%, \( p < .001 \)) and that even the lax adopters were more likely to claim they were trying to stay home more (87% versus 78%, \( p = .029 \)). Hence, we speculated that these social distancing items of staying home more and increased socializing by phone or online might no longer be sensitive enough to capture any fit effect that was occurring.

Next, we examined how different combinations of frame, identity, and adopter type might predict social distancing intention as assessed by our added measure: the total number of times participants planned to leave home for reasons unrelated to work in the next week (see Table S26 in the Supplemental Material). We found that, compared with the lax adopters (who planned to make an average of 15.04 trips), strong adopters planned to make fewer trips (9.93 on average). Relative to strong adopters, lax adopters were significantly more influenced to stay home by messaging in which the “stay healthy” or “keep safe” frame fit with the highlighting of individual or American identity, respectively (\( b = 9.39, 95\% \text{ CI} [3.91, 14.86], \ p = .001 \)). Specifically, the predicted fit effect of frame and identity was significant among lax adopters (\( b = -8.90, 95\% \text{ CI} [-13.95, -3.85], \ p = .001 \)) but not among strong adopters (\( b = 0.48, 95\% \text{ CI} [-1.63, 2.60], \ p = .654 \)).

For lax adopters, we found that when their individual identity was made salient, the health-promotion messaging led to fewer planned trips than the prevention-focused messaging did; the mean planned-trips score was 11.91 for those who read the promotion-oriented headline and 17.33 for those who read the prevention-oriented headline (\( d = 0.53, \ p = .005 \); see Figure 2). In contrast, when their American identity was made salient to the lax adopters, it was the prevention-focused messaging that led to fewer planned trips; the mean planned-trips score was 17.07 for those who read the promotion-oriented headline and 13.59 for those who read the prevention-oriented headline (\( d = 0.34, \ p = .044 \)). Put another way, when the messaging focused on staying healthy, lax adopters whose individual identity was made salient planned to leave home fewer times than did those whose American identity was made salient (\( d = 0.55, \ p = .004 \)), whereas when the messaging focused on staying safe, lax adopters whose American identity was made salient planned to leave home fewer times than did those whose individual identity was made salient (\( d = 0.34, \ p = .043 \)). These results held for each non-work-related reason (see Tables S27–S38 in the Supplemental Material).

In light of Experiment 2’s findings, we reanalyzed the Experiment 1 data to include adopter type. We had 328 lax adopters and 873 strong...
adopters. In line with the findings of Experiment 2, the analysis revealed a significant regulatory fit effect of frame and identity on social distancing for lax adopters ($b = 1.33$, 95% CI [0.50, 2.15], $p = .002$) but not for strong adopters ($b = 0.17$, 95% CI [−0.33, 0.67], $p = .504$; see Figure 3 and the Supplemental Material for fuller details).

In the data collected for Experiment 2, political party affiliation no longer predicted perceived vulnerability to COVID-19 (see Table S18 in the Supplemental Material), although more Democrats (90.0%) than Republicans or others (79.5% and 82.6%, respectively) still reported that they were “for sure” staying home more than they did before the pandemic ($p < .001$; see Table S19 in the Supplemental Material). As in Experiment 1, political party affiliation did not moderate the fit effect among lax adopters ($p > .26$).

Conclusions

In two survey-based experiments, we examined the regulatory fit effect on people’s intention to adopt social distancing recommendations for limiting the spread of COVID-19. Consistent with regulatory fit theory, we found that people were persuaded to practice social distancing more when an appeal that focused on health promotion also highlighted the recipient’s identity as an individual (that is, when the appeal was framed as a way to “help you stay healthy”) or when an appeal that focused on disease prevention also highlighted the recipient’s group identity (that is, when the appeal was framed as a way to “keep America safe from the coronavirus”).

However, the regulatory fit effect was moderated by the extent to which participants reported being in compliance with distancing guidance: the influence of regulatory fit was found only among lax adopters. Experiment 1’s survey was conducted on March 18, 2020, when none of the statewide stay-at-home or shelter-in-place orders were in effect and fewer participants than in Experiment 2 reported that they were actively social distancing. In Experiment 1, we assessed social distancing intention by measuring intentions to practice three social distancing actions and found a regulatory fit...
effect on intentions to engage in all three social distancing actions. We later categorized participants in Experiment 1 according to whether they were lax or strong adopters of social distancing and found that messaging that incorporated regulatory fit increased intentions to practice social distancing only among the lax adopters. The strong adopters were already vigilantly practicing social distancing and did not need more persuasion.

Experiment 2 was conducted on March 27, 2020, when 21 states were under stay-at-home orders and a greater percentage of participants reported being adherent to them. When we used the same outcome measures as we applied in Experiment 1, we did not replicate the regulatory fit findings, potentially because the measures were not sensitive enough to capture the fit effect when many participants were already practicing social distancing. But we did observe a significant regulatory fit effect on an additional measure of social distancing intentions: the number of out-of-home trips participants planned to make in the next seven days for each of six reasons unrelated to work. The fit effect was observed among the lax adopters but not among the strong adopters. Strong adopters, who already planned to make fewer trips than the lax adopters did, probably did not have much room to improve.

Our findings have an important implication for policymakers: messages that highlight a match between recipients’ identity as an individual and a health-promotion goal or a match between recipients’ group identity (for example, as Americans) and a disease-prevention goal can be effective at encouraging the adoption of COVID-19-related social distancing practices. Policymakers should leverage the regulatory fit effect in framing policies and persuasive communications designed to promote social distancing; more specifically, they should pair “stay healthy” messages with an emphasis on benefits to the recipients themselves but pair “keep safe” messages with an emphasis on protecting the broader public. We anticipate that the fit effect could also apply to other precautionary behaviors that we did not examine, such as wearing face masks or getting vaccinated.

end notes
A. Survey materials, data, and code are available at OSF (https://osf.io/h38nm/). We preregistered our primary plan of examining people’s perceptions of the pandemic and the effect of regulatory fit on adoption of precautionary measures for Experiment 1 at https://osf.io/kanj8/ and Experiment 2 at https://aspredicted.org/blind.php?x=zy2mw7.

B. Editors’ note to nonscientists: For any given data set, the statistical test used—such as the chi-square ($\chi^2$), the $t$ test, or the $F$ test—depends on the number of data points and the kinds of variables being considered, such as proportions or means. $F$ tests and $t$ tests are parametric: they make some assumptions about the characteristics of a population, such as that the compared groups have an equal variance on a compared factor. In cases where these assumptions are violated, researchers make some adjustments in their calculations to take into account dissimilar variances across groups. A $b$ value indicates how much a change in one variable accounts for a change in another variable. The $p$ value of a statistical test is the probability of obtaining a result equal to or more extreme than would be observed merely by chance, assuming there are no true differences between the groups under study (this assumption is referred to as the null hypothesis). Researchers traditionally view $p < .05$ as the threshold of statistical significance, with lower values indicating a stronger basis for rejecting the null hypothesis. In addition to the chance question, researchers consider the size of the observed effects, using such measures as Cohen’s $d$ or Cohen’s $h$. Cohen’s $d$ or $h$ values of 0.2, 0.5, and 0.8 typically indicate small, medium, and large effect sizes, respectively. Standard deviation is a measure of the amount of variation in a set of values. Approximately two-thirds of the observations fall between one standard deviation below the mean and one standard deviation above the mean. Standard error uses standard deviation to determine how precisely one has estimated a true population value from a sample. For instance, if one took enough samples from a population, the sample mean $\pm 1$ standard error would contain the true population mean around two-thirds of the time. A 95% confidence interval for a given metric indicates that in 95% of random samples from a given population, the measured value will fall within the stated interval.

end notes
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supplemental material

- https://behavioralpolicy.org/publications/
- Methods & Analysis


