

Human Factors Science: Guidelines for Effective Communication of COVID-19 Messages to the Public

Human Factors research provides useful guidance for communicating news or instructions to large groups of people in a manner that maximizes the likelihood that the messages will be *received, understood, and heeded*.^[1] This will be especially important in coming months when communication from government authorities is critical for guiding the behavior of all people in the United States, and particularly for communicating effectively to vulnerable populations, such as the elderly.

As has been observed in previous disaster events, people receive instructions about how to behave during the crisis from a variety of sources, including direct messages from authorities but also second- or third-hand from friends, family members, and coworkers.^[2] Social media plays a prominent role in the distribution of these messages, but also in perpetuating inaccuracies and contrary messages. For example, during the preparation for and response to Hurricane Sandy in 2012, government mandates to evacuate coastal regions of New England were received but ignored by a large segment of the population. Their defiance of official instructions was bolstered via informal communications with non-officials (friends and family) through social media channels such as Facebook.^[3]

There are a number of ways that a message issued from government authorities can get lost, undervalued, or distrusted in its delivery to the people, and the vast amount of misinformation surrounding major disaster events makes it especially challenging for people to determine valid messages amongst a larger amount of “noise”.^[2,5] Therefore, any critical instructions, such as the need for social distancing and shelter-in-place orders, may not be followed by a significant portion of the population.

Human Factors science provides design guidance for effective communications during the COVID-19 pandemic response:

1. **Messages being received.** By designing message media to be maximally “salient” (i.e., attracting human attention), while also minimizing the “cost” of processing the message in terms of required mental resources, we can ensure the greatest percentage of the population will receive the intended message. This is especially critical for elderly populations, which are more likely to suffer from sensory degradations such as age-related hearing loss and vision problems.
2. **Messages being understood.** The target population for COVID-19 messages includes many people with low English literacy, such as those who primarily (or solely) use languages other than English to communicate, as well as people who are functionally illiterate in any language. Published lists of “Basic English” terms^[4] should be employed, and non-linguistic graphical depictions should be developed to construct messages to be maximally understandable by the largest proportion of people. Messages should be simple, be provided immediately and include a clear statement of facts without directly repeating misinformation to avoid inadvertent reinforcement of false narratives, and be tied clearly to credible sources.^[5]
3. **Messages being heeded.** Just understanding of the message content is not the end goal; people must also be properly motivated to heed the message and comply with instructions. This is naturally challenging when the instructions require a change in behavior that is not the easiest for the individual. Building on established guidelines for the design of hazard warnings, human factors science can design instructions for maximum compliance by considering the capabilities of the people and costs of the behavioral changes, and by clearly communicating the risks and consequences of undesired behavior, as well as simple instructions for how to avoid or minimize those consequences. Messages need to be framed in ways that are consistent with group values to avoid cognitive dissonance.^[5]

About HFES

With over 4,600 members, HFES is the world's largest nonprofit association for human factors and ergonomics (HF/E) professionals. HFES members include psychologists and other scientists, designers, and engineers, including researchers, practitioners, and federal agency officials, all of whom have a common interest in working to develop safe, effective, and practical human use of technology, particularly in challenging settings. HFES has a particularly strong expertise pertaining to the safe and effective use of medical technology, in order to ensure the safety of patients and healthcare workers.

References

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