

Extreme negative anti-smoking ads can backfire, experts find

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Health communicators have long searched for the most effective ways to convince smokers to quit. Now, University of Missouri researchers have found that using a combination of disturbing images and threatening messages to prevent smoking is not effective and could potentially cause an unexpected reaction.

In a study recently published in the *Journal of Media Psychology*, Glenn Leshner, Paul Bolls and Kevin Wise, co-directors of the Psychological Research on Information and Media Effects (PRIME) Lab at the University of Missouri School of Journalism, found that showing viewers a combination of threatening and disgusting television public service announcements (PSAs) caused viewers to experience the beginnings of strong defensive reactions. The researchers found that when viewers saw the PSAs with both threatening and disgusting material, they tended to withdraw [mental resources](#) from processing the messages while simultaneously reducing the intensity of their [emotional responses](#). Leshner says that these types of images could possibly have a "boomerang effect," meaning the defensive reactions could be so strong that they cause viewers to stop processing the messages in the PSAs.

In their study, the researchers showed 49 participants anti-smoking television PSAs. Some PSAs included disgusting images and some did not. Further, some PSAs included an explicit health threat while others did not. The researchers monitored the participants' emotional responses and how much attention they paid to both types of images through self-report questions as well as through sensors that measured heart rate and

physiological negative emotional response from muscle activity above the eye socket on the brow.

The researchers found the PSAs which included either a threatening message or a disgusting image resulted in greater attention, better memory, and a heightened emotional response. However, PSAs that included both threatening and disgusting images caused participants to have defensive responses, where defensive reactions were so strong that the participants unconsciously limited the mental resources they allocated to processing the messages. They also had worse memories and a lower emotional responses when the threatening PSAs included disgusting images. Leshner says that when a disgusting image is included in a threatening PSA, the ad becomes too noxious for the viewer.

"We noticed in our collection of anti-tobacco public service announcements a number of ads that contained very disturbing images, such as cholesterol being squeezed from a human artery, a diseased lung, or a cancer-riddled tongue," Leshner said. "Presumably, these messages are designed to scare people so that they don't smoke. It appears that this strategy may backfire."

Bolls says that the recent MU study shows that new FDA regulations requiring cigarette companies to include potentially threatening and disgusting images on cigarette packages may be ineffective at communicating the desired message that smoking is unhealthy.

"Simply trying to encourage smokers to quit by exposing them to combined threatening and disgusting visual images is not an effective way to change attitudes and behaviors," Bolls said. "Effective communication is more complicated than simply showing a disgusting picture. That kind of communication will usually result in a defensive avoidance response where the smoker will try to avoid the disgusting images, not the cigarettes."

Bolls goes on to say that one of the major limitations of the new regulation is that the FDA is relying on smokers to take the disgusting images and make the cognitive leap that those images portray what they are doing to their bodies and that they should quit smoking to prevent those conditions.

"You can't get that kind of message out explicitly just by putting a gross picture on a package of cigarettes; yet, that is the kind messaging that needs to take place to have a chance at changing smokers' habits," Bolls said. "You have to talk to smokers in a meaningful and encouraging way that outlines the consequences of smoking, but also have messages designed to minimize the defensive avoidance responses."

Provided by University of Missouri-Columbia

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