'Less is More' Online

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Researchers at the University of Missouri-Columbia have found that less is more when it comes to online content. In a study that examined responses to pictures viewed online, the researchers found that people were able to pay more attention to pictures selected from a small array of choices than from a large array of choices. These findings may have implications for Internet search engines, advertising and news sites.

"Look at any major news portal, and you may find as many as 50 hyperlinked stories on its front page. The prevalence of this extensive choice online suggests an assumption that people desire extensive options. In our study, however, we found that having more choices is not necessarily better. In fact, it can limit a person's ability to focus on the content," said Kevin Wise, assistant professor of strategic communication in MU's School of Journalism.

Wise and Kimberlee Pepple, a researcher at Fleishman-Hillard, conducted a study in which participants were asked to select three pictures they would like to examine more closely from an array of thumbnails. In one condition, participants chose from six thumbnail pictures; in another condition, they chose from 24. To determine participants' cardiac orienting responses, the researchers measured participants' heart rates while they viewed the pictures they had selected. An orienting response is an automatic short-term heart rate deceleration that indicates something has captured a person's attention. The researchers found that participants who viewed pictures selected from the array of six showed orienting responses, but those who viewed pictures selected from the array of 24 did not.

After viewing the pictures, participants completed an unrelated distraction task and then were given a picture recognition test. Participants who had selected from the limited array remembered the pictures with 99 percent accuracy, while participants who had selected from the extensive array only remembered the pictures with 89 percent accuracy. Participants also were faster at recognizing the pictures selected from the limited array.

Wise said this shows that recognition of pictures is fastest and most accurate when pictures are selected from limited options. He refers to this phenomenon as the difference between "getting there" and "being there." If a person uses too many mental resources getting to the picture, he or she won't have as many mental resources to use while "being there," when encoding the picture into memory.

"At some point, our mental processing resources become overloaded and cannot efficiently process new information without sacrificing old information. More mental resources were utilized when participants selected from 24 pictures than from six pictures, and this left participants who selected from the 24 pictures with fewer mental resources to devote to encoding the pictures they selected," Wise said. "When the process of 'getting there' requires greater cognitive effort, fewer cognitive resources remain to encode content while 'being there.'"

These results may have implications for presenting content online, especially for search engines and news portals, as well as sites that utilize advertising. Wise said companies might consider presenting fewer picture options online. Similar concepts may also apply to other types of content such as videos and text, but Wise said more research is needed to determine this.

The study, "The Effect of Available Choice on Cognitive Processing of Pictures," has been accepted for publication in the journal *Computers in*

Human Behavior.

Source: University of Missouri-Columbia

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