# Consumers prefer products with few, and mostly matching, colors 

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Most people like to play it safe when combining colors for an article of clothing or outfit, a new study suggests.

When consumers were asked to choose colors for seven different parts of an athletic shoe, they tended to pick identical or similar colors for nearly every element.

They usually avoided contrasting or even moderately different color combinations.

A red and yellow athletic shoe? Not going to happen. Blue and grey? That's more like it.

This is one of the first studies to show how consumers would choose to combine colors in a realistic shopping situation, said Xiaoyan Deng, lead author of the study and assistant professor of marketing at Ohio State University's Fisher College of Business.

The results support the theory that people like their color combinations to be relatively simple and coherent, rather than complex and distinct
"Most people like to match colors very closely," Deng said. "The further the distance between two colors, the less likely people are to choose them together."

However, there was one exception. A large minority of people chose to
highlight a relatively small signature part of the shoe with a contrasting color far from the colors used in other elements.

Overall, though, the study showed that people prefer a simple design with few colors. While participants could choose from up to 16 colors for different parts of the shoe, the average person only used about four colors on the entire shoe they designed.
"Using a small number of colors simplifies the final design and reduces the effort it takes to design the shoe," Deng said.

Deng conducted the study with Sam Hui of the Stern School of Business at New York University and J. Wesley Hutchison of the Wharton School at the University of Pennsylvania. It was published in a recent issue of the Journal of Consumer Psychology.

The study is important, Deng said, because it is one of the first to show, from a marketing perspective, people's preferences for color combinations. Most other research on color preferences has taken a psychological perspective and simply asked people whether they thought two color chips would go well together.
"We had a very realistic situation in the study where consumers could clearly show how they would combine colors in real life," Deng said.

The study involved 142 participants who agreed to go to the publicly available NIKEiD website and create a Nike "shox" shoe for themselves. At the site, they choose colors for seven elements of the shoe: the base, secondary, swoosh, accent, lace, lining and shox. For each element, they could choose between six to 12 colors.

The researchers analyzed the color choices made by the participants and measured the similarity of chosen colors based on a widely accepted
"color space" model.
Results showed there was a strong tendency to use identical colors in more than one of the seven different elements of the shoe, Deng said. When the participants did use different colors, they were almost always very closely related. For instance, "ice blue" might be combined with "twilight blue."

But a large minority of people did choose to highlight one element of the shoe by making it a color that was unrelated to the others used, offering a strong contrast. Often, people chose this contrasting color for the "shox" element - columns in the heel and mid-section of the shoe that provide cushioning while running.

These shox are a unique component of athletic shoes and a signature component of this Nike product line.
"It seems that some consumers wanted this signature part of the shoe to really stand out from the rest," Deng said. "It may be that they saw the rest of the shoe as a background for this one contrasting color. But we need to study that more."

Deng said it was significant that consumers used only about four different colors in the shoe. The researchers calculated that they would expect consumers to use 5.48 colors per shoe, based on the conditions in this study.
"We found that consumers preferred to use just a small palette of colors in their shoe and closely matched colors within this palette," she said.

But does this study really capture the participants' general feelings about color combinations, or are the results only applicable to these selfdesigned shoes?

To test this, the researchers asked participants to rate how much they liked four Nike-designed shoes available on the website.

The researchers then created a "color coordination index" for each Nikedesigned shoe that allowed them to relate the level of similarity between colors of a specific Nike-designed shoe to participants' shoe preferences.

The results showed that there was a strong association between the color coordination index and the liking for Nike-designed shoes. This suggests the study really did reveal how participants liked to combine colors, Deng said.

Deng said the findings suggest that Nike may be offering more color combinations for each element of the shoe than consumers really need.
"If a consumer chooses a reddish color for one element of the shoe, he or she will probably only use colors closely related to red for the rest of the shoe," she said.
"However, it is not the case that you can offer the same small palette of colors for all consumers. Each consumer may have a different idea of what color they want to emphasize. But once they make that choice, their palette tends to be restricted."

## Provided by The Ohio State University

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