

Does juice color affect taste? The psychology behind flavor perception.

Research suggests that the color of food, including juice, can influence our perception of its taste. This phenomenon is known as "color-flavor correspondence." Essentially, when the color of a food aligns with our *expectations* of its flavor, we tend to perceive it as tasting better.

In this blog, we'll show you how color affects taste and how you can give your juice a marketing advantage.

Does color affect taste? Absolutely.

A study published in the *Journal of Sensory Studies* in 2011 investigated how [the color of juice affected participants' flavor perception](#). The researchers found that participants rated orange-flavored drinks more favorably when they were orange, compared to when they were blue or green, even though all the drinks had the same flavor! To get even more specific, this study suggests that the majority of people prefer orange juice with an orange hue rather than an orange juice with a reddish or yellow tone.

Similarly, other studies have explored the impact of color on taste perception. Collectively, they reveal that participants tend to perceive beverages as tasting sweeter when they are presented in pink or red containers compared to green or blue containers. What's most interesting about these findings is that this relationship between sweetness and the colors pink and red persists regardless of the actual sweetness of the drinks!

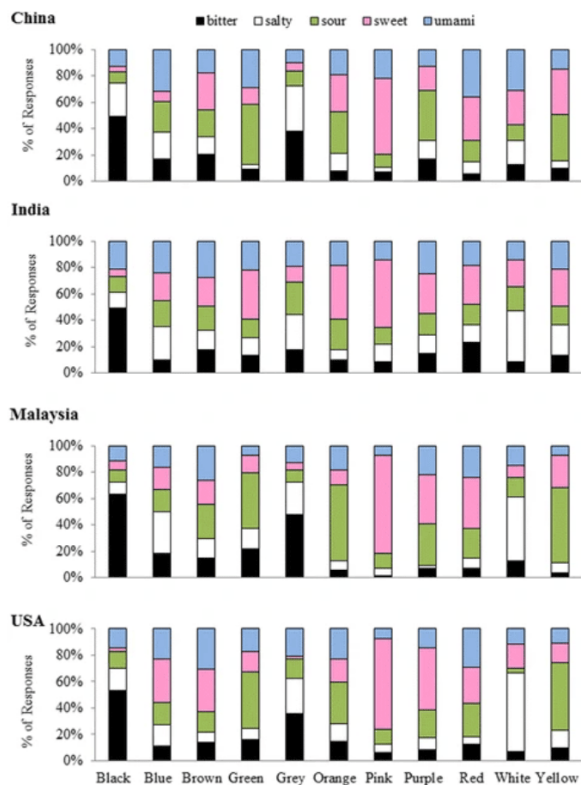
These findings highlight the significant role that color plays in shaping our taste experiences. While the specific mechanisms behind color-flavor correspondence are complex and not yet fully understood, they underscore the importance of considering visual cues, such as color, in the enjoyment of food and beverages.

What taste profiles are different colors associated with?

Interestingly, we associate red foods with sweetness (and umami), yellow foods with sourness, and green foods with tartness (and sourness). Dark colors, on the other hand,

are usually associated with spoilage!

What makes this relationship even more jarring is that these colors are not particularly associated with 1 specific food. It's the [color in itself that conveys the expected flavor profile](#). And to add even more complexity to this topic, the [flavor expectations vary across cultures](#)!



Even with colors that aren't directly linked to a food product, your brain will associate the color of your food with another flavor you *do* have a strong association with.

We compare the color of our foods and drinks with what we expect them to taste like. Then, our brains compare the expected flavor with the actual flavor in order to understand whether or not we enjoyed it.

Recognizing expectations surrounding specific food colors can give you an advantage in how you market your juice product. It's part of understanding the rules of customer behavior so you know when to break them! This lens can help you understand how changing the color of your product can impact how your customers view it.

The color of your juice gives you a competitive edge in marketing

Let's do a quick thought experiment to help illustrate this point:

You walk into your favorite grocery store and are craving some junk food, so you make your way to the chips aisle. Once there, you look at all of the options and notice that the packaging for your favorite bag of Cheetos is different. On the cover of the bag, your Cheetos are no longer the bright orange color you associate with them. In fact, they are grey! If this happened to you, would this change your perception of that product? Would you still feel inclined to purchase Cheetos? The answer is probably NO.

Interestingly, this is closer to reality than we may assume. Cheetos are actually naturally grey in color! But big corporations know that we eat with our eyes first, and make their junk foods bright and colorful to appeal to our senses as much as possible.

This is super important to keep in mind if you're in a competitive market that doesn't prioritize health-centric foods and drinks. In order to gain skin in the game against these big corporations and businesses, we need to use similar tactics to steer people's attention to products that are not only delicious, but *good* for them too!

Don't underestimate the importance of knowing what your customers are looking for. According to [this study](#), "telling blindfolded participants about the color of the food that they are about to taste (even though they cannot see it directly) has also been shown to influence taste ratings in several studies."

What other factors influence the taste of your juice?

How your product is perceived is not only based on its color, but also on how your product is packaged. It may not change the flavor of your juice, but it changes the buying behavior around that product, which is essentially changing people's flavor perception towards your product.

This is important to note, especially if your product is a juice or drink, because the nature of your product removes other flavor cues from the buying process, like smell, meaning that your juice is judged [based on its visual appeal](#).

Notes: Does juice color affect taste? The psychology behind flavor perception.

[Video](#)

- We eat with our eyes.
- Red is associated with sweetness
- Yellow sour
- Green = tart
- Dark colors = we associate these with spoilage.
- Junk foods are so alluring to people because they're made to appeal to our senses as much as possible. Apparently, Cheetos are naturally grey in color. How would that change your perception of that juice?
- It's important to know because as health-centric businesses we need to use similar tactics to gain skin against these big corporations.

[Source 2](#)

- Suggests that the majority of people prefer orange juice with an orange hue rather than an orange juice with a reddish or yellow tone to it.

[Source 3](#)

- "empirical evidence published over the last 80 years or so clearly demonstrates that the hue and saturation, or intensity, of color in food and/or drink often influences multisensory flavor perception."
- First study on the topic of the relationship between color and taste was written in 1936 in the Journal of the Society of Chemical Industry, but it wasn't until 1939 that the relationship between "unusually colored new food products" was studied.
- A lot of people consume products based on how they will appear online. (ex. how X juice will look in a photo vs. Y juice).

"Colorful drinks are relatively easy to create and, what is more, do not provide many of the other cues that are normally available when we inspect a food visually."

- The influence is not only from the product itself, but also from the packaging of the product. It doesn't change the flavor of your juice, but it changes the buying behavior around that product.

- Even with flavors that aren't directly linked to a food product, your brain will associate the color of your food to another food or flavor you do have a strong association with. We compare flavors with what we expect those flavors to taste like. Then, our brains compare the expected flavor with the new flavor in order to understand whether or not it liked that flavor.

- If your juice is orange, people will associate it to an orange flavor.

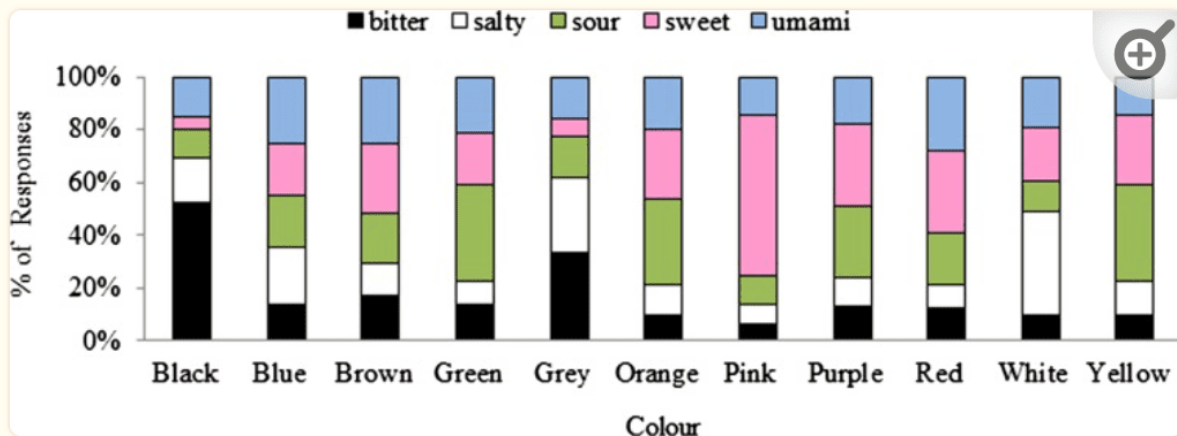
" unless one knows what expectations people hold in relation to a given food color (presumably acquired through experience as a result of associative learning; Higgins & Hayes, 2019), it may be hard to know quite what the consequences of changing the color of a drink, say, will be for multisensory flavor perception."

How to make juice more people want to buy:

- Understand people's flavor expectations based on the color of the drink

Summary of the percentage of color responses to the question ‘Which drink look sweetest?’ as a function of region in the study conducted at London’s Science Museum. The column “N” indicates the number of participants from each region. [Table reprinted from [Velasco et al. \(2016\)](#), Table 3.]

Region	Color						N
	Blue	Green	Orange	Purple	Red	Yellow	
Africa	21.62	4.05	9.46	18.92	43.24	2.70	74
Asia	17.03	3.47	6.94	28.39	37.22	6.94	317
Europe	20.94	1.87	8.00	22.89	42.03	4.26	1,337
North America	28.61	1.77	5.31	11.21	48.08	5.01	339
Oceania	26.67	2.00	4.67	19.33	41.33	6.00	150
South America	16.51	0.00	5.50	22.02	51.38	4.59	109
UK	32.58	1.27	5.48	15.64	39.09	5.95	2,993
None	0.00	0.00	0.00	0.00	66.67	33.33	3
Total	27.81	1.62	6.22	18.21	40.68	5.47	5,322



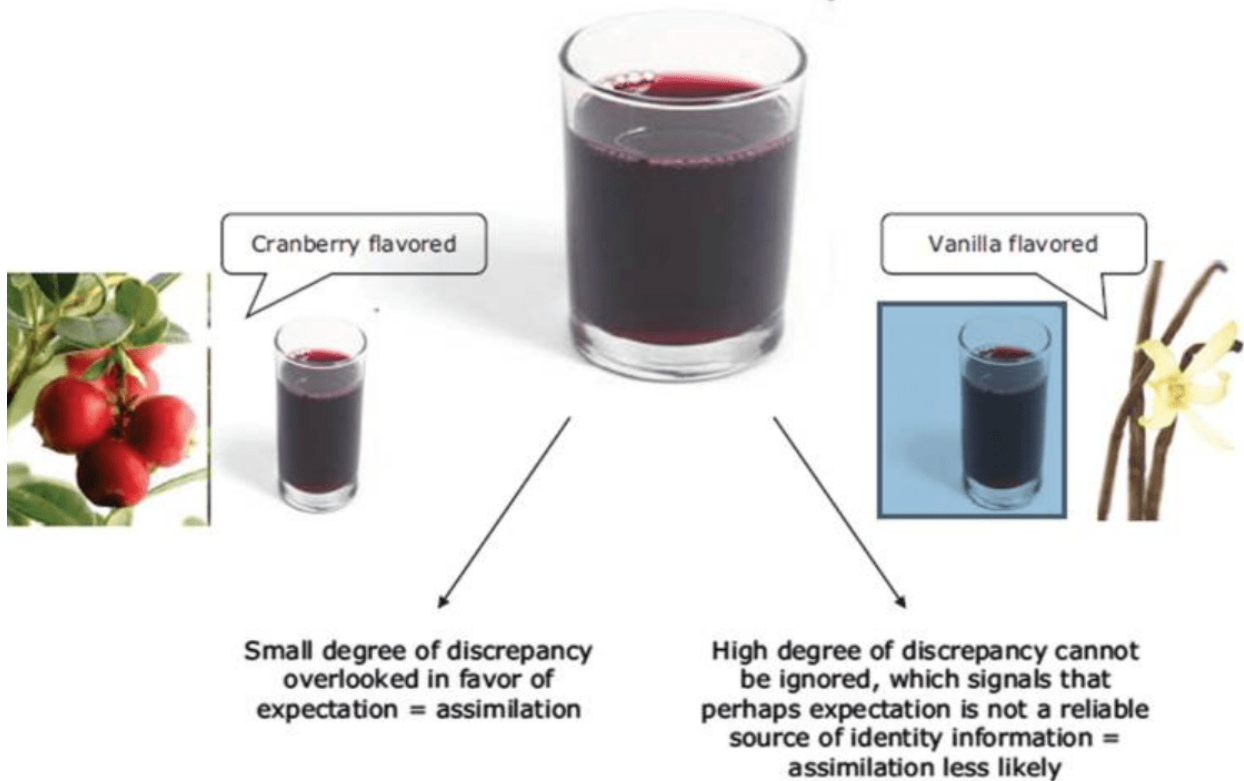
[Figure 2](#)

The taste–color correspondences documented by [Wan, Woods, et al. \(2014\)](#). The percentage of bitter, salty, sour, sweet, and umami taste terms chosen for each of the color patches are represented by the colors black, white, green, pink, and blue, respectively. [Figure reprinted from [Spence, Wan, et al. \(2015\)](#).]

"Another factor that may be relevant when thinking about the crossmodal influence of color on tasting is whether the olfactory cues are experienced orthonasally, as when we sniff, or retronasally (e.g., on swallowing). Surprisingly, [Koza, Cilmi, Dolese, and Zellner \(2005\)](#) reported that adding color to a drink enhanced orthonasal odor intensity ratings while, at the same time, reducing the intensity of the same odor when experienced retronasally."

"Note that telling blindfolded participants about the color of the food that they are about to taste (even though they cannot see it directly) has also been shown to influence taste ratings in several studies (e.g., [Shankar, Levitan, Prescott, & Spence, 2009](#))."

Purple color generates expectation that drink will smell like "grape"



[Source 4](#)

[Source 5](#)

[Source 6](#)