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The Effect of Similarity Between A Product's Packaging Color and the Benefit Offered on Judgments and Preferences

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Abstract

Studies show a product's color affects consumer behavior. Yet the basic principle that governs color effects is unclear. In this study, we fill this gap. We demonstrate that causal-reasoning considerations govern color effects. Specifically, people expect that a cause and its effect should exhibit some degree of resemblance or congruency ("like causes like"), which leads them to use the "law of similarity" heuristic. In two studies, using various products, we focused on an irrelevant aspect of the product's color-the color of its packaging. We demonstrate that the same ad (e.g., a patch that prevents mosquito bites) was more persuasive (willingness to purchase the product-henceforth WTP, and preference) when the product's *packaging* color was congruent (pinkish) with the effect promised (calm skin) than when it was not (red).

We strengthen the notion that leaning on a cause-effect-similarity heuristic is very basic, by showing that individual differences in thinking style have a very small effect on moderating this tendency.

In line with other studies, which shows that causal-reasoning considerations (as previous knowledge and metal causal structure) govern judgment and choice on artifacts (products), the present study demonstrates that causal-reasoning considerations govern judgment and choice concerning cause-effect similarity heuristic as well.

Keywords: cause-effect similarity, consumer preferences, causal reasoning

1. Introduction

Recently, *The Washington Post* (2017) reported results of a national online survey that included American adults (commissioned by the Innovation Center of U.S. Dairy) in which, "surprisingly, 7% (16.4 million) of them believe that chocolate milk comes from brown cows." In light of the fact that most Americas do not have any contact with cows, this result is not very surprising and is probably a product of people's tendency to use the "law of similarity" heuristic (Rozin & Nemeroff, 2002). Specifically, people expect *cause* (e.g., the cow's color) and *effect* (e.g., the chocolate milk) to exhibit some degree of physical resemblance ("like causes like"). Sometimes, especially when the color is an essential property of the product, it can be a valid cue for inferring the effect. For example, the color of meat can hint at its freshness, and the redness of a strawberry hints at its sweetness. Yet when a product's color is an external property (e.g., the packaging), it is generally not a valid cue for inferring the probability that it will deliver the effect.

In the present study, we examine the influence that a cause-effect similarity in a product's packaging color has on persuasion (willingness to purchase the product and choice between products). We contend that because people expect cause and effect to be similar (Rozin & Nemeroff, 2002), they are overly sensitive to available attributes, such as the packaging color, and thus tend to base their attitudes toward the product on them. Specifically, we contend that the same ad will be more persuasive when the product's packaging color is congruent with the effect promised than when it is not. Thus, an ad for a patch that claims to prevent mosquito bites will be more persuasive when the patch is pink (the color of calm skin) than when it is red (the color of irritated skin).

1.1 Literature Review

1.1.1 Effects of Cause-Effect Similarity on Judgments and Inferences

People believe a cause and its effect should be congruent on dimensions, such as size, magnitude, length, or duration (Einhorn & Hogarth, 1986). They expect cause and effect to exhibit some degree of physical resemblance ("like causes like"), and congruity in length and strength. For example, people mistakenly believe cholesterol causes the accumulation of cholesterol-containing plaque in the arteries. They may believe that feeding a pet a meat-based diet could make the pet aggressive, and think that because AIDS is lethal and resistant to cure attempts, the infectious agent

(HIV) should have the same potent and indestructible qualities, when in fact it is very fragile (Rozin & Nemeroff, 2002). Research indicates people rely on the cause-effect-similarity heuristic when making causal judgments (see, e.g., Gilovich & Savitsky, 2002; LeBoeuf & Norton, 2012; White, 2009).

The use of this heuristic in inferences about products has been tested among undergraduate Americans, mostly with respect to similarity in shape and labeling. Rozin, Millman, and Nemeroff (1986) showed that most students preferred a round piece of chocolate fudge to a piece with the same content but realistically shaped to look like "dog doo." Similarly, most undergraduates were more reluctant to put in their mouth a fake vitamin that was clearly made of rubber than a flat rubber sink stopper of roughly the same size. Similar effects have been observed for willingness to eat things that only appear to be harmful. Undergraduate subjects observed sugar from a commercial container that was randomly poured into one of two bottles, one of which was then labeled "sugar" and the other "cyanide" (Rozin et al., 1986; Rozin, Markwith, & Ross, 1990). The subjects were reluctant to consume the sugar taken from the bottle labeled as cyanide, even though they had clearly seen the label being placed on it.

1.1.2 Effects of Product's Color and Packaging on Consumer Judgments and Preference

Marketers are aware of the importance of color in purchase decisions. Accordingly, past studies examined the effects of the color of a product *itself* (e.g., the color of meat) and the color of properties that are external to the product (e.g., background color). In both cases, researchers found that color is an important property that affects purchase decisions. Specifically, studies that examined the effect of the color of a product itself show color is more important in purchase decisions than other important properties. For example, Behe et al. (1999) demonstrated that the color of flowers is more important than price in the purchase decision. Frank, Nelson, Simonne, Behe, and Simonne (2001) provide evidence that the color of a bell pepper is more important than price or the amount of vitamin C. Killinger, Calkins, Umberger, Feuz, and Eskridge (2004) show that the color of a raw steak affects preferences and WTP.

In studies in which color was an external property of the product, color appears to affect purchase decisions as well. Gorn, Chattopadhyay, Sengupta, and Tripathi (2004) examined the effect of the background color of a web page (heb, value, and chromo) on the perceived speed of its download. They found that a color that suggested a more relaxed state led to a greater perceived speed and affected the subject's evaluation of the website. Aggarwal and McGill (2007) examined the effect of red (vs. blue or gray) backgrounds of auctions on eBay, on negotiations and willingness to pay. They found that when the background was red, participants bid more aggressively but made lower offers in negotiations. Javed and Javed (2015) examined the impact of a product's packaging color on customers' buying preferences under time pressure. Results indicated buying preference depends more on the color scheme than on time constraints.

1.2 Hypothesis Development

1.2.1 Color Effects and Causal Reasoning in Products

In marketing communication, consumers are often exposed to causal claims stating that a certain product (the cause, e.g., an energy drink) produces a certain benefit (the effect, e.g., alertness) (Saporta-Sorozon & Bar-Eli, 2017). Based on previous knowledge, we can sometimes guess the product's attributes that have the causal power (White, 2005) to produce the effect (e.g., caffeine). Such inferences provide the basis on which we build our judgments of the product (Saporta-Sorozon, Danziger, & Sloman, 2017; Saporta-Sorozon & Bar-Eli, 2017). As mentioned above, some studies have focused on the effect of the product's color on persuasion. Yet none examined color effects from the causal-reasoning and cause-effect-similarity perspective. The purpose of the present study is to fill this gap. The advantage of studying color effects from the causal-reasoning perspective (cause-effect similarity) pertains to the generalization power of the findings. Because these findings are based on causal human-reasoning principles, they have the potential to be valid beyond specific colors. Based on people's tendency to lean on the "law of similarity" heuristic, we expect individuals to base their inferences on the congruency between the product's packaging color and the benefit promised. We hypothesize the following:

Hypothesis 1. *Consumers are more persuaded (willing to purchase the product and to choose it) when the package's color is associated and thus congruent with the benefit promised than when it is incongruent (associated with the opposite).*

For example, consider a water device that claims to provide purified water. Blue is associated with clear water, which makes a blue device (the packaging color of the cause) congruent with the effect promised (purified water). Black, however, is associated with contaminated water, which makes a black device incongruent with the effect promised. Consequently, willingness to purchase and prefer the blue device will be higher than the willingness to purchase and prefer the black one.

1.2.2 Cause-Effect-Similarity Heuristic and Processing Style

Studies show that two modes of thinking determine consumers' decisions: The first is experiential, affective, and intuitive; the second is rational, deliberative, and analytical (Kahneman, 2011; Stanovich & West, 2000). Epstein, Pacini, Denes-Raj, and Heiser (1996) developed the Rational-Experiential Inventory (REI) to determine a predominant thinking

style: analytic-rational or intuitive-experiential. The majority of our everyday judgments are automatic, involving minimal effort and deliberation as determined by System 1, namely, intuitive thinking (Kahneman, 2003). Rozin and Nemeroff (2002) contend that using the cause-effect-similarity heuristic is straightforward, primitive, and, in a way, automatic. One way to support this claim is to check the tendency to lean on this heuristic among participants with different modes of processing information. As implied by Hypothesis 1, the cause-effect-similarity heuristic will affect individuals with the two processing styles. Yet we predict the following:

Hypothesis 2. *The effect of cause-effect congruency of the product's color packaging and the benefit promised on persuasion will be more pronounced among individuals whose processing style is predominantly intuitive-experiential than among those whose processing style is predominantly analytic-rational.*

2. Pilot Study

To choose appropriate materials for the two experiments, we conducted a pilot study. Inspired by real products, we created six product (see Appendix A): "Me-Ami," a water-purification device; "Only-Natural," a food supplement that improves vision; "Calm," a cream that treats burns; the "terminator," a patch that wards off mosquitoes; "Aridan," a device that prevents bad smells from forming in the washing machine; and "Fresh," a bag that keeps food fresh.

2.1 Method

Fifty five individuals participated in the pilot study which was designed to ensure that the product's color is congruent or incongruent with the benefit offered. This was done by checking the association between a list of words/terms that represented the benefit and the opposite/the problem and a list of colors. Specifically, participants were exposed to a list of 12 terms/words: two for each product (e.g., the water-purification device), one for the benefit (e.g., clarity), and one for the problem (e.g., opacity). We then asked them to choose the color that was primarily associated with each term/word.

2.2 Results

Table 1 presents for each product the percentage of participants who chose the congruent and incongruent color as being associated with the word that expressed the benefit and the word that expressed the opposite (problem). For example, with respect to the relevant words for the water-purification device, out of 33 participants who indicated the two focal colors (black or blue) as being associated with the word "clarity" (the benefit), most participants (97%) chose the congruent color (blue), whereas a minority (3%) chose the incongruent color (black). Similarly, out of the 23 participants who indicated the two focal colors (black or blue) as being associated with the word "opacity" (the problem), few participants (9%) chose the congruent color (blue), whereas most (91%) chose the incongruent color.

Table 1. Percentage of participants who chose the congruent and the incongruent colors as being associated with the words that presented the benefit and the problem, within each product

Product	Word	Color	Number choosing one of the two colors	Percent of those choosing the color as associated with the word
1. A water-purification device	Opacity	Black Blue	23	**91%** 9%
	Clarity	Black Blue	33	3% **97%**
2. A food supplement that improves vision	Blindness	Black Orange	39	**95%** 5%
	Sharp vision	Black Orange	21	21% **79%**
3. A cream that treats burns	Burn	Red White	60	**100%** 0%
	Calm skin	Red White	45	0 **100%**
4. A patch that wards off mosquitoes	Bite	Red Pinkish	60	**98%** 2%
	Calm skin	Red Pinkish	21	0% **100%**
5. A device that prevents bad smells from forming in the washing machine	Bad smell	Brown Silver	23	**91%** 9%
	No smell	Brown Silver	32	12% **88%**
6. A bag that keeps food fresh	Oldness	Brown Green	21	**95%** 5%
	Freshness	Brown Green	32	0 % **100%**

Table 1 shows that, as expected, for the word that expresses the problem, the percentage of participants who chose the incongruent color (as being associated with it) was much higher than the percentage of participants who chose the congruent color, and vice versa.

3. Study 1

3.1 Method

3.1.1 Participants and Design

Sixty-nine undergraduate students (males = 28.8%, M_{age} = 31.64; SD_{age} = 9.41) participated for credit in a web-based study using two conditions of cause-effect congruency in color (congruent or incongruent) in a within-subjects design. Participants were exposed to the same six products as in the pilot study. We randomly assigned participants to the combination of a specific product and the congruency condition.

3.1.2 Materials, Measures, and Procedure

Each participant saw the picture of each of the six products: For three, the product's color was congruent with the benefit promised, and for the other three, the product's color was incongruent with the benefit promised (see Appendix A for the materials). After participants watched each picture, we measured the following:

a. Willingness to purchase. Participants were asked to indicate the probability that they would purchase the product if they needed one that provided the benefit offered, on a scale ranging from 1 (*definitely not*) to 6 (*definitely yes*).

b. Sense of the delivery of the benefit. Participants were asked to indicate the extent to which the product in the picture gave them the feeling that it would deliver the benefit, on a scale ranging from 1 (*not at all*) to 6 (*largely gives*).

Then participants completed the Rational Intuitive Inventory (REI) (Epstein et al., 1996). Based on participants' responses to the REI, we divided them into one of two predominant thinking styles: analytic-rational or intuitive-experiential. To do so, we first calculated for each participant his/her score on the two favorability scales: the analytic-rational and the intuitive-experiential. Then we converted these two scores to standardized (Z) scores and calculated the difference between them. Note that to avoid a possible bias in which participants considered one of the thinking styles more valuable, we calculated the difference between the standardized scores and not between the raw scores. Finally, we divided participants into analytic-rational or intuitive-experiential, according to which score was higher. The difference was zero or near zero for only four participants, and we excluded them from the analyses.

3.2 Results

3.2.1 Willingness to Purchase

As can be seen in Table 2, in the 2 (cause-effect congruency: incongruent, congruent) by 2 (predominant information-processing style: analytic-rational, intuitive-experiential) analysis of variance, as expected, the main effect of congruency (Hypothesis 1) and the two-way interaction (Hypothesis 2) were significant when the effects were in the expected direction.

Table 2. The effects of cause-effect congruency and predominant Information-processing style on willingness to perches the product

Source of variance	F(1,67)	η^2_p
Cause-effect congruency	6.64*	.09
Information-processing style	1.54	.02
Two-way interaction	4.41*	.06

*p < .05

As can be seen in Table 3, as predicted in Hypothesis 1, willingness to purchase the product was higher when the cause and effect were congruent than when they were incongruent.

Table 3. Means (standard deviations) of WTP as a function of cause-effect congruency in color (incongruent vs. congruent) and predominant information-processing style (experiential vs. rational)

	Experiential	Rational	Total
incongruent	3.26 (1.28)	3.42 (1.18)	3.33 (1.23)
congruent	4.18 (0.91)	3.52 (1.25)	3.87 (1.12)

Moreover, as predicted in Hypothesis 2, and as can be seen in Table 3 and in Figure 1, a big difference exists in favor of the congruent condition in WTP for the experiential participants (0.92), but for the rational individuals, the difference is very small (difference = 0.10).

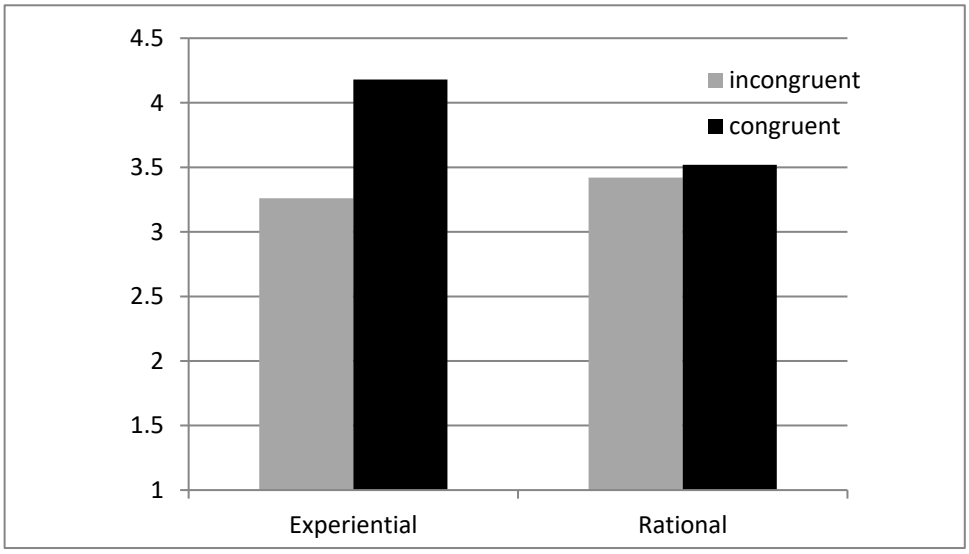

Figure 1. Means of WTP as a function of cause-effect congruency in color (incongruent vs. congruent) and predominant information-processing style (experiential vs. rational)

3.2.2 Sense of Benefit Delivery

As can be seen in Table 4, in the 2 (cause-effect congruency: incongruent, congruent) by 2 (predominant information-processing style: analytic-rational, intuitive-experiential) analysis of variance, as expected, the main effect of congruency was significant and the two-way interaction was not. That is, the "feeling" that the product would deliver the benefit was higher when cause and effect were congruent than when they were incongruent (M_{cong} = 3.66, *SD* = 0.96 vs. M_{incong}= 3.04, *SD* = 1.15), regardless of the information-processing style.

Table 4. The effects of cause-effect congruency and predominant Information-processing style on sense of benefit delivery

Source of variance	F(1,67)	η^2_p
Cause-effect congruency	10.45**	.13
Information-processing style	<1	.00
Two-way interaction	1.16	.02

**p < .01

3.3 Discussion

The results of Study 1 demonstrate that, indeed, the principle of cause-effect similarity governs consumers' judgment of products. Specifically, as predicted (Hypothesis 1), consumers are more willing to purchase a product when the package's color is associated and thus congruent with the benefit promised than when it is incongruent (associated with the opposite). In addition, as predicted (Hypothesis 2), the effect of cause-effect similarity in color on persuasion was higher among individuals whose processing style is predominantly intuitive-experiential than among those whose processing style is predominantly analytic-rational.

The judgments of experiential participants were susceptible to the fallible cue of cause-effect similarity in the color of the packaging. Being rational appears to "help" people overcome this pitfall. Importantly, judgments concerning the sense that the product would deliver the benefit were identical for rational and experiential individuals.

4. Study 2

In Study 1, we measured persuasion by willingness to purchase the product. We wanted to see whether we could generalize the finding to another important measure: choice between products. To avoid the influence of WTP judgments on choice, we run another study with a different design –Study 2. Although in both studies (1 and 2), each participant was exposed to both conditions (congruent and incongruent) there was an important difference: Whereas in Study 1, each slide included only one product, in Study 2, on each slide, the product was presented in its two conditions—side by side—and participants were asked to choose between them.

4.1 Method

4.1.1 Participants and Design

Seventy-two undergraduate students (males = 28.8%, M_{age} = 31.64; SD_{age} = 9.41) participated for credit in a web-based study using a mixed-subjects design of 6 (products—a within-subjects factor) by 2 (order of cause-effect congruency in color presentation: congruent on the left and incongruent on the right vs. the opposite, as a between-subject factor). Participants saw all six products, whereas we randomly assigned participants to one of the two orders.

4.1.2 Materials, Measures, and Procedure

Each participant saw six slides, one for each product (see Study 1), with the two pictures of the product appearing in each slide (congruent and incongruent). After participants saw each slide, we measured the following:

a. Preference/Choice. Participants were asked which of the two products in the slide they would prefer if they needed such product: (a) the product on the left (could be congruent or incongruent), (b) the product on the right (could be congruent or incongruent depending (a)), and (c) indifferent.
b. Sense of the delivery of the benefit (similar to Study 1). Participants were asked to indicate the extent to which each of the two pictures of the product in the slide gave them the feeling it would deliver the benefit, on a scale ranging from 1 (*not at all*) to 6 (*largely gives*).

4.2 Results

4.2.1 Preference

For each participant, we produced two indices: the number of times (out of six) the participant chose the product with the congruent color, and the number of times the participant chose the product with the incongruent color. Note these two numbers do not necessarily sum to six, because for each product, the participant could choose the third possibility, namely, "indifferent."

As can be seen from Table 5, in the 2 (cause-effect congruency: incongruent, congruent) by 2 (predominant information-processing style: analytic-rational, intuitive-experiential) analysis of variance, as in Study 1, the main effect of congruency was significant and even much stronger. Yet the two-way interaction was not significant.

Table 5. The effects of cause-effect congruency and predominant

Information-processing style on choice

Source of variance	F (1,67)	η^2_p
Cause-effect congruency	111.84***	.61
Information-processing style	<1	.00
Two-way interaction	<1	.00

**p < .001

As predicted (Hypothesis 1), the average number of products preferred was higher when cause and effect were congruent in the product's color than when they were incongruent (M_{cong} = 2.71, SD = 1.26 vs. M_{incong}= 0.61, SD = 0.76) (see also Figure 2).

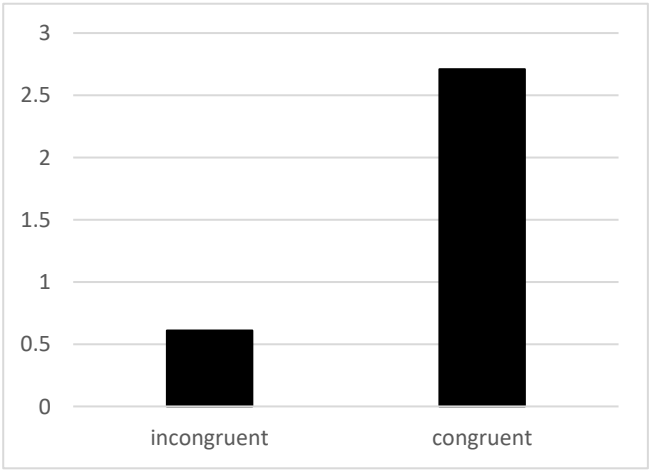

Figure 2. Means of the products preferred as a function of Cause-effect congruency in color (incongruent vs. congruent)

4.2.2 Sense of Benefit Delivery

As can be seen in Table 6, in the 2 (cause-effect congruency: incongruent, congruent) by 2 (predominant information-processing style: analytic-rational, intuitive-experiential) analysis of variance, as expected, the main effect of congruency was significant and the two-way interaction was not. That is, the "feeling" that the product would deliver the benefit was higher when cause and effect were congruent than when they were incongruent (M_{cong} = 4.51, SD = 0.78 vs. M_{incong}= 3.12, SD = 1.09), regardless of the information-processing style.

Table 6. The effects of cause-effect congruency and predominant Information-processing style on sense of benefit delivery

Source of variance	F(1,67)	η^2_p
Cause-effect congruency	137.17***	.66
Information-processing style	<1	.00
Two-way interaction	<1	.00

***p < .001

4.3 Discussion

Study 2 replicates the findings of Study 1 to another measure of persuasion—choice between products. As predicted (Hypothesis 1), participants more often chose the product whose package color was congruent with the benefit promised than when its color was incongruent. Yet, unlike for WTP, in which the tendency to choose according to congruency considerations was more pronounced for experiential participants, choice did not depend on the information-processing style. The operation of System 1 seems to accelerate when participants are presented with a forced choice situation (similar to decision-making at the point of purchase in real life). Specifically, the choice situation increases the tendency to lean on cause-effect similarity and cancels the impact of thinking style. Thus, the results attest to the robustness of the fact that cause-effect match in color is a strong cue that affects persuasion.

5. General Discussion

In the present study, we focused on one aspect of causal reasoning that affects consumer inferences and preferences: the tendency to lean on the cause-effect-similarity heuristic (Rozin & Nemeroff, 2002). Specifically, we examined the influence of cause-effect similarity between an irrelevant but tempting property of a product—the color of its packaging—and the benefit promised, on persuasion (WTP and choice). We expected that because leaning on the cause-effect-similarity heuristic is a basic tendency that invites System 1 to operate (Rozin & Nemeroff, 2002), participants would prefer products and would be more willing to purchase them when their package color was congruent with the benefit promised than when it is not congruent.

Inspired by real-life products, we created six products (see Appendix A) when first we check their appropriateness in manipulating congruency using a pilot study. Then we conducted two studies in which we focused on an irrelevant aspect of the product's color, namely, the color of its packaging. Specifically, participants saw six ads that included a causal claim and the picture of the product. The pictures of the products appeared in one of two colors that were congruent or incongruent with the benefit the product offered (see Appendix A).

To increase generalization of the findings to two important measures (WTP and choice), while avoiding a possible influence of one measure on the other, we conducted two different studies. In both studies (1 and 2), each participant was exposed to the two conditions of congruency, but whereas in Study 1, each slide included only one product, in Study 2, each slide presented the product in its two conditions, side by side.

We demonstrated that the same ad (e.g., a patch that prevents mosquito bites) was more persuasive (WTP and choice) when the product's packaging color was congruent (pinkish) with the effect promised (calm skin) than when it was not congruent/opposite (red). Being rational (as the predominant processing style) attenuated the effect of congruency in color for WTP but not for Choice. The need to choose increased the tendency to lean on the cause-effect similarity and cancelled the impact of thinking style. Thus, the results attest to the robustness of the conclusion that the cause-effect match in color is a strong cue that affects persuasion.

5.1 Theoretical Implications

The findings of the present study strengthen the notion emphasized by Rozin and Nemeroff (2002) that using the cause-effect-similarity heuristic is straightforward, primitive, and, in a way, automatic, which "calls" System 1"the intuitive-thinking system"—to operate (Kahneman, 2003). Checking the impact of congruency in color for participants with different predominant information-processing styles allows this conclusion. The results demonstrate that individual differences in information-processing styles have a minor role in controlling the impact of cause-effect congruency in

color. Indeed, the finding indicates rationality seems to have "helped" prevent participants from being susceptible to the fallible cue of cause-effect similarity in the color of the packaging. For WTP, the effect of congruency was much smaller for rational individuals. Yet rational individuals still leaned on this heuristic; moreover, rationality ceased to help when participants were confronted with *choice* between products. Thus, the finding indicates the cause-effect match in color is as a strong cue that has a robust impact on persuasion. Put differently, controlling this effect is very difficult if not impossible.

This study joins with other studies that focus on the effects of causal-reasoning principles on judgments and inferences concerning artifacts (products). The findings of the present study are in line with other studies, showing that causal-reasoning considerations, previous knowledge (Saporta-Sorozon & Bar-Eli, 2017; Saporta-Sorozon, 2018) and metal-causal structure (Saporta-Sorozon et al., 2017; Fernbach, Sloman, Louis, & Shube, 2013), govern judgment and choice on artifacts (products).

5.2 Limitations

In the present study, most of the products we used were semi-medical products—products that are intended to affect the human body when using them directly (a food supplement that improves vision; a cream that treats burns; a patch that wards off mosquitoes) or indirectly (a water-purification device; a bag that keeps food fresh). We expect a similar pattern of results for any type of product. Yet, there is a need to verify the effect of cause-effect congruency in the packaging color for other types of products, such as drugs, food supplements (e.g. vitamins, calcium, and magnesium), cosmetics, hygienic products (e.g. toothpaste, skin protectors), detergents, and high-tech products.

In this study, we focus on congruent and incongruent colors. We did not allow for a third possibility—a neutral color. Checking the difference between the neutral color and the congruent color versus the incongruent color is important for several reasons. For example, many products provide neutral packaging colors thus it is important to check the impact of neutral colors in comparison with congruent and incongruent colors. Moreover, checking neutral colors gives us the opportunity to learn more about the strength of the cause-effect-similarity heuristic. In addition, we did not allow for a diversity of colors within each condition. Providing a larger set of choices within each condition (congruent and incongruent) would permit a larger generalization concerning the use of the cause-effect-similarity heuristic.

5.3 Practical Implications and Conclusions

This study makes several important contributions to the field of consumer behavior. First, we point to the underlying mechanism responsible for color effects and, in doing so, provide a strong tool that managers can use when designing their products. Second, we believe that cause-effect-similarity heuristic operates not only in regards to color, but also in regards to other properties of the products, such as its length and shape and so on. Thus, demonstrating that cause-effect similarity in color have an impact on persuasion have the potential to strengthen the sensitivity to other "irrelevant" properties when designing a product. Finally, this study is one in a series of studies aimed at showing the importance of studying inferences and preferences for artifacts, from the perspective of causal reasoning (e.g., Saporta-Sorozon et al., 2017; Saporta-Sorozon & Bar-Eli, 2017; Saporta-Sorozon, 2018). Studying inferences and preferences for artifacts using the causal-reasoning framework is important because most of the claims we are exposed to as consumers are causal claims (Saporta-Sorozon & Bar-Eli, 2017). Thus, understanding consumer behavior in a causal-reasoning framework is beneficial both theoretically and for practitioners.

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Appendix A: The Study Materials

Product description	Picture (incongruent condition)	Picture (congruent condition)
"Me-Ami" – a water-purification device In the course of 2016, the company "Me-Ami" issued a new line of water-purification devices. The company claims that its device provides the clearest water relative to its competitors.		
"Only Natural" – a natural food supplement company, which claims innovative products, developed a new nutritional supplement that contains a unique combination of vitamins and minerals to improve vision.		
"Calm" – the cream that treats burns In an innovative development, the company "Simbalo" developed the cream, "Calm" which combines plant compounds to treat burns.		
The "terminator" – the patch that wards off mosquitoes The company "Bug" has launched a new product called the "Terminator" to prevent mosquito bites. The product is a patch containing unique compounds that prevents mosquito bites by keeping mosquitoes away.		
"Aridan" – the device that prevents bad smells from forming in your washing machine In an article on how to prevent bad smells from forming in the washing machine, published in a consumer magazine, a new device named "Aridan" was introduced. The article stated, "The washing machine often smells bad because its inner parts are never dry completely." Aridan is a device installed in the drum of the washing machine to prevent mold and bad smells because immediately after the washing process, it dries the water and moisture residues from all parts of the washing machine.		
"Fresh" – the bag that keeps the food fresh. In 2016, the food company "Snipod" launched a new food bag called "Fresh." The company claims that the bags keep food fresh.		

"Me-Ami"-the water-purification device

In 2016, the company "Me-Ami" issued a new line of water-purification devices. The company boasts that its device provides the clearest water relative to competitors. Here is a picture of the device:

"Only-Natural"-the food supplement that improves vision

"Only-Natural"-a natural-food-supplements company, which boasts its innovative products, has developed a new nutritional supplement that contains a unique combination of vitamins and minerals to improve vision. Here is a picture of the food supplement:

"Calm"-the cream that treats burns

In innovative development, the company "Simbalo" developed the cream "Calm," which combines plant compounds to treat burns. Here is a picture of Calm cream:

The "terminator"-the sticker that wards off mosquitoes

The company "Bug" has launched a new product called the "Terminator" to prevent mosquito bites. The product is a sticker containing unique compounds that prevents mosquito bites by keeping mosquitoes away.

"Aridan"-the device that prevents bad smells from forming in your washing machine

A consumer magazine contained an article about washing machines and ways to prevent bad smells from forming in them. An article introduced a device called "Aridan" that prevents accumulation of bad odors in the washing machine. Here is the part of the article that dealt with the issue: "The washing machine often smells bad because the inner parts of the machine are never completely dry." "Eridan" is a device installed in the drum of the washing machine to prevent the mold and bad smells from forming, because immediately after the washing process, it dries the water and moisture residues from all parts of the washing machine. Here is a picture of Aridan:

"Fresh"-the bag that keeps the food fresh

In 2016, the food company "Snipod" launched a new food bag called "Fresh." The company boasts the bags' ability to keep the food fresh. Here is a picture of the bag: