

The Effect of Similarity Between a Product's Shape Properties and the Benefit Offered on Judgments and Preferences

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Abstract

Studies show a product's shape affects consumer judgments. Yet, the basic principle that governs shape effects is unclear. In this study, we fill this gap by demonstrating that causal-reasoning considerations govern shape effects. Specifically, people expect cause (e.g., an energy drink) and its effect (e.g., fat burning) to exhibit some degree of resemblance or congruency ("like causes like"). This expectation leads them to use the "law of similarity" heuristic when judging artifacts. In two studies, we focused on a product's shape. For half of the products, the shape was an *intrinsic* property of the product (i.e., had the causal power to produce the effect), and for the other half, the shape was an *extrinsic* property of the product. For both kinds of properties (extrinsic and intrinsic), we demonstrate that the same ad (e.g., an energy drink that "claims" to produce fat burning) is more persuasive (willingness to purchase the product, and choice between products) when the product's shape is congruent rather than incongruent (e.g., a "tall" can vs. a "short" can) with the effect promised.

We strengthen the notion that leaning on a cause-effect-similarity heuristic is very basic, by showing that choice situations accelerate the effect of congruency more for products for which the focal property is extrinsic than for products for which it is intrinsic.

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

Keywords: cause-effect similarity, consumer choice, causal reasoning, extrinsic property, intrinsic property

1. Introduction

Imagine that while in the supermarket, you see on the beverage shelf two cans of an energy drink with the tag "Omega—the energy drink for burning fat." The two cans are identical except that one is "tall" and one is "short." Which would you prefer? Would you be indifferent? Based on people's tendency to lean on the "law of similarity" heuristic in causal reasoning (Rozin & Nemeroff, 2002), we believe consumers will prefer the "tall" can. Specifically, people expect the *cause* (e.g., the height of the can) and the *effect* (e.g., burning fat) to exhibit some degree of physical resemblance ("like causes like"). Tall is more associated with being skinny (burning fat) than short. Thus, consumers will likely prefer the "tall" can. In the present study, we examine the influence of a cause-effect similarity in a product's shape properties on persuasion (willingness to purchase the product and choice between alternatives). We contend that because people expect a cause and its effect to be similar (Rozin & Nemeroff, 2002), they are overly sensitive to available attributes, such as a product's shape properties, 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 shape properties are congruent with the effect promised than when they are incongruent.

1.1 Literature Review

1.1.1 Impact of Cause-Effect Similarity on Judgments and Inferences

People believe a cause and its effect should be congruent on such dimensions 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. Research indicates people rely on the cause-effect-similarity heuristic when making causal judgments. For example, Rozin, Millman, and Nemeroff (1986) demonstrate the strong impact of the cause-effect-similarity heuristic on our behavior, by using fictitious and *unreasonable* food appearance. Most students

preferred a round piece of chocolate fudge to a piece with the same content but shaped to look like dog excrement. Similarly, most undergraduates were reluctant to put a fake vitamin—made of rubber—into their mouths, but they were willing to put a flat rubber sink stopper of about the same size into their mouth.

LeBoeuf and Norton (2011) demonstrate that the degree of similarity (in both size and valence) between causes and consequences affects peoples' inferences about the cause of events. For example, people inferred that an event (computer crash) was more likely the result of a large cause (widespread computer virus) if it had a large consequence (job loss) but that it was more likely the result of a smaller cause (cooling fan malfunction) if the consequence was small (the data were recovered).

Van Prooijen and Van Dijk (2014) find that events with big (vs. small) consequences increase conspiracy beliefs.

1.1.2 Effects of Product's Shape Properties on Consumer Judgments and Preference

Many authors agree that a product's shape packaging is an important factor that affects buying behavior (e.g., Kuvykaite, Dovaliene, & Navickiene, 2009; Ares & Deliza, 2010). Gupta and Kumar (2016) even assert packaging should be considered the 5th P of marketing. However, a product's packaging is a wide category and thus includes many *extrinsic* properties—properties that do not have the causal power to produce the effect (White, 2005)—such as the package color, texture, length, width, labels, font style, pictures, printed information, design, and so on. For example, the height of the energy-drink can described earlier is an extrinsic property.

Not only the package but also the product itself has many shape properties. We refer to these properties as intrinsic because at least some of them have the causal power to produce the effect. For example, the eyelets of a Band-Aid (aimed to heal wounds faster) is an intrinsic property because, based on previous knowledge, we know it has the causal power to produce the effect. Specifically, people believe the eyelets allow contact of the wound with the air, thereby killing bacteria and enabling a shorter healing period. Previous studies examined the effect of various aspects of a product's shape properties (extrinsic and intrinsic) on purchase decisions. Yang and Raghuram (2005) study the effect of elongated containers on perceived products' quantity. In four multi-method studies, the authors show that the more elongated a container is (bottle vs. a can of beer), the lower its perceived purchase quantity. Raghuram and Greenleaf (2006) focus on the rectangular shape of a package and find the ratio of the sides of a rectangular product (or package) influences purchase intentions and preferences. Krider, Raghuram, and Krishna (2001) focus on area comparison (Does a square pizza look larger or smaller than a circular pizza?) and propose a psychophysical model of how consumers make area-comparison judgments. Garber, Hyatt, and Boya (2009) examine the effect of a range of standard package shape types on volume perception. Results show that consumers group most existing standard packages into several distinct shape categories, such as cylinders, kegs, and bottles. Each shape type has characteristic effects on volume appearance. Geometrically complex forms appear smaller than simple forms. Becker, Thomas, Van Rompay, Schifferstein, and Galetzka (2011) examine the effect of packaging design on taste impressions. Results indicate associations depicted by shape are transferred to taste experiences. More generally, shape and color saturation may affect product evaluations and price expectations as well. Spence and Ngo (2012) review literature that focused on foods and beverages, showing that certain shapes are associated with specific tastes, flavors, and textures.

1.2 Adopting the Causal Reasoning Framework to Study Shape Effects

Taking together, past research has focused on trying to find the product's dimensions that affects purchase behavior, and consequently, ends up pointing to specific features that affect persuasion under specific circumstances. Because the number of shape elements that constitute a package as well as the product itself is endless, this approach is not very practical.

We propose that a more practical approach is to consider adopting an appropriate theoretical framework. Specifically, because most claims in marketing communication are causal claims (Saporta-Sorozon, 2018), we should use a causal-reasoning framework in general and the cause-effect-similarity heuristic in particular to understand how shape affects a product's evaluation. The key aspect would be the degree of congruency between the cause (the product's properties) and the effect (the benefit) promised. The advantage of studying a shape's effects from the causal-reasoning perspective (cause-effect similarity) pertains to the generalization power of the findings, beyond specific features. Specifically, instead of focusing on specific features to study the effect of shapes, we can focus on the basic law—the degree of perceived congruency between a salient product property and the effect promised. Note that the same element can sometimes enhance willingness to purchase (WTP) and sometimes reduce WTP. For example, when the claim is about a drink that helps burn fat, a “tall” can is more congruent with the effect than a “short” can. The opposite could be the case if the claim is that the drink enhances resistance to stress. A “short” can, may appear more sound than a “tall” can.

Saporta-Sorozon (2018) demonstrates that congruency between the specific extrinsic properties —packaging color—and the benefit promised affect WTP and preference. In this study, we strengthen the same notion by demonstrating it for several dimensions of intrinsic as well as extrinsic shape properties, such as texture, height, depth, and so on.

1.3 Grasping Cause-Effect Congruency for Extrinsic vs. Intrinsic Product Properties.

Studies show two systems of thinking determine consumers' decisions: System 1 is experiential, affective, and intuitive and thus involves minimal effort and deliberation; System 2 is rational, deliberative, and analytical and thus involves some effort (Kahneman, 2011; Stanovich & West, 2000). Rozin and Nemeroff (2002) contend that using the cause-effect-similarity heuristic is straightforward, primitive, and, in a way, automatic, and thus invites System 1 to operate.

The congruency (or in congruency) of an *extrinsic* product property and the effect promised is straightforward because it is based on superficial match considerations. We easily see that a smooth texture of a patch (aimed to prevent mosquito bites) is congruent with the effect promised (intact skin), whereas a lumpy texture of the same patch is not.

Yet, grasping the congruency (or in congruency) of an *intrinsic* property, is not so immediate and requires some effort. Generally, we exert such effort by searching for the appropriate mechanism that explain how the cause (product property) produces the effect (benefit). For example, we see a Band-Aid (aimed to heal wounds faster) with eyelets as more congruent with the effect promised (faster healing) than an identical Band-Aid but with drawn eyelets. The reason is that, based on previous knowledge, we recruit the appropriate mechanism by which the eyelets produce the effect—allowing contact of the wound with the air, thereby killing bacteria and enabling a shorter healing period.

Although recruiting the appropriate mechanism involves some effort, people do it automatically. Many studies show that mechanistic explanations play a central role in our causal reasoning. People appear to depend on explanation in many ways, such as to make sense of causal claims (Kuhn, 2001), to explain events' occurrence (Ahn, Kalish, Medin, & Gelman, 1995), to justify or argue for a claim (Glassner, Weinstocks, & Neuman, 2005; Kuhn, 2001), and to increase their willingness to pay for products (Fernbach, Sloman, Louis, & Shube, 2013; Saporta-Sorozon, 2018). Thus, we believe that also for intrinsic properties congruency between them and the benefit promised affect persuasion. Specifically, we hypothesize the following:

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

2. Pilot Study

To choose appropriate materials for the two experiments, we conducted a pilot study. Inspired by real products, we created six products: three in which the focal property was extrinsic and three in which the focal property was intrinsic. For example, to represent an intrinsic property, we presented a picture of a bubble wrap (thicker) versus a foam wrap (thinner) designed to protect objects. To represent an extrinsic property, we presented, for example, a picture of a "tall" versus "short" can containing an energy drink intended to help burn fat. (For all materials, see Appendix A).

2.1 Method

Thirty-six individuals participated in the pilot study designed to ensure the focal-shape properties were congruent or incongruent with the benefit offered. We exposed participants to six benefit terms (e.g., skinny) and six terms that represent the "problem" (e.g., fat). We asked participants to choose which of two shapes was more associated with the benefit/problems.

2.2 Results

Table 1 presents for each product the percentage of participants who chose the congruent and incongruent shape as being associated with the word that expressed the benefit and the word that expressed the opposite (problem).

Table 1. Percentage of participants who chose the congruent and the incongruent-shape word as being associated with the term that represented the benefit and the term that represented the problem, for each product

Product	Benefit/ opposite	Shape property	Percent choosing the shape property as associated with the benefit/opposite
1. An energy drink for burning fat	fat	tall	21.9%
		Short	78.1%
	skinny	tall	81.0%
		short	19.1%
2. A dish soap for shining dishes	dull	Opaque	85.7%
		transparent	14.3%
	Shiny	Opaque	13.3%
		transparent	86.7%
3. A patch that wards off mosquitoes	Sting	smooth	6.7%
		lumpy	93.3%
	Calm	smooth	96.2%
		lumpy	3.8%
4. A patch that helps wounds heal faster	wound	Sealed	61.9%
		ventilated	38.1%
	cure	Sealed	19.0%
		ventilated	81.0%
5. An ecological ball that protects clothes from wrinkling in the dryer	crumple	Uneven texture	80.0%
		spiny texture	20.0%
	smooth	Uneven texture	46.7%
		spiny texture	53.3%
6. Packaging that protects objects from damages such as breaking	damage	thin	78.1%
		thick	21.9%
	protect	thin	29.5%
		thick	70.5%

Table 1 demonstrates that, as expected, for the term that expresses the benefit, the percent of participants who chose the congruent-shape property (as being associated with the property) was much higher than the percentage of participants who chose the incongruent-shape property, and vice versa.

3. Study 1

3.1 Method

3.1.1 Participants and Design

Sixty-two undergraduate students (males = 50.7%, $M_{age} = 36.97$; $SD_{age} = 13.31$) participated for credit in a web-based study using two conditions of cause-effect congruency in shape (congruent and incongruent) and kind of attribute (extrinsic and intrinsic) in a within-subjects design. We presented participants with the same six products as in the pilot study. We randomly assigned participants to the combination of a specific product and the congruency condition by kind of attribute.

3.1.2 Materials, Measures, and Procedure

Each participant saw the picture of each of the six products: For three, the product's shape property was congruent with the benefit promised, and for the other three, the product's shape was incongruent with the benefit promised (see Appendix A for materials). Importantly, each picture included the product in one of the conditions. After participants watched each

picture, we measured the following:

- 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*).
- 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*).

3.2 Results

3.2.1 Willingness to Purchase

Table 2 presents the results for the 2 (cause-effect congruency: incongruent, congruent) by 2 (kind of attribute: extrinsic, intrinsic) analysis of variance.

Table 2. Results for the 2 (cause-effect congruency: incongruent, congruent) by 2 (kind of cause-attribute: extrinsic, intrinsic) mixed ANOVA for willingness to purchase the product

Effect	F(1,63)	η^2_p
Congruency	4.43*	.07
kind of cause-attribute	15.82***	.19
congruency * kind of cause-attribute	<1	-

* $p < .05$ *** $p < .001$

As table 2 shows, congruency affected WTP (Hypothesis 1). As hypothesized, willingness to purchase the product was higher when the cause and its effect were congruent than when they were incongruent ($M_{\text{cong}} = 3.83, SE = 0.14$ vs. $M_{\text{incong}} = 3.52, SE = 0.15$). In addition, the effect of the kind of cause-attribute was also significant. As expected, WTP for the product whose shape property represented an intrinsic attribute (which spontaneously elicits the appropriate mechanism) was higher than for the product whose shape property did not ($M_{\text{intrinsic}} = 3.93, SE = 0.14$ vs. $M_{\text{extrinsic}} = 3.42, SE = 0.14$). The two-way interaction was not significant.

3.2.2 Sense of Benefit Delivery

Table 3 presents the results for the 2 (cause-effect congruency: incongruent, congruent) by 2 (kind of cause-attribute: extrinsic, intrinsic) mixed analysis of variance for sense of benefit delivery.

Table 3. Results for the 2 (cause-effect congruency: incongruent, congruent) by 2 (kind of cause-attribute: extrinsic, intrinsic) mixed ANOVA for sense that the product would deliver the benefit

Effect	F(1,63)	η^2_p
Congruency	13.60***	.18
kind of cause-attribute	24.49***	.29
congruency * kind of cause-attribute	1.65	-

* $p < .05$ *** $p < .001$

As Table 3 shows, the picture is similar for WTP and more pronounced. As expected, the sense of benefit delivery was higher when cause and effect were congruent than when they were incongruent ($M_{\text{cong}} = 3.36, SE = 0.14$ vs. $M_{\text{incong}} = 2.77, SE = 0.14$). In addition, the effect of the kind of cause-attribute was also significant. As expected, the sense of benefit delivery for products whose shape represented an intrinsic attribute was higher than for products whose shape represented an extrinsic attribute ($M_{\text{intrinsic}} = 3.46, SE = 0.14$ vs. $M_{\text{extrinsic}} = 2.68, SE = 0.13$). The two-way interaction was not significant.

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 product's shape property is associated and thus congruent with the benefit promised than when it is incongruent (associated with the opposite). As for the kind of attribute, products whose shape properties were intrinsic (thus spontaneously eliciting the appropriate mechanism) were more persuasive than products whose shape properties were extrinsic. These results are in line with a large body of studies showing the dominance of the spontaneous tendency to search for a mechanism that will explain how the cause produces the effect (Ahn et al., 1995; Lombrozo, 2006).

4. Study 2

In Study 1, we measured persuasion by asking participants to rate their willingness to purchase the product, via separate-evaluation platform. We exposed each participant to both conditions (congruent and incongruent) but for different products and on different slides. Following several authors demonstrating that a joint-evaluation platform investigates different premises (Hsee, 1996; Tversky and Kahneman, 1983), and thus can reveal other aspects of the same topic, we designed study 2. In study 2, we exposed each participant to both conditions (congruent and incongruent) for the same products and on the same slide. On each slide, participants saw the same product in its two conditions—side by side—and had to choose between them.

As demonstrated in study 1, the degree of congruency between the benefit promised and product property affect WTP for both kinds of properties—extrinsic and intrinsic. Yet, we contend that this impact is larger for extrinsic than intrinsic properties, because, as discussed earlier, grasping congruency for intrinsic properties requires some effort. However, the difference in effect size between extrinsic and intrinsic properties cannot be manifested in separate evaluations, for two reasons. First, although grasping congruency for intrinsic properties requires some effort, this effort is still very small, because people automatically recruit the appropriate mechanisms to explain how the intrinsic product property produces the effect. Furthermore, to reveal the small difference, we need circumstances that permit comparison between the options. In study 1, participants did not directly compare the options: They not only saw different products, but also saw only one product on each slide. In the joint-evaluation platform used in study 2, we forced participants to compare the options, thus permitting the difference in the effect size between extrinsic and intrinsic properties to manifest.

We predict the following:

Hypothesis 2. For contexts that enable direct comparison between congruent and incongruent options (i.e., joint evaluation), the effect of cause-effect congruency (between a product's shape and the benefit promised) on persuasion is more pronounced for extrinsic than intrinsic properties.

4.1 Method

4.1.1 Participants and Design

One hundred twenty-five undergraduate students (males = 50.8%, $M_{\text{age}} = 40.77$; $SD_{\text{age}} = 15.97$) participated for credit in a web-based study. We used a mixed-subjects design of 6 (products—a within-subjects factor) by 2 (kind of attribute: extrinsic, intrinsic) by 2 (the location of the product: each of the four combinations of congruency and kind of attribute presented on the right of the slide or on the left—as a between-subject factor). Participants saw all six products, whereas we randomly assigned participants to one of the locations.

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 side by side in each slide. After participants saw each slide, we measured the following:

- Preference/Choice. We asked participants 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, with an extrinsic or intrinsic attribute), (b) the product on the right (could be congruent or incongruent, with an extrinsic or intrinsic attribute depending on (a)), or (c) indifferent.
- Sense of the benefit delivery (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 four indexes: two for the three products with the extrinsic properties and two for the three products with the intrinsic properties. Specifically, we counted the times (out of three) the participant chose the pictures for the congruent and extrinsic attribute, congruent and intrinsic attribute, incongruent and extrinsic attribute, and incongruent and intrinsic attribute. Note these numbers do not necessarily sum to three, because for each product, the participant could choose the third possibility, namely, “indifferent.”

Table 4 presents the results of the 2 (cause-effect congruency: incongruent, congruent) by 2 (kind of attribute: extrinsic, intrinsic) analysis of variance.

Table 4. Results for the 2 (cause-effect congruency: incongruent, congruent) by 2 (kind of cause-attribute: extrinsic, intrinsic) mixed analysis of variance for preference.

Effect	F(1,125)	η^2_p
Congruency	203.70***	.62
kind of cause-attribute	27.06***	.18
congruency * kind of cause-attribute	15.02***	.11

***p < .001

As Table 4 shows, congruency strongly affected choice (Hypothesis 1). As expected, the number of products chosen was higher when cause and effect were congruent than when they were incongruent ($M_{congruent} = 1.55, SE = 0.06$ vs. $M_{incongruent} = 0.36, SE = 0.04$). The effect of the kind of cause-attribute was also significant. However, the means were in the opposite direction relative to study 1; the number of products chosen was higher when the shape represented an extrinsic property than when it represented an intrinsic attribute ($M_{extrinsic} = 1.08, SE = 0.04$ vs. $M_{intrinsic} = 0.83, SE = 0.03$). As predicted, the two-way interaction was significant.

As Figure 1 shows, indeed, when participants saw the two products side by side, the effect of congruency was more pronounced for extrinsic attributes than for intrinsic attributes.

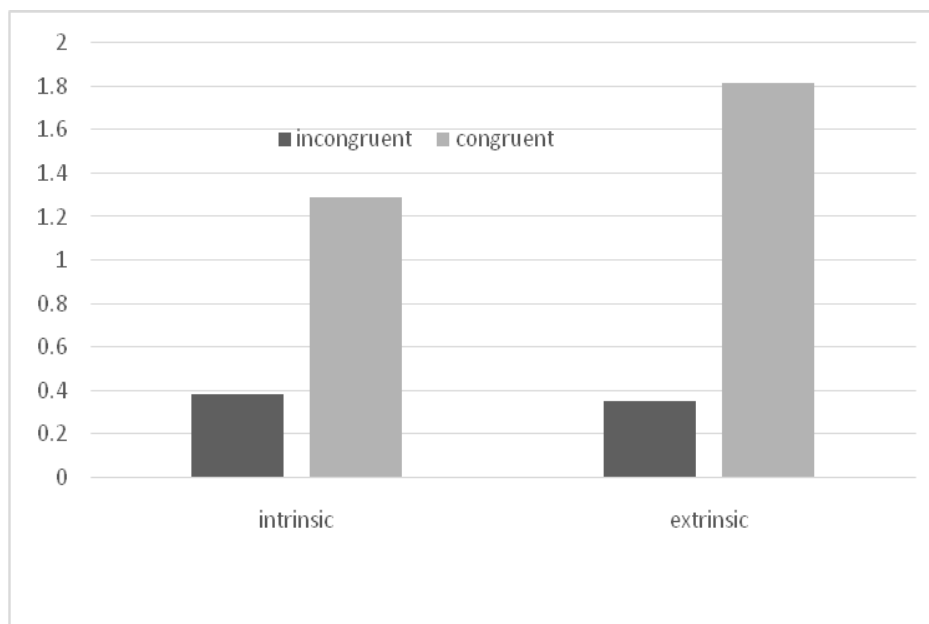


Figure 1. Means of choice as a function of cause-effect congruency (incongruent vs. congruent) and the kind of cause-attribute (extrinsic vs. intrinsic)

4.2.2 Sense of Benefit Delivery

Table 5 presents the results for the 2 (cause-effect congruency: incongruent, congruent) by 2 (kind of cause-attribute: extrinsic, intrinsic) analysis of variance for sense of benefit delivery.

Table 5. Results for the 2 (cause-effect congruency: incongruent, congruent) by 2 (kind of cause-attribute: extrinsic, intrinsic) analysis of variance for sense that the product would deliver the benefit

Effect	F(1,124)	η^2_p
congruency	318.26***	.72
kind of cause-attribute	31.15***	.20
congruency * kind of cause-attribute	22.85***	.16

***p < .001

As Table 5 shows, the two main effects and the interaction were significant. As predicted, sense of benefit delivery was higher when cause and effect were congruent than when they were incongruent ($M_{cong} = 4.39, SE = 0.08$ vs. $M_{incong} = 2.96, SE = 0.08$). The sense of benefit delivery for products whose shape represented an intrinsic property was higher than for

products whose shape represented an extrinsic property ($M_{\text{intrinsic}} = 3.84$, $SE = 0.08$ vs. $M_{\text{extrinsic}} = 3.51$, $SD = 0.08$). In addition, the two-way interaction: cause-effect congruency by kind of cause-attribute was significant.

As Figure 2 shows, the mode of the interaction is similar to that obtained for choice. The effect of congruency on sense of benefit delivery was larger for extrinsic properties.

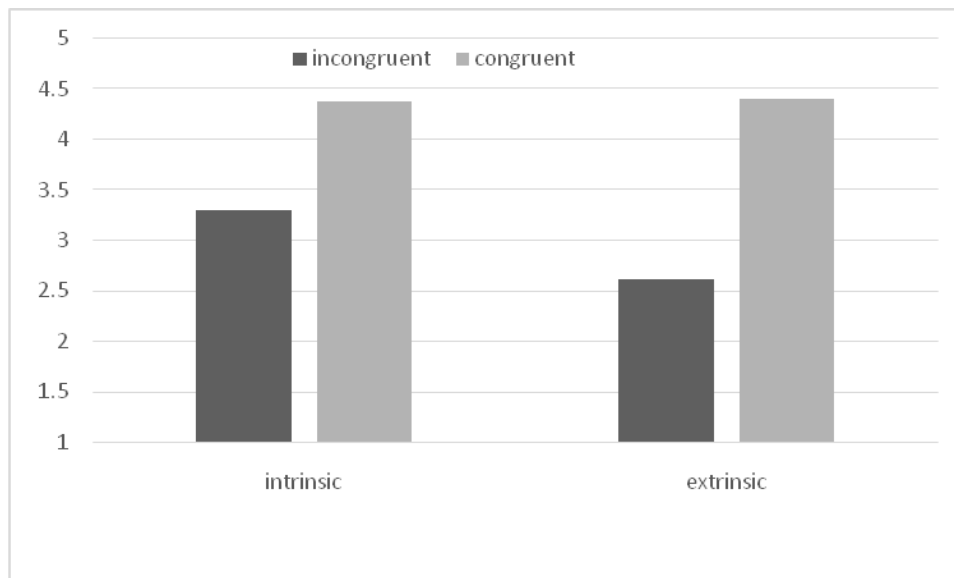


Figure 2. Means sense of benefit delivery as a function of cause-effect congruency (incongruent vs. congruent) and the kind of cause attribute (extrinsic vs. intrinsic)

4.3 Discussion

The results of study 2 replicate the results of study 1 for another measure of persuasion—choice between alternatives. As predicted (Hypothesis 1), participants more often chose the alternative whose causal-shape-property—whether extrinsic or intrinsic—was congruent with the benefit promised than when it was incongruent. Moreover, the joint-evaluation platform we use in study 2 reveals the difference in the size effect of congruency for the two product properties—intrinsic and extrinsic. However, the main effect of congruency is much stronger, attesting to the robustness of the impact of congruency on choice.

5. General Discussion

The present study focused on consumers' tendency to lean on the cause-effect-similarity heuristic (Rozin & Nemeroff, 2002) when judging artifacts (products) and choosing between alternatives. Specifically, we examined the influence of congruency between extrinsic and intrinsic product properties (cause) and the benefit (effect) 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 alternatives and would be more willing to purchase them when a salient shape property (intrinsic or extrinsic) was congruent with the benefit promised than when it was incongruent.

To check our hypotheses, we first designed six products (similar to real-life products), each intended to deliver a certain benefit: For three of the products, the focal property was extrinsic, and for the other three, it was intrinsic. Then, we designed two versions of each product: one for which the focal property was congruent with the intended cause, and one for which it was not. We conducted two studies, using different evaluation platforms. In Study 1, we used a separate-evaluation platform—on each slide, participants saw only one product, and then rated their WTP for the product. We exposed participants to the two conditions (congruent and incongruent) but for *different products* on *different slides*; thus, we did not permit any direct comparison between congruency conditions. In Study 2, we used a joint-evaluation platform—we presented the two versions of the product (congruent and incongruent) side by side on the same slide, and participants chose between them, thus “forcing” them to compare the options.

We demonstrated that the same ad (e.g., a patch intended to prevent mosquito bites) was more persuasive (WTP and choice) when its shape (e.g., its texture) was congruent (smooth) with the effect promised (intact skin) than when it was not congruent/opposite (lumpy skin). We obtained the same results for intrinsic product properties. The same ad (e.g., a Band Aid intended to heal wounds faster) was more persuasive (WTP and choice) when its shape (e.g., its texture) was congruent (includes eyelet, which permit air contact with the wound, thereby killing bacteria) with the effect promised

(faster healing) than when it was not congruent/opposite (drawn eyelets).

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 "recruits" System 1—"the intuitive-thinking system"—to operate (Kahneman, 2003). In the study on the same general topic, Saporta-Sorozon (2018) support this assertion by focusing on a specific extrinsic attribute of the product—its color. The results of the present study strengthen this notion by focusing on other shape properties of the product: intrinsic and extrinsic. Consumers seem to lean heavily on the fast and frugal cause-effect-similarity heuristic when judging artifacts and choosing between them.

Studying the effect of a product's properties on judging artifacts, from the causal-reasoning perspective in general and cause-effect similarity in particular, permits generalization of the findings, beyond specific features. Specifically, instead of focusing on specific features to study the effects of a product's properties, we can focus on the basic law—degree of perceived congruency between a salient product property and the effect promised.

The results of the present study join with other studies that focus on the effects of causal-reasoning principles on judgments and inferences concerning artifacts (products) (e.g., Saporta-Sorozon, Danziger, & Sloman, 2017; Saporta-Sorozon & Bar-Eli, 2017; Saporta-Sorozon, 2018). Thus, it encourages studying the artifacts' (products') effects using the causal-reasoning framework.

5.2 Limitations




In the present study, we used a variety of products, some designed to affect the human body (internally—an energy drink intended to help burn fat; or externally—a patch intended to ward off mosquitoes, a Band-Aid aimed to heal wounds faster) and others designed to affect objects (a dish soap, an ecological ball designed to prevent laundry from crumpling, a wrap aimed to protect objects). We expect a similar pattern of results for any type of product. Yet, the effect of congruency needs to be checked in variety of product properties for other types of products, such as cars, spas, drugs, food supplements (e.g. vitamins, calcium, magnesium etc.), hygienic products (e.g., toothpaste, skin protectors), cosmetics, detergents, and high-tech products.

Another way to check the robustness of the cause-effect-similarity heuristic is to compare the effect of congruency with respect to different platforms and methods of advertising, such as printed advertising, outdoor advertising, mobile advertising, digital advertising, and so on. Again, we expect the same results for different methods of advertising. Our findings show the effect of cause-effect congruency is much stronger when the platform permits a direct comparison between the options. Thus, we expect a greater impact of congruency when the advertising platform permits joint evaluation.

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 the effect of product properties on persuasion. Thus, we provide a strong tool that managers can use when designing their products. The present study, as well as Saporta-Sorozon (2018), demonstrates consumers may be sensitive and thus affected by irrelevant product properties. This fact may encourage managers to be careful when designing a product. Also in this study, we used two kinds of evaluation, separate and joint, both of which simulate different contexts: Separate evaluation simulates a context in which the options are scattered on the shelves (real or virtual), and joint evaluation simulates a context in which the options appear side by side on the shelves. Thus, the fact that the size of the cause-effect-similarity effect was much larger when consumers could directly compare the alternatives can be of a big practical importance.

Finally, the findings of the present study are in line with other studies showing causal-reasoning considerations govern judgment and choice on artifacts (e.g., Fernbach et al., 2013; Saporta-Sorozon, 2018), thus encouraging the consideration of the causal-reasoning platform to study consumer judgments and decision-making. The causal-reasoning platform's ability to study what affects consumers' judgments and decision-making is not surprising given that causal claims are very common in marketing communication (Saporta-Sorozon & Bar-Eli, 2018).

Appendix A: The Study Materials		
Causal claim	Picture (congruent condition)	Picture (incongruent condition)
“Bang” – the energy drink for fat burning		
“Pos” – the dish soap for shiny dishes		
The patch that wards off mosquitoes		
The patch that helps wounds to heal faster		
The washing ecological ball that removes tough stains		
Packaging for the protection of objects from various extrinsic injuries, such as breakage		

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