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The Effect of Examining Actual Products or Product Descriptions on Consumer Preference

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Many consumers purchase products in stores, where they can physically examine and touch the items. In addition, consumers shop for products online or through direct mail, where they cannot physically examine and touch the merchandise. Building on an analysis of perceptual mechanisms involved in the sense of touch, we find that products with primarily material properties, such as clothing or carpeting, are more likely to be preferred in shopping environments that allow physical inspection than in those environments that do not. We also find that there is no difference in preference across the two environments for products with primarily geometric properties, such as packaged goods, for which vision is highly diagnostic. Furthermore, when the touch properties of a material product are verbally described, this reduces the difference in preference between the two environments.

Although many consumers buy products through catalogs, the Internet, or other direct means, many other consumers do not make purchases in these environments. For example, a commonly mentioned barrier to shopping on the Internet is the inability to touch and physically handle the merchandise (Forrester Research, 1999). Furthermore, past research on catalog shopping has found that consumers consider the inability to physically inspect merchandise a risk of shopping by direct mail (e.g., Spence, Engel, & Blackwell, 1970). This past research has shown that consumers can be reluctant to shop through catalogs, as they can also be reluctant to shop online, but has not made direct comparisons between the two environments in terms of consumer decision-making processes and outcomes. In this article, we refer to environments where consumers can physically inspect products as an in-store environment and environments where consumers can examine only a representation of the actual product, in terms of either a picture and/or a written description, as a remote environment (Wood, 2001).

Despite the evidence that consumers are sometimes more comfortable shopping in-store than remotely, little academic research has considered differences in consumer psychology across these two environments. In one article, actual purchases in a supermarket were compared to actual purchases at Peapod, an online retailer (Degeratu, Rangaswamy, & Wu, 2000). In that article, consumers could gather different types of information about the products in the two environments. On Peapod (remote environment), consumers could only see a written description of the product, and pictures were not available. In the supermarket (in-store environment), consumers could see the actual products. Thus, in that research, the focus was on differences caused by seeing real products versus seeing written descriptions. Degeratu et al. compared purchases across these two environments for three different packaged goods: liquid detergent, margarine, and paper towels. For liquid detergent, consumers were more likely to buy refill packages in the in-store environment, supposedly because refills have a different type of package that was more readily apparent visually in the in-store environment (and the remote environment did not provide pictures). For paper towels, consumers were more likely to purchase printed designs in the in-store environment, again because this feature was not as apparent when the product was examined online. Al-
though these results are interesting, they still leave many unanswered questions. For instance, only packaged goods were considered, rather than items where the sense of touch is important. In addition, these articles focused only on occasions where the product could either be seen (in-store) or not seen (remote). Finally, this article did not utilize experiments, so it is difficult to know exactly what caused the effects to occur.

A few other studies have used experiments to consider differences across environments where either a description was available or the actual products could be examined. One study examined the differences between actual purchases and purchases made through a computer simulation (Burke, Harlam, Kahn, & Lodish, 1992). In that article, the type of product studied again was packaged goods (e.g., paper towels, tuna, soda). Burke et al. examined differences between simulations where pictures were available (like a remote environment), simulations where pictures were not available, and actual purchases. They looked at a number of dependent measures, such as brand choice, switching behavior, and category choice. Overall, they found a fairly strong correspondence between actual and simulated purchases. Although there were some differences between the product categories, it was left to future research to determine exactly why these differences occurred. Lemon and Nowlis (2002) also examined shopping behavior either in the store (grocery store scanner data) or a remote environment (a simulated Internet shopping experience). Their research also focused on packaged goods. They found similar effects in both environments in terms of the response of brands to price promotions, features, and displays. Thus, research that has focused on packaged goods has shown fairly similar shopping patterns across in-store and remote environments. However, consumers often purchase items other than packaged goods, which raises the question of whether or not the choice of these other goods also will be similar across the two environments.

In this article, we examine not only the choice of packaged goods, but also the choice of other types of merchandise. In particular, we focus on other commonly purchased items, such as apparel, home furnishings, and electronic goods, all of which are typically not purchased in grocery stores. When consumers evaluate these types of products in-store, unlike packaged goods, they may be likely to want to touch them or try them on. As a result, an important element of in-store shopping is the ability to touch products. In a remote environment, consumers cannot touch the merchandise and instead must rely on the sense of vision. Thus, this article focuses on the effect of two different types of information —information gathered through touch (in-store) and information gathered through vision (remote)—on consumer decision making and preferences.

By physically touching products in an in-store environment, consumers gain additional information that is not provided through the sense of vision. For example, picking up and touching a towel provides information about its softness, weight, and texture. This added information may then lead to differences in preferences across in-store and remote environments. Next, we consider how the sense of touch provides additional information in an in-store environment.

EFFECT OF INFORMATION GATHERED THROUGH TOUCH OR VISION ON CONSUMER DECISION MAKING

Although consumer perceptions are generally multimodal, each sense provides optimal information in specific categories (Freides, 1974; Gibson, 1966). Vision is best suited to gathering geometric information (shape properties), whereas haptics is best suited to gathering material information (substance properties). Haptics is defined as active touch, such as occurs when you reach down to pet a cat, and can be contrasted with passive touch, such as when a cat rubs against your leg (Katz, 1989). In fact, in some instances, touch is not only the better choice, it is the only choice. For example, the only way to accurately determine the temperature, weight, or hardness of an object is to touch it (e.g., Craig & Rollman, 1999). However, although a great deal of research has focused on perceptual properties involved in the sense of touch and on intermodal perceptual relations across touch and vision, not as much work has examined how these perceptual processes translate into preference.

Research on perception and touch has focused on object properties, the corresponding hand and finger movements used to sense the objects, and the mental representations people have of the experience (Klatzky, Lederman, & Matula, 1993; Lederman & Klatzky, 1990). Klatzky et al.’s work classifies objects into two general categories: geometric and material. A geometric object’s most dominant attribute is size or shape. A material object’s most dominant attribute is texture, roughness, hardness, weight, temperature, or part (i.e., the separate parts of the object). When perceiving geometric objects, such as cans of soda, Klatzky et al. found that people rely most on the modality of vision. When perceiving material objects, such as clothing, the sense of touch plays the primary role. Thus, in a remote environment, consumers purchasing certain types of merchandise must rely on the sense of vision, even though the preferred modality is touch. In an in-store environment, consumers can rely on both the sense of touch and the sense of vision. As a result, objects with material properties can be examined more accurately in-store, whereas objects with geometric properties can be examined accurately in either environment.

Although this article classifies products by whether they are primarily geometric or material, other research on direct and remote shopping has classified products in different ways. One of the most common methods has been to classify attributes in terms of whether they are search, experience, or credence attributes (Darby & Karni, 1973; Nelson, 1974). Search attributes are those that can be verified before use, experience attributes are those that can be verified only after
use, and credence attributes may not be verified even after use. Note that both material and geometric properties are search attributes, but material properties rely on touch whereas geometric properties rely on vision.

Other research has classified attributes in still different ways. One way is to define attributes as to whether they are digital or nondigital (Lal & Sarvary, 1999). Digital attributes are those that can be communicated remotely, such as written descriptions or pictures. Nondigital attributes are those that can only be examined in a real setting, such as how a piece of clothing feels. Other researchers have classified attributes by whether they are sensory or nonsensory attributes (Degeratu et al., 2000). Sensory attributes can only be determined through the use of the senses (like nondigital attributes), whereas nonsensory attributes can be described verbally (like digital attributes). Both of these types of attributes are search attributes because they can be determined prior to purchase. Finally, research has considered whether products can be classified as either hedonic or utilitarian (e.g., Dhar & Wertenbroch, 2000). Hedonic goods are those whose consumption is based mainly on affective and sensory characteristics, whereas utilitarian goods are those whose consumption is more cognitively driven and goal-oriented. Material products could be either hedonic or utilitarian. For example, a luxurious robe could be a hedonic item, whereas a calculator could be a utilitarian item. Thus, by identifying whether products offer mainly material or geometric features, we can gain new insights beyond current ways of classifying attributes. We next consider how offering primarily geometric or material properties, consumers gain information that is not available simply through the sense of vision. This additional information is important when deciding between products with material properties since without it, the consumer might be less likely to choose an item (see Dhar, 1997, and Luce, 1998, for other research on factors influencing choice deferral). This line of thinking leads to the next hypotheses, which predict greater choice of products with material properties in in-store environments. Because consumers can purchase items remotely by seeing either only written descriptions or descriptions and pictures, we compare both of these conditions to the case where the product can be physically examined. Because in-store decisions allow for actual touch, whereas neither written descriptions nor pictures do, we expect a greater likelihood of choice for products with material properties in in-store environments compared to either of these two remote environments.

H1: Consumers are more likely to handle a product with pleasant material properties than a product with geometric properties.

H2: Consumers are more likely to choose products with pleasant material properties when examining actual products than when examining (a) pictures and written descriptions or (b) only written descriptions.

For products with pleasant material properties, we expect consumers to pick up such objects and gain additional information that translates into preferences. However, we do not expect consumers to pick up and touch products with geometric properties (H1) because information about these products can be gained through vision alone and vision is a less costly sense than touch. Because consumers will evaluate these products with visual information in both environments, we do not expect to see any differences in choice. Thus, we expect that the type of product considered will moderate the likelihood of choice when the actual product or only a description is available. This hypothesis is also supported with research on affective ratings toward ceramic objects (a product with geometric properties), which found similar affective ratings whether objects could be actually handled or when only a picture was available (Lindauer, Stergiou, & Penn, 1986).

H3: Products with material properties will be chosen more often when the actual product is available than when only a description is available, but there will be no difference across these environments for products with geometric properties.

**STUDY 1: DECISION MAKING WITH REAL PRODUCTS OR DESCRIPTIONS OF PRODUCTS**

**Method**
Participants were 436 undergraduate marketing students who participated as part of a course requirement. Two factors were manipulated in a $3 \times 2$ (Object Information, a between-subjects factor × Type of Product, a within-subjects
factor) mixed design. Object information was manipulated as either a picture and list of attributes, just the attributes, or the actual product and the list of attributes; the type of product was either geometric or material. For each product category, participants evaluated two products and decided whether they wanted to buy either one of them. For example, in the category of bath towels, participants were shown two towels and asked if they would (a) buy towel A, (b) buy towel B, or (c) not buy either towel. Each participant made decisions in two material categories (bath towels and carpeting) and two geometric categories (videotapes and rolls of film), with each category appearing on a different page of the questionnaire (e.g., Lederman & Klatzky, 1990).

We pretested the product categories in this and the next study to split products into those offering either material or geometric properties. In addition to selecting products with material and geometric properties, we also needed to pretest the products in the studies to rule out other potential explanations for the results. Participants in the pretests were 50 undergraduate marketing students. Participants were asked about (a) the importance of touching items, (b) the amount of variance in quality within a product category, and (c) how familiar they were with the items, each on a 7-point scale.

In the experiment, object information was presented as either (a) a list of attributes, along with a picture, for a pair of products (pictorial description); (b) just a written description for a pair of products (written description); or (c) a list of attributes for a pair of products, along with the ability to handle the actual products (real). Written descriptions for each product were a list of five to six attributes taken from the packaging or label of the product. These descriptions were the same for every condition. For example, Towel A was described as “white, 100% cotton, 25-in. × 42-in. size, price of $3.99” and Towel B was described as “white, 100% Egyptian cotton, 30-in. × 54-in. size, price of $6.99.”

After completing the four buying tasks in the condition where the actual products were available, participants were questioned as to whether they touched each of the products (0 = I didn’t touch the item, 1 = I touched the item very little, 7 = I touched the item a great deal) and whether touching the items helped them decide on whether to purchase it (0 = I didn’t touch the item, 1 = Touching the item helped very little, 7 = Touching the item helped a great deal).

The interaction testing H3, which examined the interaction between these variables; (d) a two-way interaction between the real-remote manipulation and the material options; and (e) a two-way interaction between the real-remote manipulation and the geometric options. The last two interactions test to see if there are significant differences across the tested categories (e.g., Dhar, 1997). H2a was tested with coefficient (a) when comparing the real to the pictorial description condition for the products with material properties and H2b was tested with coefficient (a) when comparing the real to the written description condition for the products with material properties. H3 was tested after we collapsed the two description conditions together, with the two-way interaction in coefficient (c).

H2a states that there will be more choice for products with material properties when consumers are examining real products than pictures of the products. Averaged across the two categories, we found that 95.9% of participants made a choice in the real condition when considering products with material properties (see Figure 1). This choice incidence dropped to 86.2% when choosing with pictures and the difference was significant, χ²(1) = 7.64, p < 0.01, supporting H2a. H2b predicts that, for products with material properties, there will be greater choice incidence in the real condition than in the written description condition. Averaged across the two categories, choice incidence was 95.9% in the real condition and 84.9% in the written description condition. This difference was significant, χ²(1) = 8.91, p < 0.01, supporting H2b. Next, we found that there was very little difference across the conditions for products with geometric properties, as H3 suggests. The interaction testing H3, which examined categories to vary in overall quality. Because there were no differences in terms of perceived category variance, it cannot be argued that participants picked up the material items because they expected greater variance. Third, we found no significant difference in familiarity between the products with material properties and the products with geometric properties. Because there were no significant differences in terms of familiarity, it cannot be argued that participants picked up the material items because they were less familiar with them.

Results of the experiment. To test H1, we constructed an analysis of variance (ANOVA) model. The dependent variable was the average of the two touch-related questions (r = 0.89), and the independent variable was whether the products had material or geometric properties.

Consistent with H1, there was a significant difference across products with material or geometric properties, M = 5.1 vs. M = 2.8, F(1, 1730) = 64.33, p < 0.001. We tested H2 and H3 with a logistic regression model, where the responses were modeled as a function of the following independent dummy variables: (a) a variable indicating whether decisions were made regarding actual products (real), pictures of products (remote), or written descriptions of products (remote); (b) a variable indicating whether participants evaluated products with geometric or material properties; (c) a two-way interaction between these variables; (d) a two-way interaction between the real-remote manipulation and the material options; and (e) a two-way interaction between the real-remote manipulation and the geometric options. The last two interactions test to see if there are significant differences across the tested categories (e.g., Dhar, 1997). H2a was tested with coefficient (a) when comparing the real to the pictorial description condition for the products with material properties and H2b was tested with coefficient (a) when comparing the real to the written description condition for the products with material properties. H3 was tested after we collapsed the two description conditions together, with the two-way interaction in coefficient (c).

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whether the effect of handling real products was greater for material than for geometric products, was significant, $\chi^2(1) = 5.98, p < 0.05$. Finally, we found that there were no significant differences in the effects across the categories for both products with material properties and products with geometric properties ($p > 0.40$ for each).

Discussion

The findings so far suggest that, for products with material properties, consumers will be more likely to pick up, touch, and choose them in an in-store environment than in a remote environment. However, for products with geometric properties, there appears to be no difference between in-store and remote choice as consumers rely on the sense of vision in either case. Our explanation for why these effects occurred relied on the additional information that consumers could utilize in the in-store environment by picking up and feeling the products. However, there may be other explanations for why these effects occur. Specifically, in the real condition, where the products could be touched, they could also be seen in three dimensions. In the remote conditions, the products could only be seen in two dimensions. Thus, it is possible that the effects were driven by this difference, as prior research has shown that perceptions can be affected by whether objects are viewed in two or three dimensions (Easton, Greene, & Srinivas, 1997).

To test this competing explanation, we need to add another condition, one in which consumers can see a real product in three dimensions, but are not allowed to touch it.

The next study, in addition to testing this alternative explanation, also focuses on another question. Namely, is there any way that a product with material properties can be preferred more in a remote environment, even though it cannot be physically examined? To consider this question, we looked at how information gathered through the sense of touch could be translated to a written description. For example, a towel can be described as “feels soft against your skin,” which is a written description of texture. Some researchers refer to actual experience of a feature through personal trial as a sensory attribute and to a description of a feature as market information (Shapiro & Spence, 2002). In general, this research finds that consumers prefer information gained from sensory attributes to that gained from market information (e.g., Wright & Lynch, 1995). In our research, we look at how written descriptions and the ability to touch products interact with whether decisions are made in remote or in-store environments.

We predict that written descriptions of properties will be more or less important depending on how they interact with other characteristics of the product. Written descriptions of touch properties should be most useful when the product they are describing cannot be physically examined. Two lines of reasoning support this idea. First, given our earlier arguments about the importance of touch information for material products in remote environments, it would make sense that consumers would use written descriptions of touch properties if they were available. Second, this idea is supported by research on tactile perceptions, which suggests that the more vividly an object’s haptic properties can be imagined, the more easily the object is recognized (e.g., Gibson, 1966). One way to make an object’s material properties more vivid is to increase the description of its specific touch properties. For example, a towel can either be described by its dimensions, color, and content, or more vividly as how it might actually feel against the body. Next, we consider how written descriptions of touch properties might not be as useful in other conditions and also compare this to the case where visual properties are described.

Although written descriptions of touch properties should be useful when the actual product with material properties cannot be physically examined, they may not be as useful in other conditions. In particular, they should not be as useful when the product can be physically examined, as participants are likely to touch the product when it is available (H1) and the actual information from the sense of touch should then be sufficient. Furthermore, we can compare this prediction to what might occur when a description is provided for information that can be readily gathered through the sense of vision. In particular, a towel might be described as “20 in. × 34 in. and white,” in which case the size, shape, and color of the product (visual information) are known. We predict that this information will not influence preferences when a picture is available in either remote or in-store environments. In remote environments, the picture is sufficient (as seen in Study 1). In in-store environments, again, the consumer can see the actual product, so additional information on visual properties should not further impact preferences.

Thus, preference for a product with material properties may increase in remote environments when its attributes are described in terms of their underlying touch properties more
than when only visual properties are available. Because preference is expected to increase in remote environments when a product’s touch properties are described, this should reduce the difference with in-store environments compared to when only visual properties are described. This leads to H4, which tests attribute descriptions as another moderating factor.

**H4:** For material products, the difference in preference between real products and products described with pictures and features will be reduced when these features are described in terms of their touch properties.

**STUDY 2: THE MODERATING EFFECT OF THE WAY ATTRIBUTES ARE DESCRIBED**

**Method**

Participants were 419 undergraduate marketing students fulfilling a course requirement. Two factors were manipulated in a 6 × 2 (Object Information, a between-subjects factor × Type of Product, a within-subjects factor) mixed design. Object information was manipulated as either a real product that could be touched, the real product with a description of the touch properties, the real product that could not be touched, a picture only, a picture and list of features, and a picture and touch properties; the type of product was either geometric or material. For each product category, participants evaluated one product and decided how likely they were to buy it, on a scale ranging from 1 (Very unlikely to buy) to 7 (Very likely to buy). Each participant made decisions in seven product categories, four of which offered material properties (carpeting, bath towels, socks, t-shirts) and three of which offered geometric properties (cans of soup, videotapes, containers of motor oil).

Object information was presented in six different ways for products with material properties. In the first condition, the real product was shown and participants could physically examine it (real-touch), as we did in the first study. Participants were also given a list of features that corresponded to the visual properties of each product. For example, the towel was described as “100% Egyptian cotton, white, 30-in. × 54-in., price is $9.99.” In the second condition, participants were shown the real product, could physically examine it, and were given a description of the touch properties of the relevant attributes (real-touch properties). For example, the towel was described as, “Its soft-looped design feels smooth and comfortable against your skin; price is $9.99.” This condition was only done for the products with material properties, as only these products had features for which describing touch properties would be relevant. In the third condition, the real product was shown with a list of visual attributes, but participants were told they could not touch it (real–no touch). In the fourth through sixth conditions, participants were not given the actual product to examine (remote conditions). In the fourth condition, participants were shown a picture along with the visual attributes list (picture-attributes). In the fifth condition, only the picture was shown without listing any visual attributes (picture-no attributes). In the sixth condition, we presented a picture along with a description of the touch properties (picture-touch properties). This was also done only for products with material properties, as there were no touch properties to describe for geometric products.

**Results**

To test the hypotheses, we ran an ANOVA model with the purchase likelihood ratings as the dependent variable and with object information and type of product as the two main independent variables. To test for differences across product categories, we used the same interactions as we used in Study 1. The overall model shows a main effect for type of product, as there was overall greater preference for the products with geometric properties; M = 4.92 for geometric products, M = 4.14 for material products, F(1, 2913) = 55.75, p < 0.001. There was also a main effect for object information, as the way in which the information was portrayed had an overall effect, F(5, 2913) = 71.91, p < 0.001. We also found that the interactions between the main variables and the product categories were not significant (p > 0.20 for each), suggesting that the results are similar across the tested categories. However, of greater interest are specific planned comparisons and interaction contrasts that will allow us to test the aforementioned hypotheses (e.g., Keppel, 1991), which we describe next.

We first examine the results that retest H2a and H3. H2a states that the choice of products with material properties will be greater when a real product can be examined instead of a picture and written description of that product. Here we use purchase likelihood ratings instead of choices, but the effect is expected to be the same. For products with material properties, averaged across the four tested categories, participants gave a purchase likelihood rating of 4.95 when they could physically examine the products (real-touch). However, when these products were examined with a picture and visual attributes listing (picture-attributes), the purchase likelihood ratings dropped to 3.56 (and in the condition where respondents could only see a picture, their average rating was 3.55). To test H2a, we test the planned contrast from the model where we compare the conditions in which participants either examined the real product or saw a picture and written description. This effect was significant and supports H2a, F(1, 2913) = 29.27, p < 0.001. H3 predicts that this effect will diminish for products with geometric properties. Indeed, Figure 2 shows that preference for products with geometric properties in the real–touch condition is 4.86 averaged across the categories and 5.02 in the picture-attributes condition (and in the condition where respondents could only see a picture, their average rating was 4.90). To examine H3, we test the interaction contrast from the model, focusing on the
difference between 4.95 and 3.56 compared to the difference between 4.86 and 5.02. This interaction was significant and supports H3, \(F(1, 2913) = 5.93, p < 0.05\).

We next examine the results that correspond to H4 and possible alternative explanations. H4 states that the preference for products with material properties will be greater when the touch properties of these products are provided and that the difference between the real and remote conditions will be greater when visual properties are described. In the picture-touch properties condition, participants gave a purchase likelihood rating of 4.25, whereas in the real-touch properties, the rating was 4.88. When the visual attributes were listed, participants gave a purchase rating of 3.56 (picture-attributes), which is compared to the rating of 4.95 when the real products were available (real-touch). To test H4, we examine the interaction contrast for the Real-Picture \(\times\) Attribute descriptions. In particular, we need to show that the difference between 4.95 and 3.56 is greater than the difference between 4.86 and 4.25. This interaction was significant, \(F(1, 2913) = 8.33, p < 0.01\), supporting H4. We also found no significant difference between the real-touch condition (4.95) and the real-touch properties condition (4.88), suggesting that the description of touch properties is not always beneficial, but only in situations where the actual product cannot be examined.

A possible alternative explanation for our main result, that preference for products with material properties is greater in in-store than remote environments, could be that this effect is due to the fact that a picture only provides a two-dimensional view of the product. If a three-dimensional view were provided, it might lead to the same preference as if the actual product were available to be examined. However, in the condition where participants could see the actual material product, but were not allowed to touch it (real–no touch), average purchase likelihood ratings were 3.66. This rating compares to the rating of 4.95 when participants could both see and touch the real, material product. This difference was found to be significant, \(F(1, 2913) = 4.37, p < 0.05\). We also compared the real–no touch condition (3.66 rating) to the picture-attributes condition (3.56 rating) and found no significant difference. Thus, we find that this alternative explanation is not supported because showing the product in three dimensions still did not produce the same ratings as if participants could actually touch the merchandise.

**GENERAL DISCUSSION**

This article focuses on how consumers make decisions in remote and in-store environments. Remote environments are those where products cannot be physically examined and only descriptions are available and in-store environments are those where real products can be handled and touched. In remote environments, consumers must rely on information provided through the sense of vision. In in-store environments, consumers can use the sense of touch to add information to their purchase decision and tend to do so when that information is necessary to make a purchase. We built on research that has focused on perceptual information provided through the sense of touch (Klatzky et al., 1993) and attempted to extend it to the realm of preference.

Following research on the sense of touch (Klatzky et al., 1993), we classified objects into two categories: (a) products whose most diagnostic attributes are material, in which the sense of touch is optimal to identify objects, such as towels; and (b) products whose most diagnostic attributes are geometric, such as boxed rolls of film, for which touch is less important. We found that consumers are more likely to pick up and touch items with pleasant material properties than products with geometric properties. As a result of picking up and touching these material items and gaining additional relevant information, consumers were more likely to choose these items than in situations where the sense of touch could not be used. We also found that consumers are less likely to pick up products with geometric properties in in-store environments as the sense of vision can provide sufficient information to evaluate these products. Given that sufficient information is available for geometric products in remote environments, we found that there were no differences in preference between remote and in-store conditions for these products.

Besides the type of product, we also tested another moderator of our basic finding. Specifically, we looked at the way in which attributes are described in remote environments. We predicted that, because material properties cannot be physically examined through the sense of touch, describing their touch properties might help to increase preferences, as the information would become more useful (Klatzky et al., 1993). We found that preferences increased more for products with material properties in remote environments when the prod-
products’ features were described in terms of their touch properties than in terms of their visual properties.

Theoretical Implications

There has been little research focusing on differences in consumer decision making across in-store and remote environments. The research that has been done has looked at differences in decision making across environments in which consumers could see either (a) the actual product or only a written description (Degeratu et al., 2000) or (b) the actual product or a picture (Burke et al., 1992; Lemon & Nowlis, 2002). However, all of these articles focused on packaged goods or products with primarily geometric properties. In these cases, the sense of touch was not a critical factor in the purchase of the items. In this article, we compare information gathered through the sense of touch against information gathered through the sense of vision. By doing this, we examined products in which the sense of touch is important, such as products with material properties.

We studied how differences in information gathered through the sense of touch and vision would lead to effects on decision making and choice. There has been little research in psychology on the relation between perception and preference in the realm of touch. Most of the research on touch has focused exclusively on perception, so that the issue of preferences was not considered (e.g., Klatzky et al., 1993). In this research, we tried to show how perceptual information would be valued in certain areas and how this additional information could translate into preferences.

Although there has been a great deal of research done on consumer decision making and choice, much of this research has relied on verbal descriptions of attributes or pictures of products (see Bettman, Luce, & Payne, 1998 for a review). In a way, then, this prior research could be classified as a remote environment because participants were not given the opportunity to physically examine products. For products with geometric properties, such a representation seems appropriate. However, for products with material properties, providing information through the ability to examine actual products might result in additional insights. For example, Holbrook (1983) found that perceptions of sweaters, which are an object with material properties, differ depending on whether consumers can touch actual sweaters or must rely on written descriptions. In general, there has been little research on how attributes evaluated from senses other than vision can affect decision making (but see Shapiro & Spence, 2002, for a comparison of how actual stereo sounds versus verbal descriptions of these sounds impacts decision making).

This article also has some limitations that could be examined in future research. First, we did not examine the issue of individual differences in familiarity. If consumers are very familiar with products with material properties, they may be just as likely to choose these products in in-store and remote environments because they can remember how the product feels. Second, we did not examine other individual differences that could impact our results. For instance, research has shown that certain types of consumers are more likely to want to touch items before choosing them (Citrin, Stern, Spangenberg, & Clark, 2003).

Practical Implications

Retailers need to determine which types of products will sell best in in-store and remote environments. Our research suggests that products with material properties, such as clothing or home furnishings, may sell better in in-store environments where consumers can physically inspect the merchandise. For products with geometric properties, such as packaged goods, our results suggest that the differences between remote and in-store sales may not be as large (see also Burke et al., 1992; Degeratu et al., 2000). At this time, for example, products such as books and videos, which have primarily geometric properties, are more likely to be purchased online than apparel or household furnishings, which have primarily products with material properties (eMarketer.com, 2000).

Although certain products may be more likely to be chosen remotely than others, the products that are not as likely to be purchased remotely may be able to overcome certain barriers. First, our results suggest that for a product with material properties, such as towels, for which the touch of the item is an important aspect of the purchase, a retailer could describe how the towel feels, which may help overcome consumers’ reluctance to buy it remotely. Our results also suggest that companies need to go beyond listing bullet points of product attributes; they need to describe touch properties in detail. Finally, our results suggest that companies with only remote operations that sell goods with material properties may not be as successful as those companies with both remote and in-store operations.

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