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**Point-of-Purchase Signs, Impulse Purchases, and  
Individual Differences in the “Desire to Touch”**

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**ABSTRACT**

What is the role of touch in consumer behavior? Consumers are especially motivated to touch some products before buying them, and for some people, those high in “desire to touch”, touching before buying is especially important. In addition, some situations encourage consumers to touch goods before purchasing them. How do these relate to impulse purchases?

People high in their “desire to touch” are more likely to make impulse purchases. Point-of-purchase signs that encourage touching a product stimulate impulse purchases in consumers who notice the sign, whether they are high or low in “desire to touch.” High “desire to touch” are much more likely than other consumers to notice the sign. Signs that praise a product, but stress vision rather than touch, do nothing to increase impulse purchases by either type of shopper.

These results grow out of a study of shopper in front of the peaches and nectarines in a supermarket produce department. The characterization of consumers as high or low “desire to touch” was based on a 2 page questionnaire administered to 340 shoppers who had already placed peaches or nectarines in their shopping carts. How and how much they touched the fruit was previously recorded, and matched up with the characterization based on the questionnaire as a way of validating the classifications.

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## **Point-of-Purchase Signs, Impulse Purchases, and Individual Differences in the “Desire to Touch”**

### *Introduction*

What is the role of touch in consumer behavior? Consumers are especially motivated to touch some products before buying them, and for some people, those high in “desire to touch”, touching before buying is especially important. In addition, some situations encourage consumers to touch goods before purchasing them. How do these relate to impulse purchases?

### *Theoretical Background*

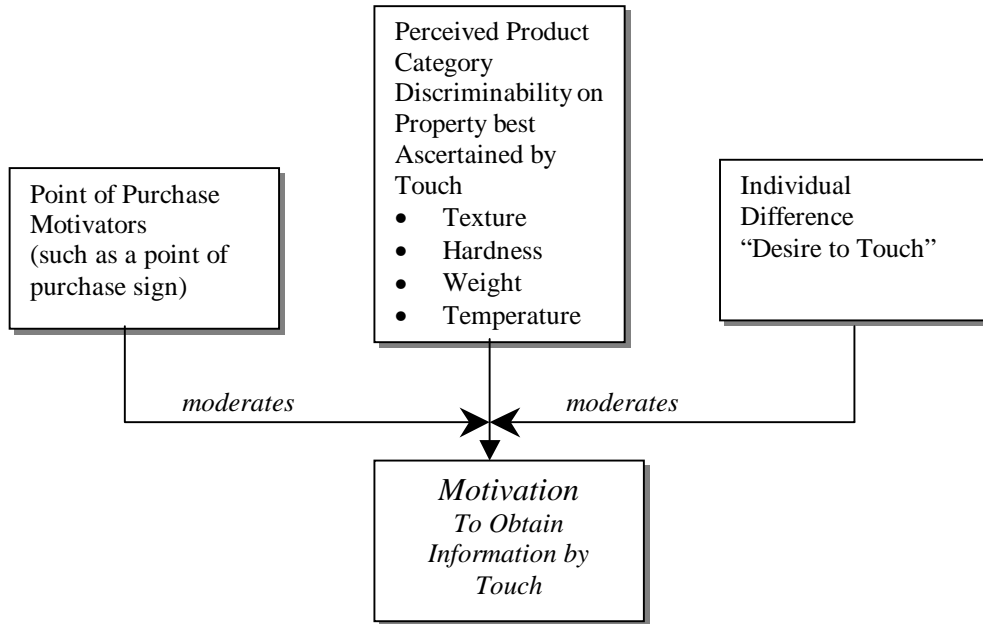
Although many studies of touch involve different areas of the human body, the primary studies of interest involve using the hands as the primary source of input to the touch perceptual system. The hand has been called a person’s outer brain (Klatzky & Lederman 1987) and Lederman & Klatzky (1987) described the “intelligent hand”. Touch is especially adept at encoding object properties corresponding to texture, hardness, temperature and weight information. A product in a category that differs on one of these object properties is more likely to motivate a consumer to touch the product compared to a product category that does not differ on one of these dimensions. For example, peaches may differ on hardness and consumers may want to touch peaches prior to purchase since the hardness (or softness) of the peach may also indicate freshness information.

In addition to the properties of the *product* that may increase the motivation of the consumer to touch, a non-product specific, *individual difference* motivator to touch exists termed the “desire to touch”. Some individuals are more internally motivated to approach and touch products (those high in “desire to touch”). A 12-item self-report “desire to touch” scale has been developed for this research to measure this individual difference. Finally, besides product differences and person differences, a *situation* such as a point of purchase sign in the store may motivate a consumer to approach and touch products. When a consumer sees a sign encouraging

touch such as “feel the freshness”, they may be more likely to approach and touch products.

Please see Figure 1 for a summary of the motivation to obtain information by touch.

FIGURE 1: MOTIVATION TO TOUCH



### *Design and Methodology*

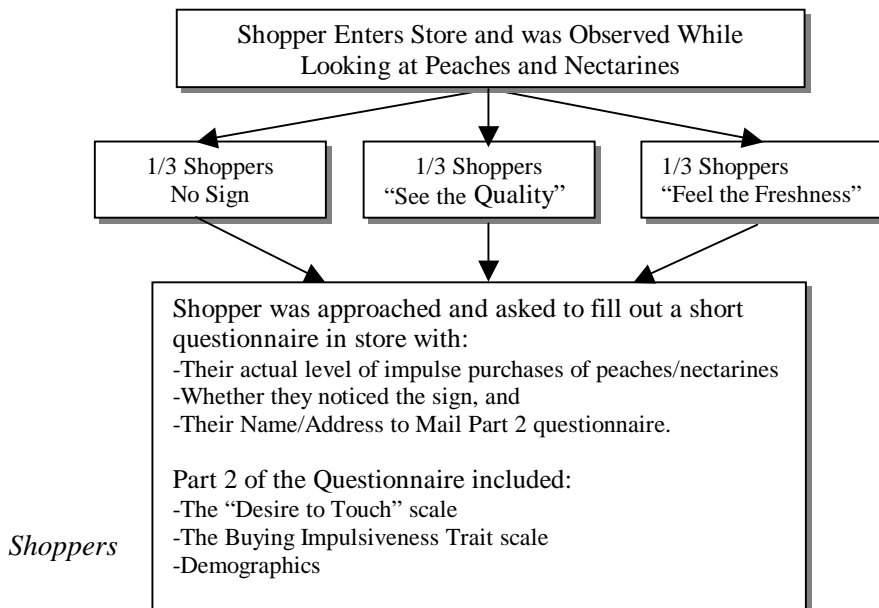
A series of three studies were designed. The first two studies were performed in laboratory settings individually with subjects. Study three, which this paper reports, built on the first two experiments by moving into a retail food setting to further examine the individual difference “desire to touch”, and the effect of product touch on actual purchase behavior, and specifically on impulse buying. It was hypothesized that touching may elevate buying impulsiveness. Those high in “desire to touch” are internally motivated to approach and touch products. This internal motivation to touch may result in more impulse purchases. However, a person low in “desire to touch” may not possess this internal motivation to approach and touch products. It is possible that when induced externally to touch a product (perhaps with a point of purchase sign), impulsive buying can be increased even for those low in their “desire to touch”.

Additionally, this study was designed to link actual in-store touching behavior to the individual difference “desire to touch”.

*Procedure*

This third study was a 2 (“desire to touch”) x 3 (point of purchase signs; please look, please touch or no sign) design. One-third of the shoppers were exposed to a point-of-purchase sign by the peaches and nectarines stating “See the Quality”. One-third of the shoppers did not see any sign, and finally one-third of the shoppers were exposed to a point of purchase sign encouraging touching behavior (“Feel the Freshness”). It was expected that overall, those higher in “desire to touch” would purchase more peaches/nectarines impulsively than those low in “desire to touch”. In addition, those lower in “desire to touch” in the “feel the freshness” condition may be more likely to purchase impulsively than those in the other two conditions. Finally, the actual touching behavior of shoppers was recorded as they shopped for peaches/nectarines. It was expected that those low in “desire to touch” would touch less when shopping than those high in “desire to touch”. Please see Figure 2 for an outline of the procedure.

FIGURE 2- OUTLINE OF FIELD EXPERIMENT, GROCERY STORE SETTING





The study took place in two parts. Part one consisted of observing shoppers in the grocery store while they selected peaches or nectarines. As every shopper approached the peaches or nectarines, their hand movements were unobtrusively observed. Only those shoppers that ultimately selected at least one peach or nectarine were eligible to be included in the study. If a shopper made a purchase of peaches or nectarines, after they moved away from the peach/nectarine display, they were intercepted and asked to fill out a short half-page survey in the grocery store. This first part of the survey measured the shoppers' actual level of impulse purchase of peaches or nectarines. The survey also measured whether shoppers noticed which point of purchase sign had been displayed (either "see the quality", "feel the freshness" or no sign). Finally, shoppers were asked for their name and address so that a 2-page follow-up survey could be mailed to them to be completed and returned. This first part of the questionnaire took shoppers approximately ten minutes to complete. As an incentive to return the second part of the survey in the mail, shoppers were informed that if they returned the survey, they would be entered into a drawing to win a \$100 gift certificate toward purchases at the grocery store.

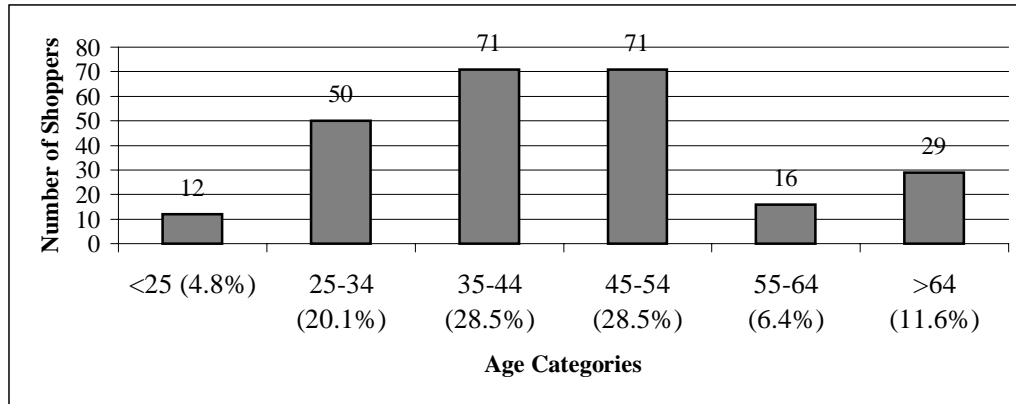
The follow-up survey which was mailed included the "desire to touch" scale, the buying impulsiveness trait scale, and some demographic measures to describe the sample. Three hundred and forty shoppers participated in part 1 of the study. Two hundred and fifty three surveys were returned after two weeks, with four having no name on them. This resulted in a usable sample size of 249 shoppers, which was a response rate of 73%.

#### *Description of the Sample*

##### *Age*

Age was measured using six categories. The distribution is illustrated in Figure 3 with the median age category being the 35-44 age category. Twelve shoppers, or 4.8% of the sample were ages 25 and below, 20.1% (50 shoppers) were 25-34 years old, 28.5% (71 shoppers) were 35-44 years old, 28.5% (71 shoppers) were 45-54 years old, 6.4% (16 shoppers) were 55-64 years old and 11.6% (29 shoppers) were over 64 years old.

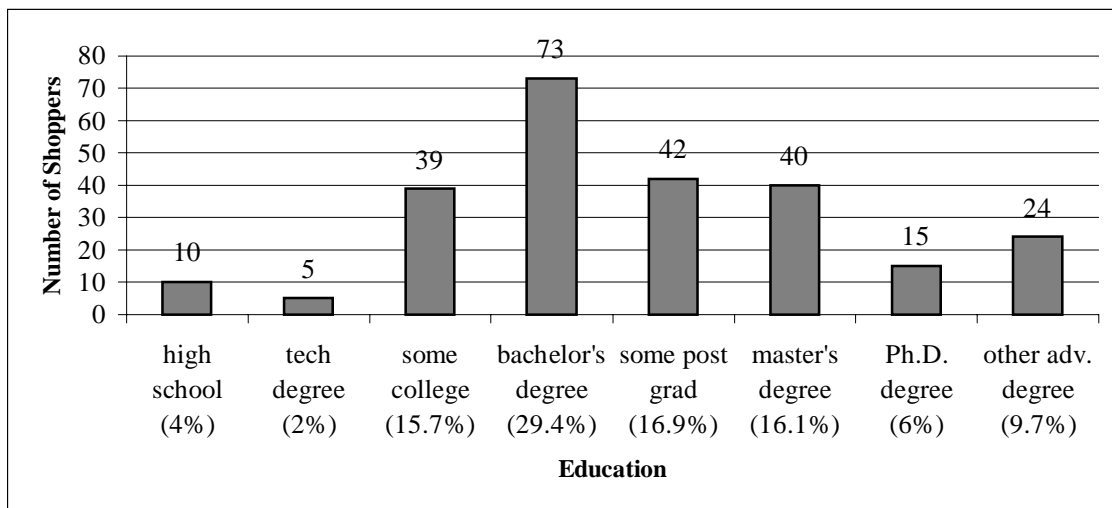
FIGURE 3: AGE DISTRIBUTION OF SHOPPERS (N=249)



*Education*

Education was measured using eight categories, which ranged from a high school education to various advanced degrees. The median education level was a Bachelor's degree (29.4%). Ten shoppers (4%) had a high school degree, 5 shoppers (2%) had a technical school degree, 39 shoppers (15.7%) had some college, 73 shoppers (29.4%) had a bachelor's degree, 42 shoppers (16.9%) had some post graduate education, 40 shoppers (16.1%) had a master's degree, 15 shoppers (6%) had a Ph.D. and 24 shoppers (9.7%) had some other type of advanced degree. Figure 4 illustrates the distribution of education in the sample of 249 shoppers.

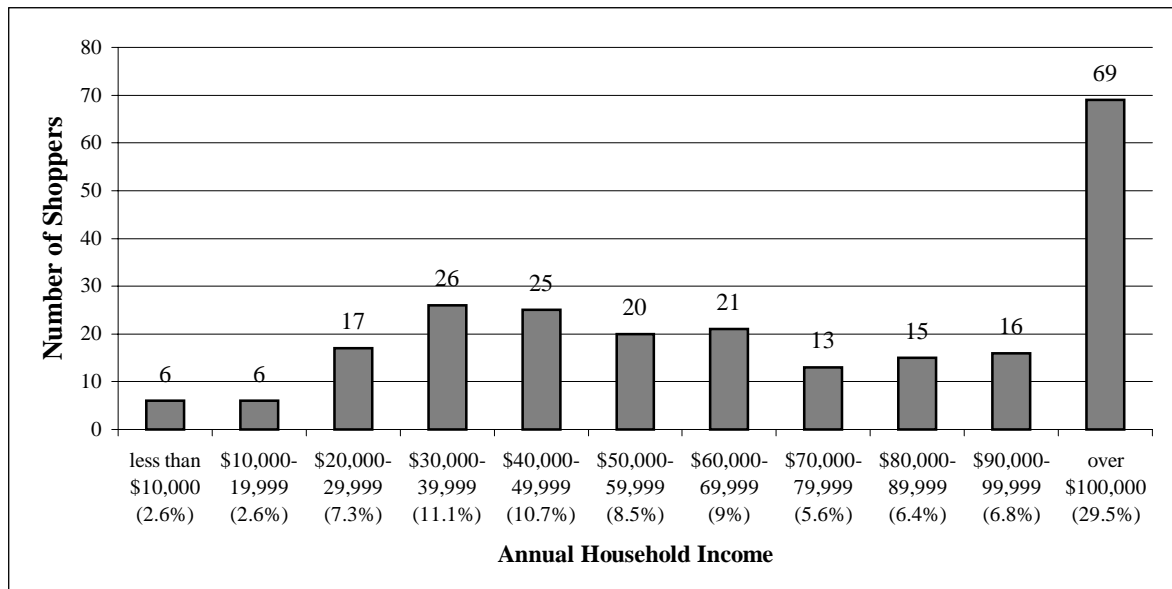
FIGURE 4: EDUCATION DISTRIBUTION OF SHOPPERS (N=249)



### Annual Household Income

The annual household income of the shoppers was measured using 11 categories ranging from under \$10,000 per year to over \$100,000 per year. The median annual household income of the sample of 249 shoppers was \$60,000 to \$69,999. Six shoppers (2.6%) reported a household income of less than \$10,000 last year. A household income of \$10,000-19,999 was reported by 6 shoppers (2.6%). Seventeen shoppers had a household income of \$20,000-29,999 (7.3%), 26 shoppers had a household income of \$30,000-39,999 (11.1%). Twenty-five shoppers had a household income of \$40,000-49,999 (10.7%), 20 shoppers (8.5%) earned \$50,000-59,999, 21 shoppers (9%) earned \$60,000-69,999, 13 shoppers (5.6%) earned \$70,000-79,999, 15 shoppers (6.4%) earned \$80,000-89,999, 16 shoppers (6.8%) earned \$90,000-99,999 and finally 69 shoppers (29.5%) earned a household income of more than \$100,000 last year. Figure 5 shows the income distribution.

FIGURE 5: INCOME DISTRIBUTION OF SHOPPERS (N=234)



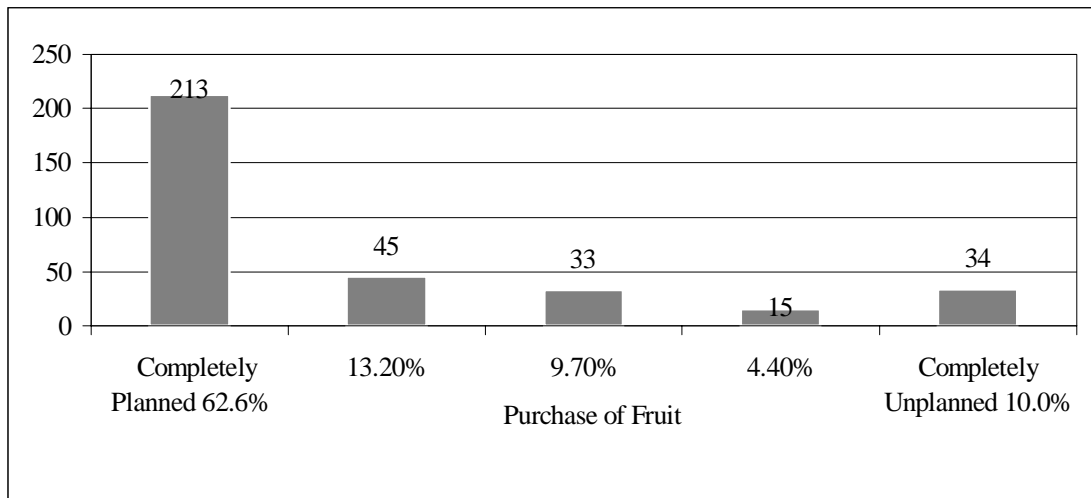
### Gender

Fifty-one or 20.5% of the sample were male, while 198 or 79.5% of the sample were female.

### Actual Level of Impulse Purchase

In-store buying impulsiveness was measured using three questions. The first question stated “my decision to buy some type of fruit today was”, the second question stated “my decision to buy peaches/nectarines today was” and the third question stated “my decision to buy the exact number of peaches/nectarines that I ended up purchasing was”. All three items had a scale from 0 to 4, with 0 being “completely planned” to 4 being “completely unplanned”. The three items were summed for a measure of buying impulsiveness. For a general description of shopping behavior, it is informative to look at the distribution of each of the three items individually. The first impulse purchase item stated “my decision to buy some type of fruit today was” and this was the most general of the three items. The distribution is shown in Figure 6.

FIGURE 6: IMPULSE PURCHASE ITEM 1: “MY DECISION TO PURCHASE SOME TYPE OF FRUIT WAS...”



From Figure 6 it can be seen that most shoppers (213 shoppers or 62.6%) had planned to purchase some type of fruit when shopping while only a small number (34 or 10%) had not planned to purchase fruit at all.

The second impulsive purchase question concerned the purchase of peaches or nectarines.

This question stated “my decision to purchase peaches/nectarines today was” with endpoints being “completely planned” to “completely unplanned”. Figure 7 illustrates the distribution.

FIGURE 7: IMPULSE PURCHASE ITEM 2: “MY DECISION TO PURCHASE PEACHES/NECTARINES WAS...”

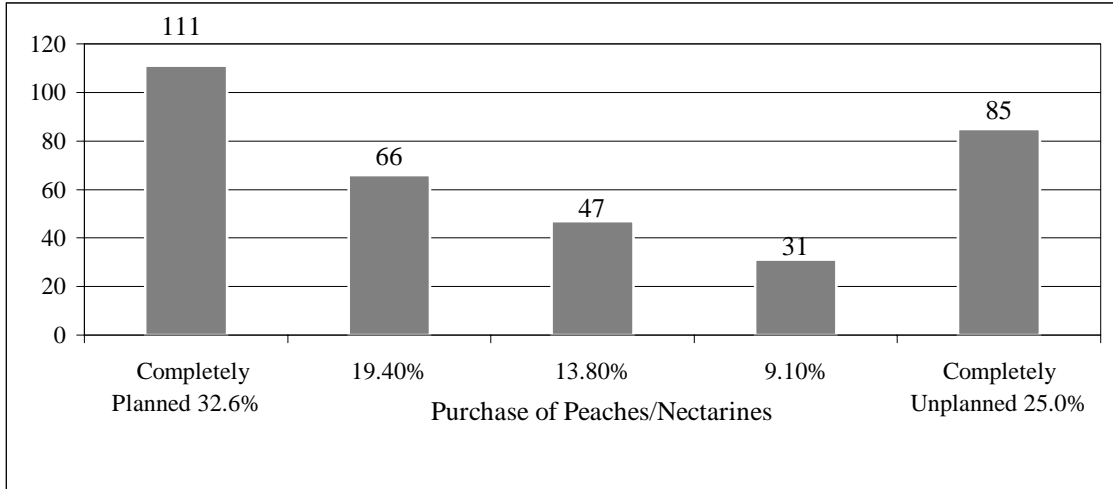


Figure 7 illustrates that 111 shoppers (or 32.6%) had completely planned to purchase peaches/nectarines while 85 shoppers (or 25.0%) stated that their decision to purchase peaches/nectarines was completely unplanned.

Finally, shoppers were asked a third question designed to measure their level of actual impulse purchase. The last question stated “My decision to purchase the exact number of peaches/nectarines that I ended up purchasing was...” with endpoints “completely planned” to “completely unplanned”. Figure 8 illustrates the distribution.

FIGURE 8: IMPULSE PURCHASE ITEM 3: “MY DECISION TO PURCHASE THE EXACT NUMBER OF PEACHES/NECTARINES THAT I ENDED UP PURCHASING WAS...”

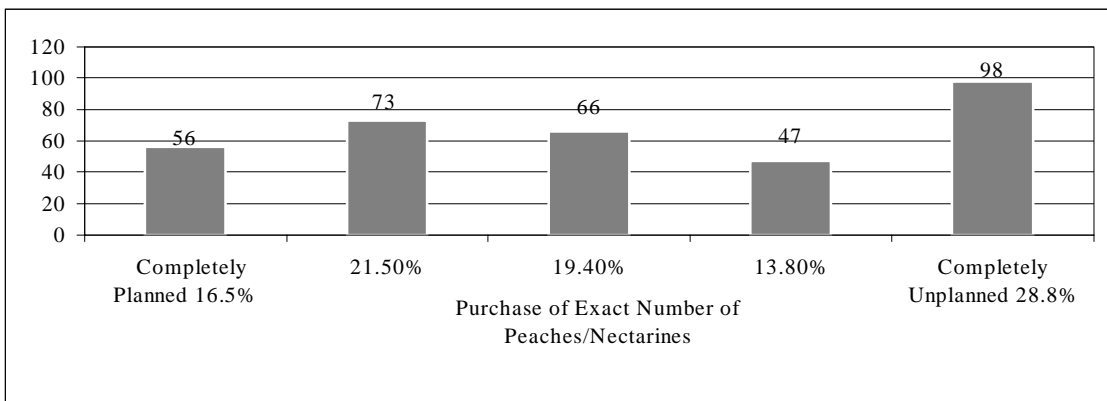


Figure 8 illustrates that the purchase of an exact number of peaches/nectarines was completely unplanned by 98 shoppers or 28.8% while only 56 shoppers (16.5%) stated that their decision to purchase the exact number that they ended up purchasing was completely planned.

### *Results*

#### *General Impulse Purchase and “Desire to Touch”*

It was predicted that for a product that people would want to touch (such as peaches and nectarines), persons high in “desire to touch” would purchase more impulsively than their low “desire to touch” counterparts. The possible range of the 14-item “desire to touch” scale was from -42 to +42 (with each item eliciting a response from -3 to +3), and the entire range was represented in this sample. The overall 14-item “desire to touch” scale had a reliability of  $\alpha=.94$ , while the 7-item autotelic portion had a reliability of  $\alpha=.94$ , and the 7-item instrumental portion had a reliability of  $\alpha=.90$ . Low and high “desire to touch” were determined by a median split with those subjects scoring above the median (a score of -5) classified as high “desire to touch”(n=120) and those scoring at or below the median being low “desire to touch” (n=129). A main effect of “desire to touch” was found with those high in “desire to touch” buying more impulsively than those low in “desire to touch” (means of 5.92 and 4.22 for high and low “desire to touch” respectively,  $F=15.99$ ,  $p<.05$ ). Figure 9 illustrates the mean level of buying impulsiveness by “desire to touch”.

FIGURE 9: MEAN LEVEL OF BUYING IMPULSIVENESS BY “DESIRE TO TOUCH”

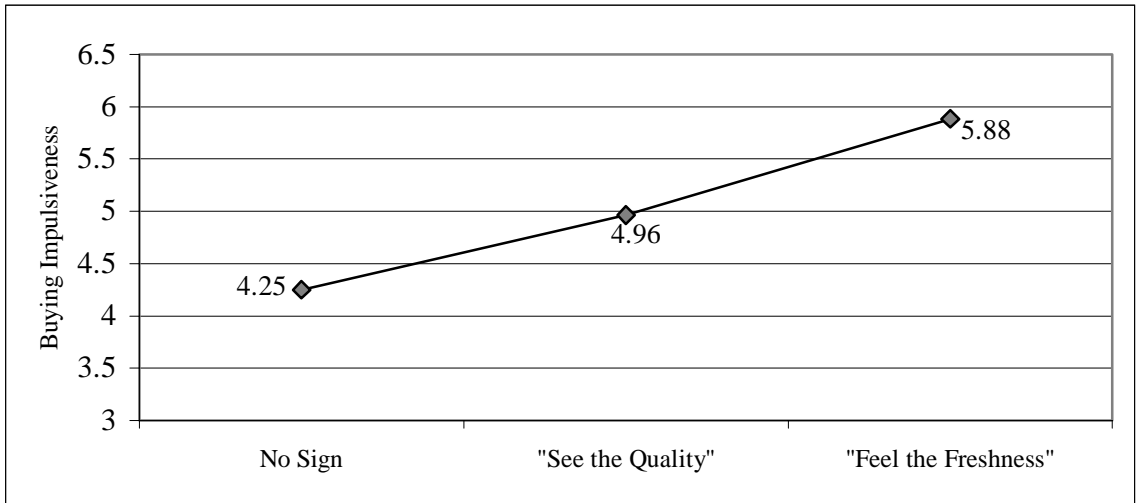


Persons higher in “desire to touch” purchased more impulsively than their low “desire to touch” counterparts.

*“Feel the Freshness” versus “See the Quality” and No Sign*

It was also thought that when shoppers were encouraged to touch with an external manipulation such as a point of purchase sign (saying “feel the freshness”), low “desire to touch” subjects would purchase more impulsively than when they were not encouraged to touch via a point of purchase sign. It was also predicted that high “desire to touch” subjects would be unaffected by the “feel the freshness” point of purchase sign since they would already be motivated internally to approach and touch the peaches/nectarines. See Figure 10 for the combined level of impulse purchase for high and low “desire to touch” shoppers by point-of-purchase condition.

FIGURE 10: IMPULSE PURCHASE OF PEACHES/NECTARINES BY POINT OF PURCHASE CONDITION

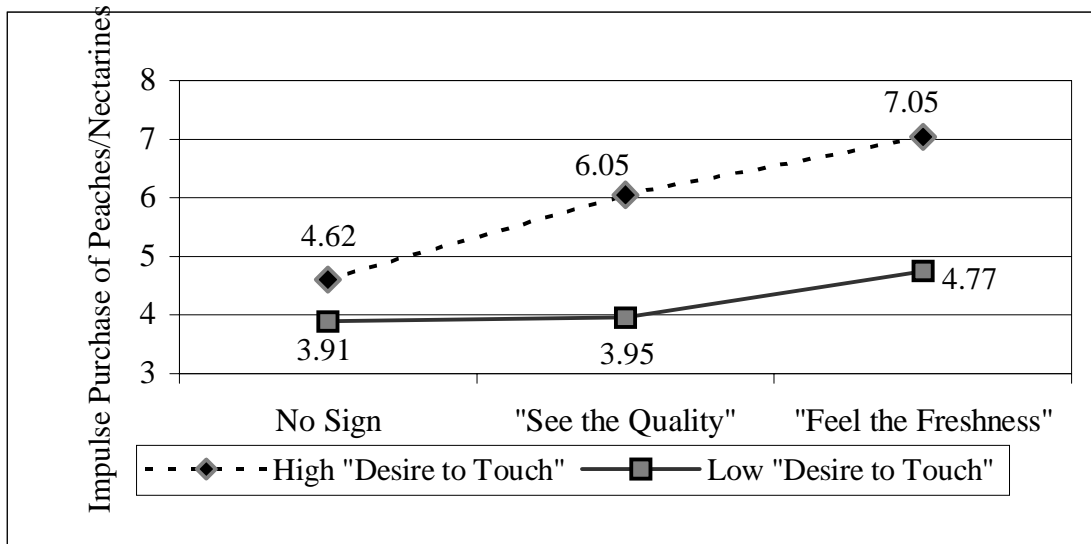


Persons in the “feel the freshness” condition purchased more impulsively than those in the “no sign” condition (means of 5.88 versus 4.25,  $F=4.81$ ,  $p<.05$ ). However there were no other significant differences in impulse purchase depending on the point of purchase sign. Those in the “no sign” condition did not differ significantly from those in the “see the quality” condition (means of 4.25 and 4.96,  $F=1.49$ ,  $p>.05$ ). Finally those in the “see the quality” condition did not differ significantly from those shoppers in the “feel the freshness” condition (means of 4.96 and 5.88,  $F=2.36$ ,  $p>.05$ ). A linear trend analysis was significant ( $F=2.74$ ,  $p<.05$ ) indicating linearity in the data.

Looking more specifically at the effects of point of purchase sign and “desire to touch” on impulse purchase, Figure 11 illustrates both the high and low “desire to touch” subjects under each of the three point of purchase sign conditions. Although the interaction between “desire to touch” and point of purchase sign condition was not significant ( $F=1.37$ ,  $p>.05$ ), this does not preclude an examination of individual means.



FIGURE 11: BUYING IMPULSIVENESS BY DTT AND POINT OF PURCHASE SIGN



Contrary to expectations, low “desire to touch” shoppers did not purchase more impulsively when externally induced to touch with the “feel the freshness” sign. For low “desire to touch” subjects, there were no significant differences in the amount of impulse purchase depending on the point-of-purchase condition. Specifically, for low “desire to touch” subjects, there was no difference in impulse purchase in the no sign or the “see the quality” conditions (means of 3.91 and 3.95,  $t=.06$ ,  $p>.05$ ), between the “see the quality” and the “feel the freshness” conditions (means of 3.95 and 4.77,  $F=1.14$ ,  $p>.05$ ) or between the no sign and the “feel the freshness” conditions (means of 3.91 and 4.77,  $t=1.29$ ,  $p>.05$ ). A linear trend analysis supports these results ( $F=1.15$ ,  $p>.05$ ).

It was also predicted that high “desire to touch” shoppers would not be affected by the “feel the freshness” point of purchase sign. However, high “desire to touch” shoppers purchased significantly more impulsively in the “feel the freshness” condition than in the no sign condition (means of 7.05 and 4.62,  $t=3.20$ ,  $p<.05$ ). There was no significant difference between the “feel the freshness” and the “see the quality” conditions (means of 7.05 and 6.05,  $t=1.26$ ,  $p>.05$ ) or between the “see the quality” and the no sign conditions (means of 6.05 and 4.62,  $t=1.75$ ,  $p>.05$ ).

However, performing a trend analysis with those high in “desire to touch” revealed a significant linear trend ( $F=2.92$ ,  $p<.05$ ).

Comparing low and high “desire to touch” subjects within each of the three conditions revealed that there was no significant difference in buying impulsiveness in the no sign condition between high and low “desire to touch” subjects (means of 4.62 and 3.91,  $t=1.02$ ,  $p>.05$ ).

However, in the “see the quality” condition, high “desire to touch” subjects were more impulsive than their low “desire to touch” counterparts (means of 6.05 and 3.95,  $t=2.69$ ,  $p<.05$ ). The effect is even greater in the “feel the freshness” condition with high “desire to touch” subjects purchasing more peaches/nectarines impulsively than those low in “desire to touch” (means of 7.05 and 4.77,  $t=3.14$ ,  $p<.05$ ).

#### *“Feel the Freshness” versus “See the Quality” and No Sign- Summary*

It was predicted that when shoppers were encouraged externally to touch with a point of purchase sign (saying “feel the freshness”), low “desire to touch” subjects would purchase more impulsively than when they were not encouraged to touch via a point of purchase sign. This was not supported. The presence of a point-of-purchase sign that encouraged touching had no apparent affect on low “desire to touch” individuals’ impulse purchases.

In addition, it was expected that high “desire to touch” subjects would be unaffected by the “feel the freshness” point of purchase sign since they were already motivated internally to approach and touch the peaches/nectarines. This was not supported. High “desire to touch” subjects purchased more impulsively in the “feel the freshness” condition than in the condition with no point-of-purchase sign.

#### *Additional Analysis – Point of Purchase Sign and “Desire to Touch”*

A manipulation check was performed in the store to determine whether shoppers noticed the point-of-purchase sign. Table 1 shows the percentage and the number of shoppers that

noticed the “see the quality” and the “feel the freshness” point-of-purchase signs by high and low “desire to touch”.

TABLE 1: PERCENTAGE AND NUMBER OF SHOPPERS THAT NOTICED THE POINT-OF-PURCHASE SIGNS

	<i>“See the Quality”</i>	<i>“Feel the Freshness”</i>
<i>Low “Desire to Touch”</i>	27.5% (n=40)	36.4% (n=44)
<i>High “Desire to Touch”</i>	39.5% (n=38)	59.5% (n=42)
<i>Total</i>	33.3% (n=78)	47.7% (n=86)

Only 33.3% of the shoppers exposed to the “see the quality” point-of-purchase sign were able to note that they had seen it when asked in the store. Similarly, less than half of the shoppers (47.7%) exposed to the “feel the freshness” point-of-purchase sign said that they noticed the sign during a manipulation check. The percentage of shoppers that noticed the “see the quality” sign was not significantly different than the percentage of shoppers that noticed the “feel the freshness” sign (chi-square=.07,  $p>.05$ ). The sign was the normal size sign for the grocery store but measured only nine inches by six inches.

There was no difference between high and low “desire to touch” subjects in the percentage that noticed the “see the quality” point-of-purchase sign (39.5% and 27.5% for high and low “desire to touch”, chi-square=1.28,  $p>.05$ ). What is especially interesting is that significantly more high “desire to touch” subjects noticed the “feel the freshness” sign than those low in “desire to touch” (59.5% versus 36.4%, chi-square = 4.62,  $p<.05$ ). It is probable that for shoppers high in “desire to touch”, haptic (or touch related) information is more salient and consequently the “feel the freshness” sign which encourages touch is attended to more by those high in “desire to touch” compared to their low “desire to touch” counterparts.

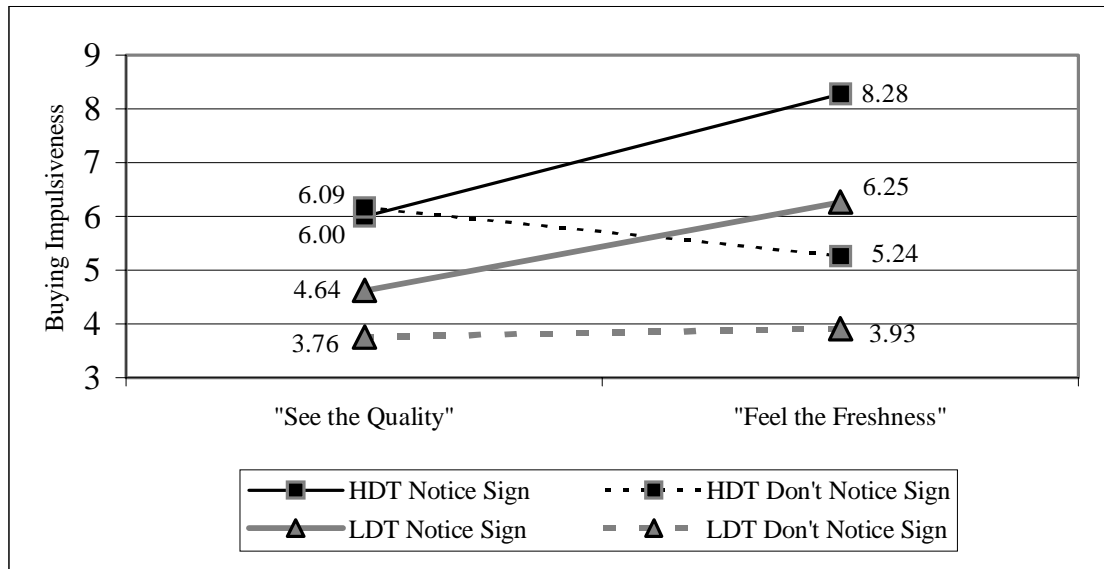
It is informative to compare the effect of whether high and low “desire to touch” subjects noticed the “feel the freshness” or the “see the quality” sign, and the subsequent effect on the

level of impulse purchase. Recognize that, unlike the other analyses in this experiment, this one was decided on after examination of the data, and thus was likely suggested by patterns in the data. Therefore, an Analysis of Variance (ANOVA) was run with level of impulse purchase as the dependent variable, and the following independent variables; “desire to touch” (2 levels, high and low with median split), point of purchase condition (2 levels, “see the quality” or “feel the freshness”), and finally a factor indicating whether shoppers noticed the sign (2 levels, noticed or not noticed). The only change with this ANOVA compared to the planned experiment involved the addition of the independent variable of whether shoppers noticed the sign, and a reduction to two levels of the point of purchase variable (the “no sign” condition was not included). Similar to the planned analysis, a main effect of “desire to touch” was found ( $F=10.37$ ,  $p<.05$ ) with those high in “desire to touch” purchasing more impulsively than those low in “desire to touch” (means of 6.41 and 4.64 respectively). A main effect of point-of-purchase condition ( $F=2.72$ ,  $p=.06$ ) was also found with those in the “feel the freshness” condition purchasing more impulsively than those in the “see the quality” condition (means of 5.92 and 5.12 respectively). Additionally, a main effect of whether shoppers noticed the sign was found ( $F=7.95$ ,  $p<.05$ ) with shoppers noticing the point-of-purchase signs purchasing more impulsively than shoppers that did not notice the signs (means of 6.29 and 4.75 for noticing and not noticing the sign respectively).

Looking at high and low “desire to touch” shoppers separately, whether they noticed the point-of-purchase sign, and the effects on impulse purchase is interesting. Figure 12 takes Figure 11 and breaks it into those shoppers that noticed the point-of- purchase sign and those that did not. Looking first at those shoppers high in “desire to touch” (the black solid and dashed lines), it is clear that those noticing the “feel the freshness” sign purchased significantly more impulsively than those who did not notice the sign (means of 8.28 and 5.24,  $t=3.20$ ,  $p<.05$ ). However, in the “see the quality” condition, there was no difference in impulse purchase for high “desire to touch” subjects depending on whether they noticed the sign (means of 6.00 and 6.09,  $t=.07$ ,  $p>.05$ ).

For those low in “desire to touch” (the solid gray and dashed gray lines), there was also a significant difference in impulse purchase between those who noticed the “feel the freshness” sign and those that did not notice the “feel the freshness” sign (means of 6.25 and 3.93,  $t=2.30$ ,  $p<.05$ ), with those noticing the sign purchasing more impulsively than those that did not notice the sign. Whether low “desire to touch” subjects noticed the “see the quality” point-of-purchase sign did not significantly change their buying impulsiveness (means of 3.76 and 4.64 for not noticing and noticing the sign respectively,  $t=.75$ ,  $p>.05$ ).

FIGURE 12: HIGH AND LOW “DESIRE TO TOUCH”, BUYING IMPULSIVENESS, POINT-OF-PURCHASE SIGN AND WHETHER SHOPPERS NOTICED THE SIGN



In sum, if high or low “desire to touch” shoppers noticed the point-of-purchase sign encouraging touch (“feel the freshness”), the level of impulse purchase was significantly greater than if they did not notice the sign.

For the “see the quality” point-of-purchase sign, the level of impulse purchase was not affected by whether shoppers noticed the sign either for low or high “desire to touch” subjects.

### *Touching Behavior and “Desire to Touch”*

Another goal of this study was to match the actual touching behavior of the shoppers to their “desire to touch”. The most limited amount of touch possible was when shoppers touched simply to purchase the item and put it in the cart. This was called *touch to purchase*. It seems reasonable that more low “desire to touch” subjects would simply *touch to purchase*, or touch to just put the peaches/nectarines in the cart, than those high in “desire to touch”. Table 2 shows the number and percentage of shoppers that simply *touched to purchase* by high and low “desire to touch”.

TABLE 2: PERCENTAGE OF SHOPPERS THAT *TOUCHED TO PURCHASE* BY HIGH AND LOW “DESIRE TO TOUCH”

	<i>Touch only to Purchase</i>
<i>Low “Desire to Touch”</i>	32.0% (n=41)
<i>High “Desire to Touch”</i>	11.7% (n=14)
<i>Total</i>	22.2% (n=55)

For those low in “desire to touch”, 32.0% of the shoppers touched the peaches/nectarines simply to put them in their cart. However, only 11.7% of shoppers high in “desire to touch” exhibited such limited touch, a significant difference (chi-square=14.88,  $p < .05$ ). The total percentage of shoppers who *touched to purchase* (22%) corresponds quite well with the separate observation study conducted in a different grocery store as a pre-test in order to facilitate theory development. In that study, the percentage of *touch to purchase* in the produce department was 26%.

The greatest amount of touching seemed to be characterized by shoppers picking up an item, discarding it, and then picking up another item in the same category. In this study, when shoppers discarded at least one item in the peaches/nectarine category before ultimately purchasing the fruit, this was recorded. It seems reasonable that more high “desire to touch”

shoppers should exhibit this discarding behavior before ultimately purchasing the item than those low in “desire to touch” since this discarding behavior was characterized by the most amount of touch. Table 3 shows the number and percentage of shoppers that picked up and rejected at least one peach/nectarine before ultimately purchasing the fruit by high and low “desire to touch”.

TABLE 3: PERCENTAGE OF SHOPPERS THAT *DISCARDED A PEACH/NECTARINE BEFORE PURCHASE BY HIGH AND LOW “DESIRE TO TOUCH”*

	<i>At least one Discard before Purchase</i>
<i>Low “Desire to Touch”</i>	34.2% (n=31)
<i>High “Desire to Touch”</i>	53.3% (n=64)
<i>Total</i>	38.3% (n=95)

Only 34.2% of shoppers low in “desire to touch” picked up and discarded at least one peach/nectarine before purchase. This percentage of discarding behavior increased to 53.3% for those high in “desire to touch”, a significant difference (chi-square=22.22, p<.05).

The purpose of observing shoppers actual touching behavior was to match different levels of actual touch while in a field environment to the individual difference “desire to touch”. Specifically, shoppers low in “desire to touch” exhibited significantly more of the limited touch (*touch to purchase*) than their high “desire to touch” counterparts. In addition, more high “desire to touch” shoppers exhibited discard behavior when examining the peaches/nectarines since this characterized the greatest amount of touch.

#### *Additional Analysis*

Besides touch to purchase and the discard behavior of shoppers in the store, other types of hand movements were recorded. If shoppers simply squeezed the peaches/nectarines without picking them up, this was recorded. Table 4 illustrates the number of shoppers that squeezed the peaches/nectarines without picking them up by low and high “desire to touch”.

TABLE 4: PERCENTAGE OF SHOPPERS THAT *SQUEEZED WITHOUT PICKING UP A PEACH/NECTARINE* BEFORE PURCHASE BY HIGH AND LOW “DESIRE TO TOUCH”

	<i>Squeeze with no Pickup before Purchase</i>
<i>Low “Desire to Touch”</i>	43.4% (n=56)
<i>High “Desire to Touch”</i>	56.7% (n=68)
<i>Total</i>	50.0% (n=124)

In total, half of the shoppers (n=124) squeezed the peaches/nectarines while they were in the bin without picking them all the way up. The percentage is slightly higher for those high in “desire to touch” (56.7%) compared to those low in “desire to touch” (43.4%), although the difference is not significant (chi-square=3.63, p>.05). This is not surprising since this level of touch is more intermediate than the *touch to purchase* and the *pickup, discard, pickup* behavior.

Finally, if shoppers squeezed and picked up the peaches/nectarines prior to purchase, this was recorded. This differs from the discard behavior because these peaches/nectarines were picked up and obviously squeezed before being put in the cart yet they were not discarded. Table 5 illustrates the percentage of shoppers that picked up and squeezed the peaches/nectarines by low and high “desire to touch”.

TABLE 5: PERCENTAGE OF SHOPPERS THAT *SQUEEZED AND PICKED UP A PEACH/NECTARINE* BEFORE PURCHASE BY HIGH AND LOW “DESIRE TO TOUCH”

	<i>Squeeze with Pickup before Purchase</i>
<i>Low “Desire to Touch”</i>	45.3% (n=58)
<i>High “Desire to Touch”</i>	52.5% (n=63)
<i>Total</i>	48.8% (n=121)

About half of the shoppers (48.8%) picked up and squeezed the peach/nectarine before placing it in the cart. Again, a slightly higher percentage of those high in “desire to touch”



(52.5%) as compared to those low in “desire to touch” (45.3%) exhibited this behavior, but the difference was not significant ( $\chi^2=1.28, p>.05$ ). Once again, this type of touch represents an intermediate level between the *touch to purchase* behavior and the *pickup, discard, pickup* behavior.

Finally, the two types of squeeze behavior were combined. An ANOVA was run with “desire to touch” as the dependent variable, and squeeze behavior as the independent variable. Squeeze behavior was coded either as a zero (if the shopper did not perform any squeezing behavior), a one (if the shopper *either* squeezed without picking up *or* squeezed and picked up a peach/nectarine) or a two (if the shopper *both* squeezed without picking up a peach/nectarine *and* squeezed with picking up a peach/nectarine). A main effect of “desire to touch” was found with those high in “desire to touch” performing more squeezing behavior than those low in “desire to touch” (means of 1.28 and .90 for high and low “desire to touch”,  $F=13.18, p<.05$ ). It seems that those high in “desire to touch” are inclined to squeeze more overall than their low “desire to touch” counterparts.

### *Conclusions*

This study looked at the relationship between impulse purchase and the individual difference “desire to touch”. It was found that persons high in “desire to touch” purchased more impulsively than their low “desire to touch” counterparts. Contrary to expectations, when low “desire to touch” shoppers were induced externally to touch with a point of purchase sign, their level of impulse purchase did not increase. This could, in part, be due to the fact that only 34.2% of the low “desire to touch” shoppers noticed the “feel the freshness” point of purchase sign. Additional analysis comparing low “desire to touch” subjects who noticed the “feel the freshness” point-of-purchase sign versus those that did not notice the sign revealed that if shoppers did notice the sign, they were more likely to purchase impulsively.

When high “desire to touch” shoppers were induced externally to touch, their level of impulse purchase increased with the “feel the freshness” sign as compared to the no sign

condition. Interestingly, significantly more high “desire to touch” subjects noticed the “feel the freshness” sign compared to those low in “desire to touch”. It seems that haptic (or touch related) information was more noticed by high “desire to touch” individuals compared to their low “desire to touch” counterparts. Additional analyses revealed that if high “desire to touch” subjects noticed the “feel the freshness” point-of purchase sign, the level of impulse purchase significantly increased. However, for both high and low “desire to touch” subjects, whether they noticed the “see the quality” point of purchase sign did not affect their level of impulse purchase.

Besides investigating the effect of the point-of-purchase sign and “desire to touch” on the level of impulse purchase, the actual behavior of shoppers in the store was matched with the individual difference “desire to touch”. It was found that those low in “desire to touch” more often touched to simply purchase the fruit with no intentional acquisition of haptic information compared to those high in “desire to touch”. Conversely, shoppers high in “desire to touch” exhibited the greatest amount of touch (pickup, reject, pickup) as compared to those low in “desire to touch”. Additionally, high “desire to touch” subjects exhibited more squeezing behavior overall compared to their low “desire to touch” counterparts”. This study succeeded in matching different levels of actual touch while in a field environment to the individual difference “desire to touch”.

#### *The Internet and Other Non-Touch Retailing*

With the growth of direct or non-touch media such as the Internet and catalog shopping, this research suggests that some people may be less willing to purchase products when touch is prohibited. Shoppers high in “desire to touch” would likely be more frustrated with being unable to touch products than their low “desire to touch” counterparts. These high “desire to touch” shoppers would be less confident in their judgments without haptic information, and may be unwilling to use non-touch media. Although other factors such as security issues probably account for some reluctance to shop online, high “desire to touch” shoppers may have a

preference for information available through touch for which there is not yet compensation in the world of non-touch commerce. Shoppers low in their “desire to touch” can more easily use other sources of information to compensate for an inability to touch , for example pictures.

It is also possible that product characteristics may overwhelm the individual difference in “desire to touch” in some cases. Even low “desire to touch” shoppers may be less willing to purchase products in a non-touch media if the product category is one that especially encourages touch (i.e. clothing). Similarly, perhaps even high “desire to touch” shoppers would be more willing to forgo pre-purchase product touch in product categories where touch is relatively less important (i.e. books, CDs, software). It is also unclear how compensation mechanisms, such as, a respected brand name or an easy return policy could compensate for the lack of touch, particularly among high “desire to touch” shoppers.

As this research asserts, it is clear that much more study needs to be done in the domain of product touch. Not only is there an individual difference in the preference for touch information, but different situations may motivate shoppers to want to touch prior to purchase and for different types of products. Additionally, brand names, low prices or other compensation mechanisms may allow even high “desire to touch” shoppers to forgo product touch prior to purchase. How these factors impact our study of touch in marketing can now be assessed by the incorporation in future research of individual differences in the motivation to attend, extract, and utilize product information gleaned through touch.

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