

What Makes Buyers Willing to Pay More? On the Role of Touch in the Endowment Effect

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Abstract

Touch has been shown to increase product valuation. Yet, the role of touch in the endowment effect – the tendency for sellers to value a good they own more than buyers do – has received little empirical attention and has been confounded with ownership, as sellers are typically handed a good and told they own it, whereas neither applies to buyers. We report an experiment in which we isolated the effect of touch in the absence of ownership. Buyers' valuations were compared across conditions with and without touch, including a novel 'Touch only' modality, and touch valence (pleasant vs. unpleasant to touch), considering also buyers' need for touch characteristics. We found that touch increased buyers' valuations for a pleasant-to-touch good, with stronger effects for individuals high in instrumental need for touch. In addition, we provide a conceptual contribution to understanding the endowment effect and outline policy implications of varying touch availability and valence.

JEL Classification: A12; C91; D91

Keywords

endowment effect — willingness to pay — touch — need for touch

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Introduction

The endowment effect is well-known in behavioural economics (Marzilli Ericson and Fuster, 2014). Under its valuation paradigm (Kahneman et al., 1990, 1991), it is an asymmetry between sellers and buyers, where sellers consistently assign a higher value to a good than buyers are willing to pay for it (for a review see Morewedge and Giblin (2015)). This asymmetry is traditionally attributed to ownership-induced loss aversion, where sellers (owners) perceive relinquishing the good as a loss, which is weighed more heavily than the equivalent gain is by buyers (non-owners) (Kahneman et al., 1990, 1991). However, there have been criticisms regarding procedural confounds in endowment-effect experiments (Isoni et al., 2011; Koh and Wong, 2011; Plott and Zeiler, 2005). In particular, in many studies, sellers were handed a good and told they owned it, whereas neither applied to buyers, which suggests that ownership and touch (as in holding the good in hand) have been confounded in explaining the increased valuation by sellers (Morewedge et al., 2009; Peck and Shu, 2009; Reb and Connolly, 2007). In particular, Peck and Shu (2009) showed that touch can influence valuation in the same direction as ownership, and that touch is integral to what makes sellers willing to accept more.

In this paper, we provide evidence that touch can make buyers willing to pay more. We designed an experiment focusing on buyers (non-owners) to isolate the effect of touch from that of ownership. We compared buyers' willingness to pay when touch is present (including a novel modality where

only touch is available) with when it is completely absent, also considering the valence of touch (pleasant- and unpleasant-to-touch) and individual differences in buyers' need to touch products (Peck and Childers, 2003a). Our results showed that when buyers can touch a pleasant-to-touch good, they value it more than when touch is unavailable or when the good is unpleasant to touch and that this effect is most pronounced for those for whom touch is an important aspect in evaluating products. This suggests that the instrumental need for touch moderates the effect of touch on valuation, strengthening its impact when used to obtain product-relevant information.

While prior research in consumer psychology and marketing has demonstrated that product touch enhances product evaluation (for review see Krishna et al. (2024)), purchase likelihood, willingness to pay (Lessard-Bonaventure and Chebat, 2015; Liu et al., 2023), and feelings of ownership (Atasoy and Morewedge, 2018; Brasel and Gips, 2014; Peck and Shu, 2009; Reb and Connolly, 2007), our study advances this literature by situating touch explicitly within the framework of the endowment effect.

Specifically, we provide novel evidence that touch can directly increase valuation without ownership in the valuation paradigm, thereby identifying touch as a foundational antecedent of the endowment effect. Crucially, we demonstrate that touch alone can induce valuation asymmetry. In doing so, we offer both empirical and conceptual contributions: empirically, by isolating touch as a sufficient condition for increased valuation, and conceptually, by expanding the

theoretical understanding of the endowment effect to include touch as a sole driver of valuation. Previously, what touch added was interpreted as part of ownership, and ownership triggered valuation asymmetries via loss aversion. Our study does not directly assess whether loss aversion underlies the effect of touch, but it is plausible that touch — in itself — could simulate a form of psychological ownership (Atasoy and Morewedge, 2018; Brasel and Gips, 2014; Peck and Shu, 2009; Reb and Connolly, 2007), where the act of giving up an item from one's hands mimics the experience of loss.

Furthermore, we contribute methodologically by highlighting the importance of procedural variations in how touch is administered. Specifically, whether a good is handed to participants or merely placed in front of them or handed in packaging or directly touched. Such distinctions, though often overlooked, can materially shape participants' valuation responses and thus influence both experimental outcomes and their interpretation.

In addition, our findings have practical implications, offering potential applications for consumer policy and behavioural interventions. Touch can serve as a lever of perceived value through the manipulation of touch availability and valence. Touch-induced valuation effects may contribute to impulsive or sub-optimal purchasing decisions, but they can also be ethically applied in pro-social contexts. For example, encouraging consumers to handle products may increase perceived value and promote sustainable behaviours, such as greater use, recycling, or re-purposing. Conversely, decreasing the positive valence of touch, such as incorporating unpleasant tactile elements into packaging, can reduce perceived appeal and discourage use.

Relevant literature

Research on the psychological underpinnings of ownership suggests that the feeling of ownership can be induced through the physical possession (direct handling and holding) of a good (for a review, see Pierce et al. 2003). This physical possession appears to be present from the inception of the endowment effect. The idea that participants become attached to the good almost instantly after giving them physical possession (as in participants were handed the good) and that this leads to the endowment effect (i.e., the instant endowment effect) was mentioned by Kahneman et al. (1990). However, the connection between physical possession and touch with the hand was made later by Peck and Shu (2009). To place our work in the context of these considerations, we first give a brief overview of key observations on the role of physical possession in the endowment effect, and then we turn to touch. We aim to bridge the behavioural economics literature on the endowment effect with psychological research that highlights the role of touch, focusing specifically on the valuation paradigm within the endowment effect.

Physical possession

The valuation paradigm, first established by Kahneman et al. (1990), provides the foundational framework for studying the endowment effect by comparing willingness to accept (WTA) and willingness to pay (WTP) for an identical good using the same list of prices. For example, Kahneman et al. (1990) demonstrated the endowment effect by handing half the participants a pen and telling them they owned it and could sell it. Given that handing an object typically implies it was physically placed in a person's hand, consistent with Peck and Shu (2009), we interpret this as evidence that participants had physical possession of the pen, as they were able to touch it. Accordingly, sellers in this condition had both physical possession and ownership of the pen. The other half of the participants were buyers who could buy a pen in a seller's possession. Sellers' WTP was higher than buyers' WTP, and this WTA-WTP difference captured the endowment effect.

According to the traditional explanation of this difference (for a review of explanations, see Morewedge and Giblin (2015)), the ownership sets a reference point (Kahneman et al., 1990, 1991; Thaler, 1980; Tversky and Kahneman, 1991). Due to this reference point, selling the good is perceived as giving it up and thus as a loss, whereas buying it is considered a gain. Consequently, loss aversion, arising from losses having a greater psychological impact than equivalent gains (Kahneman and Tversky, 1979, 1984; Tversky and Kahneman, 1991), leads to the endowment effect. In other words, ownership and loss aversion jointly operate as psychological mechanisms underlying sellers' higher valuations. From this perspective, ownership serves not to enhance the valuation of the good, but rather to trigger the feeling of loss from giving it up (Kahneman et al., 1991).

An alternative explanation, linked to physical possession, is that ownership alone, rather than loss aversion, leads to the endowment effect (Morewedge and Giblin, 2015; Morewedge et al., 2009; Shu, 2008). According to this account, sellers value a good more simply because they own it (i.e., the mere ownership effect (Beggan, 1992)), not because they fear losing it. To separate the effects of ownership and loss aversion, in Shu (2008), half of the participants were given a mug (owners) and the other half were not (non-owners). Half of the owners and half of the non-owners were asked to provide a WTP for a future buyer, and the other corresponding halves were asked to provide a WTA for a future seller. The results showed that owners provided higher prices than non-owners regardless of whether prices were framed for sellers (loss) or for buyers (gain). Those who were given mugs valued them higher than those who did not, showing that mere ownership increased valuation. Hence, this suggests that ownership without loss aversion can lead to the endowment effect. This aligns with the finding of Morewedge et al. (2009) that buyers who were given a mug valued a second, identical mug as much as sellers did. While it is reasonable to assume that participants had physical possession of the mug when it was given to them, the extent to which they physically handled it was not explic-

itly specified. (Similarly, [Marzilli Ericson and Fuster \(2011\)](#) examined valuations of a second, identical mug with the first mug placed on the desk in front of participants, suggesting the absence of physical possession, though this was not explicitly stated.) That is, ownership and physical possession could have been confounded.

[Plott and Zeiler's \(2005\)](#) study, known for arguing that the endowment effect can be accounted for by participants' misconceptions produced by the experimental procedure, could be seen as providing an empirical indication of the importance of physical possession for the endowment effect. In addition to certain modifications of [Kahneman et al.'s \(1990\)](#) experimental procedure (e.g., practice rounds, anonymity, additional explanations), [Plott and Zeiler \(2005\)](#) handed mugs to both sellers and buyers and showed that the endowment effect can be eliminated. This signals the possibility that in [Plott and Zeiler \(2005\)](#) the endowment effect was eliminated, at least in part, due to both buyers and sellers having physical possession of the mugs ([Isoni et al., 2011](#); [Reb and Connolly, 2007](#)).

This possibility motivated part of [Koh and Wong's \(2011\)](#) investigation of the endowment effect. They maintained [Plott and Zeiler's \(2005\)](#) procedural modifications that were deemed necessary to prevent subject misconceptions, but they did not give buyers physical possession of the mugs. For sellers, however, in conjunction with physical possession, [Koh and Wong \(2011\)](#) also considered the impact of framing the sale as a loss and removed any suggestion of values in training sessions to eliminate anchoring effects ([Tversky and Kahneman, 1974](#)). With these changes, while subject misconceptions were controlled, the endowment effect re-emerged.

Another seminal study which shows the key role of physical possession in enhancing valuation is [Loewenstein and Adler \(1995\)](#). Participants were shown a mug and asked to imagine they were given the mug and predict how much they would be WTA. Afterwards, participants were given physical possession of a mug and asked to indicate their WTA again. Results showed that participants substantially underestimated their WTA, valuing the mug more once they actually possessed it than they had anticipated without physical possession. This finding shows that physical possession can lead to increased valuation. Notably, [Peck and Shu \(2009\)](#) and [Peck et al. \(2013\)](#) have shown that even imagining touch can increase valuation.

[Reb and Connolly \(2007\)](#) explicitly focused on how the endowment effect is influenced by possession alone. To disentangle the previously confounded ownership and possession, [Reb and Connolly \(2007\)](#) handed mugs to half of the sellers and half of the buyers, which we interpret as indicating physical possession. Consistent with previous studies, the results showed asymmetry in valuations between those who owned and had physical possession of the mugs (standard sellers) and those who neither owned nor held one (standard buyers). However, there was a main effect of physical possession: both sellers and buyers who had the mugs in their possession valued them higher than those who did not. Hence, [Reb and](#)

[Connolly \(2007\)](#) showed that physical possession, rather than ownership, can lead to an endowment effect.

To explain the positive effect of possession on valuation, [Reb and Connolly \(2007\)](#), building on research on psychological and subjective ownership ([Belk, 1988](#); [Dittmar, 1992](#); [Etzioni et al., 1991](#); [Furby, 1978](#); [Pierce et al., 2003](#)), proposed that physical possession triggers a subjective sense of endowment, which induces perceived ownership, which in turn leads to higher valuation. To support this interpretation, [Reb and Connolly \(2007\)](#) also measured participants' feeling of ownership and found that both sellers and buyers who had a mug in their physical possession felt stronger ownership than those who did not, showing that physical possession can serve as a key pathway to developing psychological ownership.

Touch

Taking that in [Reb and Connolly \(2007\)](#) the physical possession of the mug implied that participants could touch the mug, one may interpret their results as showing the mediating role of touch for the subjective feeling of ownership. While [Reb and Connolly \(2007\)](#) left this link implicit, [Peck and Shu \(2009\)](#) studied it explicitly: in one of their experiments, half of the sellers and half of the buyers were handed a metal slinky. These participants were in the touch condition as they could touch the slinky directly. The rest of the participants were given the slinky inside its square box packaging. These participants were in the no-touch condition. The results revealed a positive link between touch, perceived ownership, and valuation (see also [Shu and Peck \(2011\)](#)), although the valuation difference between touch and no-touch conditions was mainly driven by sellers. These findings suggest that ownership with touch widens the WTA-WTP gap compared with ownership without direct touch.

[Peck and Shu \(2009\)](#) (and also [Shu and Peck \(2011\)](#)) also examined the valence of touch. While touch enhances psychological ownership and valuation, the valence of touch (pleasant vs. unpleasant to touch) can reveal whether touch influences valuation directly or indirectly through the ownership mechanism (touch increases "mine" feeling regardless of whether touch is pleasant or unpleasant). [Peck and Shu \(2009\)](#) found that even if a good is unpleasant to touch (they used Playfoam sculpting beads), touch can increase perceived ownership, but does not necessarily increase valuation. [Shu and Peck \(2011\)](#) found similar results. They applied spray-on adhesive and rolled the rubber grip of a pen in fine black sand to make it an unpleasant-to-touch good. They found that touch increased the feeling of ownership for sellers (owners) but decreased valuation for both owners and non-owners (eliminating the endowment effect). There was also a significant difference in negative affective reaction, with sellers having a stronger negative affective reaction toward the pen. [Peck and Shu \(2009\)](#) proposed that this is due to there being two separate mediators for the impact of touch on the endowment effect: perceived ownership and affective reaction towards the good. Accordingly, touching a pleasant- or neutral-to-touch

good (for brevity, we refer to either of these as pleasant, to contrast with an unpleasant-to-touch good) changes both perceived ownership and affective reaction positively, and hence increases valuation. Conversely, while touching an unpleasant- (or less pleasant-) to-touch good increases perceived ownership, the affective reaction changes negatively. Therefore, whether touching such a good increases valuation depends on the trade-off between the opposing changes in these two mediators. The results of these works suggest that, similarly to the pleasant case, for the unpleasant-to-touch good, the effect of touch seems to be driven mainly by sellers.

Behavioural predictions

In both [Peck and Shu \(2009\)](#) and [Shu and Peck \(2011\)](#), the pleasant- and unpleasant-to-touch goods were parts of separate experiments. In our study, we include both in the same experiment by using a good (a pen) that is pleasant to touch when unmodified and which is made unpleasant to touch with a modification adapted from [Shu and Peck \(2011\)](#) (for more details, see the next section).

Our first behavioural prediction is the hypothesis

H1: *The presence of touch will increase buyers' WTP for the pleasant-to-touch good.*

H1 might seem at odds with the effect of touch being driven mainly by sellers in previous studies. However, if we suppose that this may have to do with the degree of touch available to both buyers and sellers in these experiments, and consider the findings where touch is absent altogether, e.g., in [Reb and Connolly \(2007\)](#) as well as in [Peck and Shu's \(2009\)](#) buyer-only and seller-only experiments, then H1 is supported by previous findings.

Based on previous findings, we cannot make a directional prediction for the influence of touch for an unpleasant-to-touch good due to the mediator trade-off described in the previous section: if perceived ownership has a stronger effect, then touch will increase WTP, but if negative affective reaction is stronger, then touch will decrease WTP. We can summarise our corresponding second hypothesis (H2), respectively, through two competing hypotheses:

H2a: *The presence of touch will increase buyers' WTP for the unpleasant-to-touch good.*

H2b: *The presence of touch will decrease buyers' WTP for the unpleasant-to-touch good.*

It is important to note that in earlier studies, touch was present together with vision: participants were able to both touch and see the good. In our experiment, we include a novel 'Touch only' condition to determine whether touch alone is sufficient to influence valuation. While touch and vision typically co-occur in consumer interactions, isolating the effect of touch in the absence of visual input serves an important theoretical purpose: it allows us to examine whether touch exerts an independent influence on valuation, or whether its effect is dependent on visual information. If touch alone increases

valuation, this would indicate a touch-specific effect; if not, it would suggest that multi-sensory integration (vision and touch) is necessary for influencing valuation. We hypothesise the former, namely that our experimental hypotheses (H1 and H2) extend also to the Touch-only condition.

Although less common, there are real-world scenarios in which consumers interact with products through touch without full visual engagement. Examples include reaching into a bag to retrieve a familiar object (e.g., a pack of cigarettes) or being handed an item as part of an in-store promotion without visually inspecting it. Studying touch in isolation thus not only advances theoretical understanding but also reflects ecologically valid, under-explored consumer contexts.

The experiment

Method

In our experiment, all participants played the role of buyers. To study the impact of touch on WTP, we considered three touch modalities. In the 'No touch' modality, we adapted the approach of [Peck and Shu's \(2009\)](#) buyer-only study and explicitly controlled for the presence of touch: touch was altogether unavailable to buyers, i.e., participants could only visually inspect the good. In this sense, they were thus standard buyers. In the 'Touch' modality, we had non-standard buyers who could both observe and touch the good. As mentioned earlier, we introduced a novel 'Touch only' modality where buyers could only touch, but not see, the good.

The good

We used a black ball pen with a rubber grip. With a soft grip, the pen, in its usual form, was our pleasant-to-touch good. The unpleasant-to-touch good was the same pen, but its soft grip was replaced by a black Velcro fabric strip, a modification inspired by [Shu and Peck \(2011\)](#). This modification was selected from a set of pre-tested unpleasant-to-touch modifications.

Experimental design

To explore the effects of touch modality and valence on WTP, we conducted a 3 (No touch, Touch and Touch only) $\times$ 2 (pleasant- vs unpleasant-to-touch) mixed design study, with the first factor within and the second factor between participants (for a visualisation see Table 1).

Variables and procedure

We measured WTP using an elicitation procedure, based on [Kahneman et al. \(1990\)](#), where buyers indicated their willingness to buy the pen for a list of different prices between £0 and £2.00 (at £0.25 intervals). The maximum value in the range was based on a survey of retail prices for the pen, such that the mode price was the midpoint of our interval. (We used a list of prices since it is typically difficult for individuals to state their WTP in open-ended valuation formats ([Bateman et al., 1995](#); [Loomis, 1990](#); [Robinson and Botzen, 2023](#)).)

To avoid the potential influence of physically handling a pen, which could itself affect valuation through touch, all

prices were read aloud to participants (Wertenbroch and Skiera, 2002). Additionally, to control for order effects, the list of prices was presented in a random order for each participant. We chose this method to minimise biases associated with sequential presentation of the list of prices and to encourage the elicitation of participants' true valuations.

Our manipulated independent variables were modality and valence. In the No touch modality, the pen was placed on the desk in front of each participant so that they could visually inspect it, but they were not allowed to touch it. In the touch modality, the pen was also placed on the desk, and participants were instructed to pick it up so they could both visually inspect and touch the pen. In the Touch only modality, the pen was placed in a black box with a hole. Participants were asked to place their hand into the box so that they could inspect the pen using touch, but they were not able to see it. The order of the different modalities was counterbalanced.

A further, non-manipulated, independent variable was Need For Touch (NFT) (Peck and Childers, 2003a). (We use here the well-established abbreviation introduced by Peck and Childers (2003a); NFT is thus not to be confused with other uses of these initials.) This allowed us to additionally consider the individual differences in using the information from touch via hand for evaluation, as characterised by the instrumental dimension of one's NFT. In terms of the NFT scale (Peck and Childers, 2003a), individuals with high instrumentality rely heavily on touch to judge products, while those with low instrumentality do not. This is separate from the autotelic dimension related to touch "as an end in and of itself" (Peck and Childers, 2003a). While there is previous research linking NFT to qualitative valuations (Grohmann et al. (2007); Peck and Childers (2003a,b); see Jansson-Boyd (2011) for a review), or NFT to WTP via tactile priming statements in online settings (Yoganathan et al., 2019), to the best of our knowledge, NFT and WTP have not been before linked in the context of physical touch.

To categorise participants according to their instrumental and autotelic characteristics, Peck and Childers's (2003a) NFT scale was used. Depending on whether their NFT score was below or above the median for the two NFT dimensions, participants were allocated either a high or a low instrumental and autotelic status. This median split was based on Peck and Childers (2003b) and Grohmann et al. (2007).

Participants

To estimate the number of participants, we considered the effect size we can expect based on the findings of Peck and Shu (2009). As our main interest is the WTP difference between conditions with and without touch, we consider their Study 1, where a between-group valuation difference between such conditions (without ownership imagery) was found with $F(1, 227) = 12.41$, corresponding to an effect size $\eta_p^2 \approx .052$. For our mixed design, we used G*Power to estimate the number of participants required to capture the within-subject comparisons (i.e., between touch conditions) as well as the between-within interactions at 95% power ($1 - \beta = 0.95$) and

$\alpha = 0.05$ and assuming $\eta_p^2 = .052$. This returned an estimate of 50 participants.

We recruited a larger sample than required to account for some participants likely to provide inconsistent responses (e.g., accepting higher prices while rejecting lower ones) due to the use of a randomised price list in our WTP elicitation. Previous works on repeated choices (Loomes et al., 2002) suggest about 70%-80% consistency rate for the responses (see also Sugden et al. (2019) for a setting with random prices), and we expect a similar rate of consistent answers for our randomly presented prices.

We thus recruited 67 undergraduate students. Twelve of them provided inconsistent valuations, and their answers were therefore excluded to maintain interval validity of the valuation data (Loewenstein and Adler, 1995). Hence, the sample for statistical analysis consisted of 55 participants [$M_{\text{age}} = 23.15$; 26 males (47%) and 29 females (53%)].

Results

We performed a 3 (Modality) $\times$ 2 (Valence) repeated measures ANOVA. Modality was a within-subject factor, while valence, autotelic, and instrumental NFT status were between-subject factors. Mauchly's test showed that the sphericity assumption had been violated [$\chi^2(2) = 9.39, p = .009$]; therefore, the degrees of freedom were corrected using the Huynh-Feldt estimate of sphericity ($\epsilon = 1$). The results showed that modality had a significant main effect [$F(2, 94) = 3.191, p = .046, \eta_p^2 = .064$]. This indicates that whether and how touch was present influenced the WTP.

A pairwise comparison also revealed that, overall, the pleasant-to-touch pen was valued higher than the unpleasant-to-touch pen ($p < .001$). The results are shown in Figure 1. For the estimated marginal mean WTPs, see Table 1.

There were also two significant interactions. The first was between modality and valence [$F(2, 94) = 5.729, p = .004, \eta_p^2 = .109$]. This indicates that whether and how touch was present impacted WTP differently for the pleasant- and the unpleasant-to-touch pen (Figure 1 left panel): valence moderated the effect of touch on WTP.

To illuminate this, we extracted the effect of modality for the participants with the pleasant-to-touch pen by running repeated measures ANOVA, focusing on this group only. Modality had a significant main effect [$F(2, 46) = 11.858, p < .001, \eta_p^2 = .340$] corresponding to a substantial increase in WTP when touch was present, both for Touch ($M = 1.13, SD = .53$) and Touch only ($M = .99, SD = .43$) conditions compared with the No touch ($M = .85, SD = .49$) condition ($p < .001$ and $p = .014$, respectively, both two-tailed, Bonferroni corrected). This supports the experimental hypothesis H1. In addition, this reveals that touch alone (without vision) can lead to an increase in WTP.

Running the same ANOVA for the group with the unpleasant-to-touch pen revealed no significant main effect for modality. The results did not support the alternative hypothesis H2. This might be due to the considerable proportion of participants

Valence	Modality		
	No touch	Touch	Touch only
Pleasant pen	£0.82	£1.15	£1.02
Unpleasant pen	£0.42	£0.38	£0.38

Table 1. Estimated marginal mean WTP for Modality by Valence

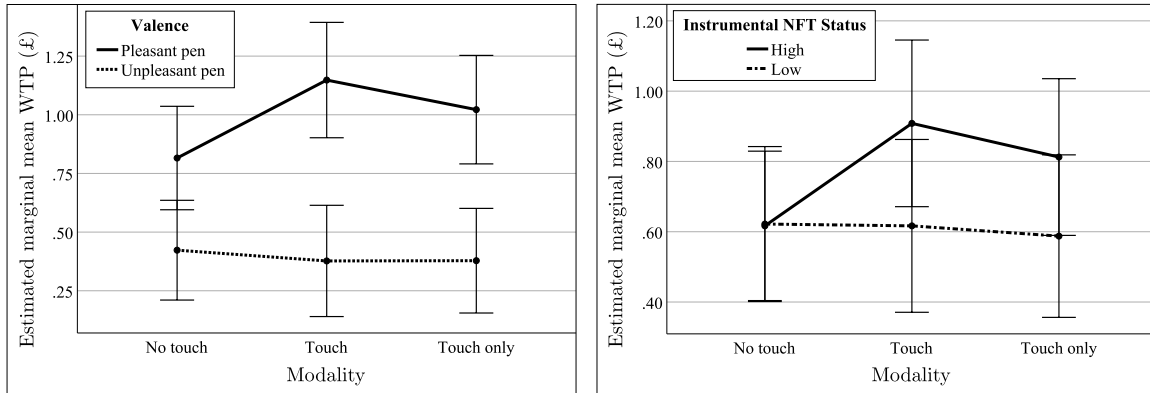


Figure 1. Estimated marginal mean WTP for Modality by Valence (left panel) and for Modality by Instrumental NFT Status (right panel). The error bars show the 95% confidence intervals for the means.

in this group having chosen not to buy the pen even for £0. (By contrast, all participants were willing to buy the pleasant pen.) Concretely, 54% in No touch, 63% in Touch, and 54% in Touch only modalities were not willing to buy the unpleasant pen. These no-buy proportions translate into significant differences compared with the pleasant-to-touch pen group for all modalities ($p < .001$ in Fisher's exact test).

The second significant interaction was between modality and instrumental status, [$F(2, 94) = 3.754, p = .027, \eta_p^2 = .074$], see Figure 1 right panel. Instrumental status was thus another moderator of the effect of touch on WTP. To gain insight into this moderation, we performed repeated measures ANOVA for low and high instrumentality participants separately. For low instrumentality participants, there was no significant main effect of modality. These participants are those for whom touch provides less information for product valuations, and hence touch availability may not be an important factor for their WTP (Peck and Shu, 2009). For high instrumentality participants, Mauchly's test showed that the sphericity assumption had been violated [$\chi^2(2) = 7.984, p = .018$]; therefore, the degrees of freedom were corrected using the Huynh-Feldt estimate of sphericity ($\epsilon = .92$). For these participants, modality had a significant main effect [$F(1.84, 44.15) = 6.047, p = .006, \eta_p^2 = .201$] corresponding to a substantial increase ($p = .014$, two-tailed, Bonferroni corrected) in WTP in the Touch compared with the No touch condition. However, there were no significant WTP differences between the Touch and Touch only, nor between the No touch and the Touch only conditions. This suggests that the effect of touch was stronger when touch was available together with vision for high instrumentality participants.

Since an effect of touch for a pleasant-to-touch pen was

found, we ran the same analysis for the pleasant-to-touch pen only to investigate this for high instrumentality participants. The results showed that modality had a significant effect [$F(2, 24) = 13.110, p < .001, \eta_p^2 = .522$]. There was a considerable WTP increase ($p < .001$, two-tailed, Bonferroni corrected) in the touch ($M = 1.18, SD = .52$) compared with the No touch condition ($M = .84, SD = .45$); compared also with No touch, the Touch only condition ($M = 1.00, SD = .48$) also showed a WTP increase ($p = .019$, two-tailed, LSD; $p = .057$ if Bonferroni corrected) that is significant for our directional hypothesis for the pleasant-to-touch pen. High-instrumentality participants rely on touch to inform their valuations; hence, touch availability mattered to them, even when they could not see the pen.

Discussion

We found that when buyers can touch a pleasant-to-touch good, they are willing to pay more for it compared with when touch is not available. This shows that touch, even in the absence of ownership, can mimic the valuation patterns usually observed in sellers. This challenges traditional explanations of the endowment effect by showing that ownership is not necessary to induce a valuation increase.

Our finding of a touch-induced endowment effect for buyers is consistent with evidence from consumer psychology that encouraging customers to touch products has a positive influence on product valuation, WTP, purchase intention, and impulsive buying (for review, see Krishna et al. (2024)). Our results also provide useful insights into why using touch in real-world settings (e.g., in testers, test drives, try before you buy, interactive product displays) can be effective.

Conceptual implications

We propose that touch should be considered not merely as a moderator, but as a foundational antecedent of the endowment effect, capable of influencing product valuation independently of other sensory modalities. While previous research has primarily examined the effect of touch in conjunction with vision, our findings demonstrate that touch, even alone (without visual input), can increase valuation.

Our results, furthermore, show that individual differences in NFT play a critical role in how touch influences valuation. Specifically, our findings revealed that the effect of touch is particularly pronounced for buyers with high NFT instrumentality. These are buyers who rely on touch to inform their product valuation. Such buyers have heightened sensitivity to touch, which may intensify their psychological attachment, in turn amplifying loss aversion and leading to higher WTP after touching a pleasant-to-touch product. However, they could also experience a stronger negative affective reaction for unpleasant-to-touch products. This would be interesting to explore in future research.

Future research

To provide a better understanding of the underpinnings of the touch-based endowment effect and uncover its boundary conditions, our study can be expanded in several other directions. For example, we did not consider whether the good is of a utilitarian or hedonic nature, but this can have interesting consequences (Shu and Peck, 2011). For instance, hedonic goods may elicit stronger valuation changes from touch because of their affective appeal (Peck and Childers, 2006). In addition, a good's tactile properties (e.g., texture, weight), those of its packaging, the number of goods involved, and the mindset of the decision maker could moderate the impact of touch (Grohmann et al., 2007; Liu et al., 2023; Marlow and Jansson-Boyd, 2011; McCabe and Nowlis, 2003; Peck and Johnson, 2011; Peck and Wiggins, 2006; Pino et al., 2020).

Future research could build on our findings by linking them to emerging work on digital and virtual forms of touch, which similarly evoke perceptions of ownership and value (Brasel and Gips, 2014; Krauss and Wienrich, 2025; Mitsuda and Zhang, 2024; Ştir and Zaiş, 2024). Nevertheless, gaining a better understanding of the role of physical touch is a necessary foundation for such extensions.

An important direction for future research involves exploring how touch influences valuation for both buyers and sellers. Our study focused exclusively on buyers to isolate the effect of touch from that of ownership. While previous research has already shown the positive impact of touch on sellers' valuation (Peck and Shu, 2009; Shu and Peck, 2011) in the endowment effect, comparing buyers and sellers within the same experimental framework would provide a more complete understanding of the effect.

It would also be interesting to explore the implications of a touch-based endowment for the exchange paradigm (Knetsch, 1989) of the endowment effect, such as extensions to the

domain of exchange goods (Van Dijk and Van Knippenberg, 1996, 1998).

Limitations

Before discussing policy implications, we mention the main limitations of our work. A limitation relates to the unpleasant-to-touch object. For this object, we did not find WTP differences in the different touch modalities. This might have been due to our unpleasant-to-touch manipulation being too strong: in this touch valence, WTP differences may not have been detected due to the considerable proportion of participants unwilling to buy the pen, even if it was free (£0). Another possible explanation is a limitation in the WTP measurement. The measurement was originally designed for pleasant-to-touch goods, and thus, a more sensitive measurement could be needed to study unpleasant-to-touch goods. Developing such a measurement could be the subject of future research, as could be studying whether WTP decreases with a gradual increase in touch unpleasantness.

To minimise potential interference in our within-subjects design, we excluded additional measures such as perceived ownership and affective reaction. Future research could also benefit from including these constructs to more precisely uncover the psychological mechanisms through which touch affects valuation.

Policy implications

Encouraging or restricting product touch may influence product valuation and decision-making; thus, one can potentially enhance or reduce consumption by manipulating touch availability and valence. As such, touch may represent a lever in shaping value perceptions and consumption patterns.

The corresponding policy implications, through using touch of objects as a simple intervention tool to induce behavioural changes, link to choice architecture interventions involving altering the placement and/or the properties of an object (Hollands et al., 2013), but focus this technique to manipulate the physical contact with the object.

This suggestion is supported by a range of further empirical findings from various contexts. For example, Yilmaz et al. (2020) provided evidence for the positive impact of physical touch of hygiene kits in the context of menstrual hygiene management in schools in Nepal. As part of a feminine hygiene education session, in one school, kits were given to girls to touch and examine, whereas in another school, girls could not physically touch the kits. At both schools, girls did not know that they could keep the kits before eliciting their WTP for a kit. Yilmaz et al. (2020) found that girls who could touch the kit had higher WTP for it, motivating them to want to purchase and use the kit. This suggests that efforts to improve hygiene and sanitation across the developing world could benefit from incorporating touch as an interactive component. In another example, Peck and Wiggins (2006) showed that a touch element as part of the presentation can influence charitable giving. In one of their experiments, they tested the effect of attaching a touch element (fleece fabric)

to a pamphlet requesting donations of time and money to a charity providing blankets to families in need and found that it had a positive effect: participants were willing to donate more when there was a touch element compared with when there was not. [Peck and Johnson \(2011\)](#) reported similar findings for a brochure containing an appeal for a black tie event for a local symphony orchestra, with a touch element (a paper band) increasing the likelihood of attending. In another experiment, [Peck and Wiggins \(2006\)](#) considered the valence of the touch element. They tested the effect of attaching a pleasant- (a feather), neutral- (tree bark) and an unpleasant-to-touch element (sandpaper) to a pamphlet message asking for donations of time and money to an arboretum. The results showed that a neutral- or pleasant-to-touch element significantly increased the likelihood of donating time or money compared with the pamphlet with the unpleasant-to-touch element.

This indicates that the valence of touch can be used as a tool to both encourage and discourage certain choice behaviours. For instance, regulations requiring packaging with negative touch valence features (e.g., rough or unpleasant texture), alongside health warnings, could be applied in public health interventions, such as those aimed at discouraging unhealthy behaviours such as excessive eating or tobacco use. Furthermore, simply altering the package tactile experience compared with what it is expected to feel could be a useful tool as it has been shown to impact consumers' evaluation of products ([Jansson-Boyd and Marlow, 2007](#)).

Similar to the pamphlet in [Peck and Wiggins \(2006\)](#), add-on elements unrelated to a product or service can be used to nudge towards a desired behaviour, as was suggested, e.g., for reducing vaccination hesitation using the endowment effect ([Czap and Czap, 2022](#)). Our results suggest that incorporating a pleasant-to-touch tactile aspect in these add-on elements can enhance this endowment effect and thus enhance the nudge effectiveness.

Although less typical in a retail environment, consumers often interact with products primarily through touch alone, for example, when retrieving an item from a bag or pocket. In such situations, touch becomes the dominant sensory source of product information and affective response. By utilising tactile aversion, touch valence interventions could complement existing visual and informational deterrents, providing a multi-sensory approach to behavioural change. In addition, the introduction of touch availability restrictions (e.g., at checkout) can help reduce impulsive or sub-optimal purchasing decisions.

Conclusion

This research advances understanding of the role of touch in the endowment effect by demonstrating, within the valuation paradigm, that touch increases buyers' WTP for a pleasant-to-touch product. Thus, we showed that touch can make buyers willing to pay more.

More specifically, we presented an experiment comparing buyers' WTP in three touch modalities (Touch, No touch and

Touch only) and considering the valence of touch (pleasant- vs unpleasant-to-touch) and the individual NFT characteristics. By isolating touch, even in the absence of visual input, we provide evidence that touch alone exerts an independent influence on valuation. This finding identifies a touch-specific effect that extends previous research, which has typically combined touch and visual inputs. Furthermore, we show that this effect is moderated by the instrumental NFT, indicating that touch plays a greater role for individuals who use touch as a means of acquiring product-relevant information. Together, these findings provide new insights into the role of touch in shaping the endowment effect.

Indeed, revisiting foundational research within the valuation paradigm, we observed that sellers were typically handed goods and told they owned them, implying touch even when not explicitly stated. This observation allowed us to reinterpret earlier findings as potentially consistent with touch playing a role in the increased sellers' valuation, which is emblematic of the endowment effect. Although touch has rarely been examined explicitly in this literature, a small number of studies have done so ([Peck and Shu, 2009](#); [Shu and Peck, 2011](#)). Building on this, our findings contribute to this line of research by demonstrating that touch, independent of ownership and visual input, can increase buyers' valuation, offering new insights into the underpinnings of the endowment effect and their potential policy implications.

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