Haptic Experiences: a Touching Story of Impression Formation and Decision-Making

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Touch exerts powerful and dimension-specific influences on our judgments, even though we are often unaware of these influences. We show that incidental tactile experiences with weight (heaviness), texture (roughness) and malleability (hardness) shape our interpersonal impressions and the decisions we make in consumption domains.

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SPECIAL SESSION

The ‘Nature’ Of Life: How the Physical World Colors Impressions, Informs Decisions, and Shapes Who We Are
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EXTENDED ABSTRACT

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Touch serves a critical means of learning, communication, and developing social bonds, yet, despite the fact that tactile sensations are critical to both our intra- and interpersonal lives, touch remains perhaps the most underappreciated sense in behavioral research. Several researchers have begun to highlight the importance of touch within consumer domains (e.g., Peck and Childers 2003). Tactile cues can influence our conceptions about products, even when those cues are nondiagnostic for the actual qualities of the item (e.g., water seems to taste better from a firm bottle versus a flimsy bottle: Krishna and Morrin 2008). Why might our sense of touch direct our impressions about untouched (or untouchable) things?

One possibility is that sensorimotor experiences in early life form a scaffold for the development of conceptual knowledge, which is subsequently applied to novel events, situations and objects. This conceptualization is reflected in the use of particular psychological constructs such as metaphors. For example, grasping motions and feelings of warmth elicited by interpersonal touch may give rise to beliefs about holding and caring as expressed in the aphorism “the world is in our hands.”

Building off work on metaphor priming, we propose that experiences with specific, object-related tactile qualities activate a haptic mindset such that touching objects triggers increased accessibility and application of associated concepts, even for unrelated impressions and decisions. We present 6 studies testing the role of 3 touch dimensions—weight, texture and hardness—in impression formation and decision-making.

Weight: The experience of weight, or heaviness, is metaphorically associated with concepts of seriousness and importance (e.g., “thinking about weighty matters.”). The physical experience of weight was manipulated by having participants hold either heavy or light clipboards. In Study 1, participants holding the heavy clipboard judged an academic job candidate as more serious about and better qualified for the position, but not as more likable. In Study 2, participants holding the heavy clipboard decided that important issues (e.g., air pollution standards), but not idiosyncratic issues (e.g., creation of universal electrical plug outlets), should receive more funding.

Texture: The experience of texture, or roughness, is metaphorically associated with the concepts of difficulty and harshness (e.g., “having a rough day.”). The physical experience of texture was manipulated by having participants complete either a rough or smooth puzzle prior to the main study DVs. In Study 3, participants completing a rough puzzle judged two people in an ambiguously-valenced interaction as displaying less coordinated (i.e., more difficult and harsh) behavior, but not less relationship familiarity. In Study 4, participants in an Ultimatum game offered lottery tickets to a 2nd person who could accept or reject the offer. Those completing the rough puzzle gave more tickets, which further analysis suggested was compensatory behavior for perceptions of low coordination and not due to more cooperative inclinations.

Malleability: The experience of malleability, or hardness, is metaphorically associated with concepts of stability, rigidity and strictness (e.g., “hard-hearted”). The physical experience of hardness was manipulated both actively (Study 5) and passively (Study 6). In Study 5, participants examined one of two objects to be used in a magic act—a hard block of wood or a soft blanket—and then evaluated the personality of an ambiguously described employee. Participants who touched the hard wood judged the employee to be more rigid/strict, but not more or less positive on other traits (e.g., trusting, kind). In Study 6, participants sat in either hard wooden chairs or soft cushioned chairs while making two offers in a car-buying negotiation task. Participants sitting in the hard chair exhibited less change in price from 1st to 2nd offer, indicating reduced decision malleability.

In summary, six experiments showed that heavy objects trigger conceptions of importance, rough objects trigger conceptions of difficulty, and hard objects trigger conceptions of rigidity. First impressions are liable to be influenced by one’s tactile surroundings, and control over these surroundings may be especially important for negotiators, pollsters, job seekers, and those interested in interpersonal communication.

“Washing Away the Past with Cleaning Products: Of Dirty Mouths, Dirty Hands, and Post-Decisional Dissonance”

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Brushing our teeth, washing our hands, and taking showers are part of our daily routine. Their psychological effect goes far beyond cleaning our bodies. As a growing number of studies indicates, cleaning products remove more than stains, microbes, and contaminants—they also remove the guilt of past misdeeds, weaken the urge to engage in compensatory behavior (Zhong and Liljenquist 2006), and attenuate the impact of disgust on moral judgment (Schnall, Benton and Harvey 2008). These findings are usually conceptualized in terms of a “moral purity” metaphor that grounds abstract thought about morality in more concrete experiences of physical cleanliness. In natural language use, this metaphor is associated with the specific body parts involved in an immoral act, prompting speakers to refer, for example, to “dirty hands” or a “dirty mouth.” This suggests that the specific modality involved in an immoral act may figure prominently in the embodiment of the moral purity metaphor, potentially prompting people to purify the specific body part involved in the act. While this conjecture is compatible with the general canon of embodiment, the implied motor-modality specificity has not received attention and the embodiment of the moral purity metaphor has been treated as generic in previous research: washing one’s hands (the only cleaning manipulation used to date) is assumed to restore purity independent of the specific body part involved in the “dirty” act.

Therefore, we conducted two experiments in which a transgression involved either only the hands (“manual modality”) or only the mouth (“oral modality”). Experiment 1 coded for motor-modality in autobiographic memories of moral transgressions and Experiment 2 induced participants to lie on voicemail (involving...
the mouth) or email (involving the hands). As predicted, doing bad things with one’s mouth increased the appeal (desire and willingness to pay) of mouthwash but not of hand-sanitizer; conversely, doing bad things with one’s hands increased the appeal of hand-sanitizer but not of mouthwash. These converging findings indicate that the morality-purity link is specific to the motor-modality involved in moral transgressions.

Note, however, that metaphors involving physical cleanliness extend beyond moral issues. We may say, for example, that we “wipe our slate clean” to convey that we are ready to move on to new endeavors. If so, the use of cleaning products may not only restore moral purity but may metaphorically “wash away” traces of past behaviors that may have no particular moral implications. We tested whether physical cleansing can more generally reduce the impact of past actions, even actions without moral implications. Using a classic dissonance paradigm, we gave people a free choice between two similarly attractive music albums. After selecting one, they participated in a “product evaluation survey” that involved either simply examining a bottle of hand soap or actually washing one’s hands with it. Finally, they provided another rating of the albums. Replicating the usual dissonance findings, the attractiveness of the chosen album increased, and the attractiveness of the rejected album decreased, after the choice. However, this was only observed when participants merely examined the soap. When participants tested the soap by washing their hands, their post-choice ratings were unaffected by the decision made, indicating that dissonance was “washed away.”

In combination, these findings extend earlier research in several ways. First, they highlight that the metaphorical link between moral and physical purity is specific to the motor-modality used: if given a choice, consumers want to clean the tainted body part. Second, our findings highlight that the impact of physical cleansing extends beyond the domain of morality as has been previously assumed. Ongoing research addresses whether such cleansing effects are limited to past negative events (e.g., moral transgressions, poor choices) or also extend to the positive glow of competent and noble acts (e.g., being an eloquent salesperson, raising awareness of support to Haiti).

“Embodied Real Estate: North-South Location Biases Housing Preference and Pricing”  
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People link abstract concepts to sensory experiences in metaphors to express preferences. One metaphor describes good and bad in terms of space. For example, good things are described as high (“her career is on the rise”) while bad things are described as low (“he’s on the bottom rung”). Research shows that when evaluating things, people unwittingly activate vertical perceptions in a metaphor-consistent manner (good=up; bad=down; Meier and Robinson 2004).

We examined an under-explored metaphor, north-south as up-down. Maps are typically constructed such that north is up and south is down despite the fact that north and south do not physically relate to vertical space. Frequent exposure to this representation may contribute to the tendency to describe north and south in vertical terms (e.g., “we’re headed up north”; see Nelson and Simmons 2009). A consequence is that directions may have developed affective connotations (i.e., north represents “good”). For example, in some areas of the U.S., terms like “southerie” or “movin’ on up” suggest that northern areas of cities are more attractive than southern areas.

We predicted that a north-south affective bias has implications for an important decision context—real estate judgments. We hypothesized that people will perceive higher house prices and income among residents in northern areas of a city, and that people will prefer to live in northern areas as well.

Study 1. Sixty-six undergraduates (41 males) chose where to live in a fictional city. We created a city map that included lines around the city limits. Distances between north-south limits and west-east limits were equal. We told participants the map represents a city and the lines indicate the city limits. We asked them to imagine that they were moving to this city and could live anywhere, and to select a location on the map. We converted choices to a score that represented the distance from the north-south mid-point. Analyses revealed that participants’ average choice was significantly north of the mid-point, \( t(65)=2.15, p=.035, d=.27 \).

Study 2. We hypothesize that people prefer to live in the north because they believe northern areas of a city have higher socioeconomic status (SES). The map from Study 1 was presented on paper. We randomly assigned 87 undergraduates (30 males) to one of two conditions in which we described either a High SES (wealthy) or Low SES (poor and unemployed) individual named Mr. Bennett. Participants drew an “x” on the map to indicate where they thought “Bennett” lived. We calculated position of the estimates for north-south and west-east locations and converted these into scores that indicated the distance from the mid-point. An ANCOVA examined the impact of condition on north-south estimate while controlling for west-east estimates. Estimates for the High SES person were further north than estimates for the Low SES person, \( F(1,84)=32.75, p<.001, \text{ partial eta}^2=.28 \).

Study 3. We sought to determine if a north-south bias influences house prices. We collected data on house prices and locations for the 25 most populous cities in the U.S. We used a real estate website (Trulia.com) to find 50 houses in each city. We selected the first 50 listings for each city that included address, price, and square footage (1,250 data points). We found the latitude (north-south) and longitude (west-east) for each address using Geocoder.us. A partial correlation for each city was calculated between price and latitude (controlling for the quadratic, square footage, and longitude). The average Fisher’s Z was .13, which was significantly greater than zero, \( t(24)=1.96, p=.031, d=.40 \), one-tailed. On average, housing prices support the north-south bias.

Our results reveal a surprising impact of north-south location on real estate preference and valuation. Embodied metaphor theory and research has revealed that cognition is grounded in metaphor, but the current findings move beyond laboratory-based social cognition by revealing the potential for such representations to influence behavior in contexts of significant financial importance.

“\( I \ \text{Am Where I Am: Physical Distance Fractures the Self} \)”  
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Given the rapid pace of technological advances in telecommunication and transportation over the past century, people’s lives commonly span large distances. Within the U.S., family networks extend across state boundaries, business is conducted in an increasingly global fashion, and students travel well beyond local confines to attend college. The boundaries of the average life space, defined as the sum of a person’s intrapersonal, interpersonal, and ecological experiences (Lewin 1943), are arguably at their widest point in human history. What are the consequences of this heightened capability to live lives spanning large distances?
We propose that physical distance promotes fracturing of the self into distinct self-aspects. Support for this proposition stems from an emerging tradition that grounds people’s psychological states in their physical environment (Williams, Huang and Bargh 2009). In this view, people’s early childhood understanding of fundamental physical concepts, such as physical distance, facilitates the development of abstract concepts, such as interpersonal distance (Williams and Bargh 2008). Since the distinction between self-aspects involves psychological distance, greater physical distance should increase this distinction. For example, greater physical distance that students travel to attend university should increase the distinction they experience between school and home identities.

To examine this physical-self relationship, 46 university students were primed with either physical closeness or physical distance by plotting coordinates that appeared either close together or far apart on a Cartesian plane, thus allowing participants to perceive and engage in relevant motor actions (Williams and Bargh, 2008). To examine whether this physical distance cue altered the psychological distinction that students experience between their school and home identities, we next measured the speed with which participants indicated whether a series of traits best described them at school or at home, while controlling for their general speed of response. If people experience difficulty distinguishing between their school and home identities, then they should take more time to respond. We predicted that participants primed with physical distance would experience greater distinction between school and home identities and would thus be faster on this measure, compared to participants primed with physical closeness. Our results supported this prediction [F(1, 41)=5.57, P=.02], suggesting that physical distance strengthens the psychological distinction people draw between aspects of their identities.

Study 2 extended this finding by using a more ecologically valid operationalization of physical distance and by examining reported stress as a potential downstream consequence of self-fracturing. Study 2 employed the same response latency measure used in our first study, as well as the Perceived Stress Scale to measure stress at school. Physical distance was operationalized as the number of miles between students’ university and their hometowns. Consistent with Study 1, data from 38 university students revealed that greater geographical distance was associated with shorter responses latencies, indicating greater distinction between school and home identities [?=-.38, t(33)=-2.69, P=.01], which was in turn associated with higher reported stress at school [?=-.40, t(33)=-2.23, P=.03].

In summary, the simple perception of and motor actions associated with physical distance increased the psychological bifurcation of the self into distinct self-aspects. This effect echoes recent demonstrations of how environmental cues can meaningfully affect people’s judgments and decisions. Practically, this work suggests a psychological benefit of thinking locally (less identity fracturing, less stress), and encourages practitioners to recognize the power of local environs in shaping consumer identities.

REFERENCES


