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Supporting Online Material for

Incidental Haptic Sensations Influence Social Judgments and Decisions

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This PDF file includes:

Materials and Methods
Additional Results
References

MATERIALS AND METHODS

In all studies, experimenters were blind to the research hypotheses. Participant samples were unique to each experiment (no overlap between experiments). Only one participant (in Experiment 5) reported awareness of the hypotheses, and so this person was removed from the analyses.

Experiment 1: Weight impressions

Participants included 24 women and 33 men (median age = 23) from a mixed undergraduate/community sample who were compensated with candy.

Passersby on streets near a university campus were recruited to complete a study on evaluating academic job candidates. They were told that the experimenters were interested in comparing non-expert (participant) evaluations to expert (professor) evaluations. Participants were asked to evaluate a real job candidate based on that candidate's resume and were told that accurate impressions can be formed on the basis of relatively minimal information. The resume of the first author, attached to a top-opening storage clipboard, was then given to participants (all identifying information was blacked out and the names of other individuals and schools were changed). Two versions of clipboards were used, one empty (340.2 grams) and one filled with paper (2,041.2 grams). The clipboard manipulation ensured the use of unsupported holding as an exploratory procedure (*SI*). After spending 1-2 minutes reading the resume, participants were given an evaluation form with items assessing: strength of applicant for the position, likely future job performance, social compatibility with future colleagues, seriousness of interest in the position, impression of the application materials, overall impression of the candidate, likelihood of interviewing and likelihood of hiring the candidate. All responses were made on 1-7 (negative-positive) Likert-type scales. Lastly, participants were asked how important it was for

them to make the correct evaluation (1-7 scale). A subset of participants ($n = 34$) also rated the degree of effort they perceived devoting to the evaluation task (1-7 scale).

Three participants (1 woman, 2 men) who sat down during the study were eliminated from the analyses as this posture would largely eliminate the experience of unsupported holding.

Experiment 2: Weight decisions

Participants included 22 women and 21 men (median age = 21) from a mixed undergraduate/community sample who were compensated with candy.

This study also used a clipboard manipulation with different degrees of weight for the light (453.6 grams) and heavy (1,559.2 grams) conditions. Passersby on streets near campus were asked to complete a Social Action Survey in which they rated whether particular public issues should receive more or less government funding on -5 (decrease) to +5 (increase) scales. The issues included several considered socially important and serious (economic development, air pollution standards, education funding) and several considered idiosyncratic and less widely important (improved postal worker salaries, allowing radio stations to use particular frequencies, creation of universal electrical plug outlets, regulating the number of public bathroom sinks). We also measured self-reported political orientation on a -5 (extremely liberal) to +5 (extremely conservative) scale.

Experiment 3: Texture impressions

Participants included 29 women and 35 men (median age = 23) from a mixed undergraduate/community sample who were compensated with candy.

Passersby on streets near campus were recruited to complete a study on interpersonal perception and told that the experimenters were interested in people's evaluations of social situations. Prior to making an evaluation, participants completed a puzzle which was presented

as a measure of cognitive abilities such that the experimenters could determine the link between these abilities and impressions. This puzzle featured 5 pieces cut from firm mounting board, designed to be relatively easy to complete. Two versions were used, one with the pieces covered in rough sandpaper (rough condition) and one with the pieces uncovered (smooth condition). Participants were instructed not to pick up the pieces while completing the puzzle, which helped to maximize tactile contact with the pieces and ensured the use of lateral motion as an exploratory procedure (*SI*). After the puzzle task, participants read a scenario describing an interaction between two people and formed impressions about the nature of this interaction. This passage described both positive components (e.g., kidding around) and negative components (e.g., exchange of sharp words) of a social interaction and thus was ambiguous as to the overall tenor of the interaction. This passage has been effectively used in past impression formation research (see *S2* for scenario text). After reading, participants rated whether the social interaction was: adversarial/friendly, competitive/cooperative, a discussion/argument, and whether the target people were on the same side/on opposite sides using 1-9 scales (*S2*). To test whether the effect of the prime would extend to a theoretically unrelated measure (i.e., relationship familiarity), participants also rated how well the target people knew each other (“not at all well” to “very well”) and whether the interaction was business/casual using the same scales.

Experiment 4: Texture decisions

Participants included 20 women and 22 men (median age = 23) from a mixed undergraduate/community sample who were recruited from a participant pool and paid \$5 and a chance at a \$50 lottery prize.

In the laboratory, participants first completed the rough/smooth puzzle using the same cover story as in Study 3. They then took part in an Ultimatum game (*20*). Each participant

received 10 tickets for a \$50 lottery (to be awarded once across all participants). They were instructed that they would have the opportunity to give 0-10 of the tickets to an anonymous participant. If the other participant accepted the offer, the split became official, but if the other participant rejected the offer, neither participant would receive any tickets. The decider participant did not actually exist, and so the primary dependent measure was the first participant's choice of number of tickets. After making their choice, participants completed a scale measuring social value orientation (SVO) in which people choose repeatedly from one of three possible joint outcomes between self and (a new) unknown other (S3). Six or more consistent choices results in classification as: "prosocial," "individualist," or "competitor," with those remaining as "unclassified" (S4). Prosocials are identified by their propensity for cooperation and interest in equality of outcomes. Individualists maximize their own outcomes with disregard for the other. Competitors attempt to maximize relative outcomes between self and other, even when this reduces the absolute benefit to the self.

Experiment 5: Hardness impressions

Participants included 36 women and 13 men (median age = 21) from a mixed undergraduate/community sample who were paid \$2.

Passersby in a campus student center took part in a study on people and product ratings. Participants were told that the first task involved watching a magic act and attempting to guess the "trick." Participants then examined an object to be used in the act so they could verify that there was nothing unusual about the object. Two objects were shown (each participant saw only one), a soft piece of blanket and a hard block of balsa wood. Objects were of similar weight, and neither had rough texture. Close examination of the objects ensured the use of pressure as an exploratory procedure (S1). The magic act was then postponed (in reality, forever) while

participants completed the second half of the study—forming an impression of a social interaction. Participants read a passage similar to the one used in Study 3, except the two individuals were described here as a boss and an employee. Subsequently, participants evaluated the employee’s personality on a list of trait terms (permissive, outgoing, open-minded, trusting, kind, strict, serious, unyielding) using 1-7 (“not at all” to “very”) scales. Finally, participants rated the pleasantness of the object they had previously examined on a 1-9 scale (“not at all” to “very”).

Experiment 6: Hardness decisions

Participants included 47 women and 39 men (median age = 29) from a mixed undergraduate/community sample drawn from a participant pool. The experiment was run during a bigger session along with 2 unrelated studies for payment of \$15.

Participants were brought into a separate laboratory room and seated in one of two types of chairs—a hard, wooden chair or a soft, cushioned chair (no attention was called to the chairs, and no participant mentioned them). They then read and evaluated the same social interaction scenario used in Study 5 using a modified trait list (permissive, open-minded, trusting, kind, supportive, emotional, stable).

Next, participants completed a negotiation task. They were asked to imagine shopping for a new car and were told:

You have decided on a mid-sized sedan that you would like to purchase and are at the dealer to negotiate a deal. The sticker price on the car says \$16,500. The dealer approaches you, notices your interest, and says “Make me an offer.”

Participants reported their first offer price, and their second offer (if any) assuming the dealer had rejected the first. Finally, participants stated their actual likelihood of buying a new car in the next year on a 1-9 scale (“very unlikely” to “very likely”).

ADDITIONAL RESULTS

Experiment 1: Weight impressions

We conducted a maximum likelihood factor analysis with varimax rotation on the initial set of dependent measures (Kaiser-Meyer-Olkin measure of sampling adequacy = .77). All items loaded over .5 onto one factor, save for “seriously interested in the position” (.99 on a separate factor) and “will get along well with future colleagues” (< .26 on both factors). These were kept separate, and the remaining items were averaged to form a composite job candidate rating measure (Chronbach’s $\alpha = .85$). Multivariate ANOVAs were used to test these measures, as well as the later task importance and effort measures. Supporting the conclusion that overall candidate ratings and seriousness of interest tapped similar impressions, these two measures were significantly correlated, $r(54) = .36, p = .007$, but social likeability did not correlate with either, $ps > .19$.

Experiment 2: Weight decisions

A maximum likelihood factor analysis with varimax rotation (K-M-O = .67) on the various issues indicated two factors with loadings above .32. Thus, we created two composite scores by averaging responses to social issues ($\alpha = .6$) and idiosyncratic issues ($\alpha = .66$). Confirming that the social issues were considered relatively more important a priori, participants in the light condition rated the social issue composite ($M = 3.49, SD = 1.52$) as more deserving of funding than the idiosyncratic issue composite ($M = -.022, SD = 1.28$), $t(22) = 8.53, p < .0001$. We expected that preference for funding social issues would be associated with political orientation,

and thus in the primary analysis, orientation was entered as a covariate into a multivariate analysis of covariance (all reported effects remain significant when this variable is not included). A marginal effect of orientation on social issues revealed that more conservative participants preferred less funding for these issues, $F(1, 38) = 3.79, p=.059$. Additionally, a main effect of gender on the social issues composite suggested that women chose higher funding levels than men, $F(1, 38) = 4.75, p=.036$, although this was qualified by the interaction with Condition as reported in the main text.

Experiment 3: Texture impressions

Following Kay and colleagues (S2), we created a composite measure of social coordination using the four items: adversarial/friendly, competitive/cooperative, discussion/argument, and same side/opposite sides ($\alpha = .73$). This composite was entered into a univariate analysis of variance with Condition. Additionally, the two relationship familiarity items, degree of target relationship and business/casual, were moderately correlated ($r = .29, p = .019$), but a multivariate ANOVA with Condition showed no effects for either ($F_s < 1$).

Experiment 4: Texture decisions

Ticket offers were analyzed using a univariate analysis of variance with Condition as independent variable.

For the social value orientation scale, a chi-square analysis suggested significant differences in classification, $\chi^2(3) = 23.68, p = .00001$. Two participants were “unclassified,” and three were labeled “competitors.” We analyzed the two remaining, larger categories by regressing SVO on Condition to test whether the texture prime influenced people’s interdependent decision making (see main text). We also tested whether SVO influenced lottery offers. SVO was not on its own correlated with lottery donations, $r = -.07, ns$.

Experiment 5: Hardness impressions

Ratings of object pleasantness showed no differences by Condition ($F < 1$). A maximum likelihood factor analysis with varimax rotation (K-M-O = .82) on the trait terms revealed two factors with loadings above .36. Thus, we created two composite scores, a positivity composite (permissive, outgoing, open-minded, trusting, kind) ($\alpha = .88$) and a rigid/strict composite (strict, serious, unyielding) ($\alpha = .77$). These were analyzed using a multivariate analysis of variance with Condition.

Experiment 6: Hardness decisions

A maximum likelihood factor analysis with varimax rotation (K-M-O = .81) on the trait terms revealed two factors with loadings above .38. One factor consisted of positivity terms (permissive, open-minded, supportive, trusting, kind) ($\alpha = .81$), but the other was identified only by the item “emotional” (loading = .99). Additionally, “stable” loaded highly on both factors and so was kept separate in the analyses. The positivity composite, along with emotional and stable items, were entered into a multivariate analysis of variance with Condition as the independent factor.

For the negotiation task, first and second offer prices were also tested by a multivariate analysis of variance. Change scores were calculated by subtracting first offers from second offers. These were tested first using a univariate analysis of variance with Condition, and then an analysis of covariance controlling for self-reported likelihood of purchasing a new car within the next year. An ANOVA of Condition on purchase likelihood also revealed that participants in the hard condition ($M = 1.97$, $SD = 1.85$) reported being less likely to buy a car in the next year than participants in the soft condition ($M = 3.10$, $SD = 2.79$), $F(1, 84) = 4.61$, $p = .035$ (this difference remained significant when testing only those participants who made a second offer).

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