Inferences of Interpersonal Preference Similarity Based on Unrelated Product Categories

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We present a phenomenon we call similarity extrapolation – the psychological transfer of similarity in preferences between self and others from a specific, yet arbitrary, domain to unrelated domains. We show people are insensitive to domain, i.e., people extrapolate similarity to the same extent from one domain to extremely different domains, even when similarity information is clearly selected from sets likely to contain disconfirming evidence. Moreover, our data support categorical inference as an explanatory mechanism for similarity extrapolation. We conclude with implications for agent decision-making, gift-giving, brand extensions, and online recommendations such as “People who bought this also bought that.”

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EXTENDED ABSTRACT
In e-stores such as Amazon.com, someone contemplating any product can be directed to recommendations from users who have bought that product. Such recommendations do not necessarily refer to the product category originally contemplated. Do people think they will like products someone else bought just because this other person likes some unrelated product they themselves like? We propose that the answer to this question is yes. We present a phenomenon we call similarity extrapolation—the psychological transfer of similarity in preferences between self and others from a specific, yet arbitrary, domain to unrelated domains.

We propose that, in the comparison of another person’s preferences with self preferences, people categorize the other in relation to the self, and this categorization serves as a basis for future inferences about the other person. This process is called categorical inference. People form impressions of new individuals based on an active categorization process (Brewer 1988). Moreover, as people often interpret information about others according to its congruency with the self (Gramzow et al. 2001), it is likely that the categorization occurs as a function of how similar to the self individuals are perceived to be. Once categorization takes place, additional attributes of individuals will be inferred (Brewer 1988) according to how individuals fit in the category. In similarity extrapolation, the fit would determine a graded structure leading to an increasing trend that relates degree of similarity in a domain and people’s predicted similarity in other domains.

We explore similarity extrapolation in two studies. The first study was designed to show insensitiveness to domain, that is, that people extrapolate similarity to the same extent from one domain to extremely different domains. In this study, participants first chose one vase in each of 20 pairs. Participants were then matched with another participant (hereafter, partner) who had preferences either similar or dissimilar from theirs for the set of vases. Subsequently, participants learned their partners’ choices for these 20 pairs of vases. Participants were then shown pairs of stimuli in one of four domains—either a new series of vases, sculptures, tourist activities, or comic strips—and were asked to choose the option they preferred, and the option they thought their partner chose. We had 40 participants per domain (20 in the similar and 20 in the dissimilar condition.) Thus, we had 160 participants in total. As we expected, participants picked the same option for the partner and themselves more times with a similar ($M = 14.9, SD = 3$) than with a dissimilar partner ($M = 11.3, SD = 3.2, p < .001$), and this difference was significant by domain. As we hypothesized, participants’ inferred similarity with partners based on preferences for vases was independent of predicted domain.

The second study was designed to both provide evidence for categorical inference as an explanatory mechanism and demonstrate similarity extrapolation with similarity information clearly selected from sets likely to contain disconfirming information. In this study we tested similarity extrapolation from opinions for vases to opinions for tourist activities. Pairs of items were shown side-by-side on the computer screen. Preferences were measured on a six-point scale ranging from “(1) strong preference for the item on the left” to “(6) strong preference for the item on the right.” For the analyses, we report dichotomized responses (choice of one of the two options.) Study 2 involved two selection conditions: full and partial. In the full condition ($N = 59$), participants evaluated three pairs of vases and were then shown the opinions of their partners for the same three pairs of vases. The partial condition involved a second manipulation: partner’s similarity, which could be either similar ($N = 20$) or dissimilar ($N = 20$). Participants first evaluated 12 pairs of vases and were then explicitly told they would be shown their partners’ opinions for either the three pairs for which there was strongest (similar condition,) or weakest agreement between self and partner (dissimilar condition.) After learning partners’ preferences, participants in all conditions were asked to estimate how many times in a set of 10 pairs of tourist activities they would choose the same item as their partner (predicted agreement question.) Participants were then shown 10 pairs of tourist activities and asked to rate each pair on the same scale used to rate vases. Participants were also asked to predict their partners’ preferences (item-by-item prediction.)

Results from the partial condition demonstrate insensitiveness to information selection, that is, we observed significant similarity extrapolation in the number of times participants chose the same tourist activity for themselves and for their partners (item-by-item): similar partner ($M = 7.8, SD = 2.14$) versus dissimilar partner ($M = 5.2, SD = 2.48, p = .001$). Participants did not predict significantly higher overall agreement for tourist activities (predicted agreement question) in the similar partner condition ($M = 5.15, SD = 2.43$) than in the dissimilar partner condition ($M = 4.65, SD = 1.53, p > .1$). In the full condition we found evidence for categorical inference. A significant linear trend contrast was obtained from agreement for vases to the predicted agreement question for tourist activities (participants were divided in four groups according to the number of times participants agreed with their partners for the three pairs of vases—denoted by the subscripts from 0 to 3: $M_0 = 3.14, SD_0 = 1.77$; $M_1 = 3.71, SD_1 = 2.02; M_2 = 4.05, SD_2 = 1.96; M_3 = 6.46, SD_3 = 1.81; p = .001$). A significant linear trend contrast was also obtained from agreement for vases to the item-by-item agreement ($M_0 = 5.71, SD_0 = 2.5; M_1 = 5.12, SD_1 = 2.23; M_2 = 6.36, SD_2 = 1.71; M_3 = 7.31, SD_3 = 1.93; p = .043$). These linear trends suggest categorization occurred in a graded structure such that the more similarity was perceived for vases, the more similarity was inferred for tourist activities.

We conclude with implications of similarity extrapolation for agent decision making, gift-giving, brand extensions, and online recommendations of the type “People who bought this also bought that.”

References
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