

Why it is so Hard to Predict our Partner's Product Preferences

The Effect of Target Familiarity on Prediction Accuracy

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Many buying decisions require predictions of another person's product attitudes. Prior research suggests that familiarity with that person seldom enhances prediction accuracy. This is typically ascribed to a lack of diagnostic information about the other's product attitudes. Consequently, one could expect that the availability of attitude information would solve these prediction problems. However, we present strong evidence that familiarity harms the prediction process, especially when diagnostic attitude information is provided. In a series of experiments, we show that the extensive knowledge base that people possess about a familiar other actually obstructs predictors to use more diagnostic prediction cues.

Many product decisions comprise the prediction of other person's attitudes. For instance, before engaging in a *joint* decision process, people form expectations about the other's product preferences (Bohmann and Qualls 2000). Since joint buying decisions are typically complex and uncommon (e.g., houses, cars, furniture, financial products) or concern products that were not perceived or discussed before (e.g., new vacation destinations) (Davis and Rigaux 1974), consumers often lack pre-stored knowledge of each other's attitudes towards these products. By consequence, the ability to predict the other's product attitudes is expected to strongly affect the accuracy in predicting joint preferences (Dellaert, Prodigalidad and Louviere 1998; Krishnamurthi 1983; Park 1982).

Consumers also make product decisions *for others*. When purchasing gifts, for instance, people perceive the search for a product that matches the receiver's attitudes as quite stressful (e.g., Otnes, Ruth and Melbourne 1994; Wooten 2000), especially when the giver and receiver differ on salient dimensions (Otnes, Kim and Lowrey 1992). In these situations, people cannot rely on their own attitudes, but base their prediction on information related to the receiver. Research on agent decision-making provides additional examples of people, varying from knowledgeable neighbors to trained experts (like financial analysts and real estate agents), who make product attitude predictions for others (e.g., Gershoff, Broniarczyk and West 2001; Solomon 1986; West 1996). Also in personal selling, good salespeople need to empathize with the complex feelings and preferences of their customers (Weitz 1978; Weitz, Sujan and Sujan 1986). Similarly, product managers often rely on their own intuitive predictions about consumers (Hoch 1988). If not, they use marketing research tools that are frequently based on proxy-reports provided by key informants who are again asked to predict the product feelings of others (Menon et al. 1995).

Finally, even for many decisions that are made individually and *for own use*, consumers value social approval and try to predict the reaction of their peers. For example, people take into account the attitudes and preferences of referents such as co-workers, friends, neighbors, and school classmates when buying luxury and public products, like golf clubs (Bearden and Etzel 1982; Childers and Rao 1992). People who really like a specific brand or type of product will hesitate to buy it if they predict that their peers will not share their preference.

The purpose of this article is to examine the effect of familiarity with the target person on prediction accuracy. Although it could intuitively be expected that target familiarity results in more accurate predictions, there is already some evidence that people fail to properly predict a familiar target's product attitudes, despite the extensive amount of information they possess about these targets. Marketing experts, for instance, were no more accurate than novices in predicting the activities, interests, and opinions of the US consumer (Hoch 1988). Although it can be argued that predicting the attitudes of a group differs from predicting the attitudes of individual persons, inaccuracy has also been observed when people predict the product attitudes of familiar persons, like relationship partners. Davis, Hoch and Ragsdale (1986) found that only 53 percent of the partners were able to outperform a hypothetical forecaster who simply used the average gender-specific preference for each product. Related research in social psychology consistently demonstrated that neither relationship length, nor relationship involvement with the target person increases accuracy in predicting beliefs, and personality traits (e.g., Kenny 1994, Swann and Gill 1997). Our contribution to the current knowledge on product attitude predictions is threefold. First, although target familiarity so far has been found to seldomly affect prediction accuracy, we show that, under certain conditions, target familiarity can even harm the prediction process. Second, we provide new insights into how target familiarity disturbs the attitude

prediction process. Finally, we propose an experimental method to test the specific effect of target familiarity on the prediction process, while controlling for all other factors.

The current explanation of the surprisingly low levels of prediction accuracy among familiar persons is that the broad target knowledge is very often trivial with respect to the studied prediction topics (Colvin and Funder 1991). Davis et al. (1986), for instance, used new, (at that time) futuristic products, such as a pop-top can for canned vegetables, for which relevant partner information on attitudes was presumably sparse. Kenny and Acitelli (2001) surprisingly found that partner related information contributed less to the overall prediction accuracy than the predictor's own attitudes did. Interestingly, they only observed this for topics central to the relationship (e.g., feelings of closeness, sexual enjoyment) and, therefore, probably quite sensitive, personal and hardly discussed with the partner. The opposite was found for topics less central to the relationship (job satisfaction, and feelings about the partner's family) on which partners presumably have exchanged more information. Thus, at first sight, the lack of diagnostic target information seems an acceptable explanation for some of the observed prediction inaccuracies. However, this explanation also implies that predictors should easily overcome prediction inaccuracy, once diagnostic target information is made available to them. West's (1996) finding that people quickly learn to predict a complete stranger's product attitudes when provided with veridical attitude information comports nicely with this reasoning. Yet, we predict that target familiarity will induce a significant negative effect on prediction accuracy in situations where product related attitude information is available. In other words, we expect that familiar predictors will face far more fundamental prediction problems, other than a simple lack of diagnostic information. More specifically, we distinguish four prediction problems that target familiarity may evoke when learning from attitude feedback. Target familiarity is expected to

affect the validity of the two types of prediction cues that are typically distinguished, the own product attitudes and target information, as well as the trade-off between both. (e.g., Davis et al. 1986; Kenny and Acitelli 2001). Additionally, we expect that familiarity may decrease the level of calibration, making people less sensitive predictors.

First, target familiarity may lower the validity of *target information* used for predicting product attitudes. When receiving product attitude information about a familiar target, people may store it in a biased way. Studies have shown that people tend to encode information to be consistent with prior target knowledge, thereby avoiding inconsistent and assimilating ambiguous information (e.g., Srull and Wyer 1979; Taylor and Crocker 1981). Also, predictors may put too much weight on invalid or irrelevant target information. People are found to put much weight on irrelevant and prior information, expectations and prediction rules, thereby insufficiently adjusting for new, more diagnostic information (e.g., Alloy and Tabachnik 1984; Broniarczyk and Alba 1994; Chapman and Chapman 1969; Zukier and Jennings 1983). Memory deficiencies may occur as well. New product attitude information is probably difficult to retrieve when many other, more salient or established prediction cues are available (e.g., Hoch 1984; van Osselaer and Alba 2000).

Second, when receiving attitude feedback, target familiarity may lower the validity of the *own attitudes*. False consensus research already indicated that people see their own attitudes as quite common when predicting those of another person (see Marks and Miller 1987). This similarity assumption appears even stronger for familiar targets (e.g., Moreland and Zajonc 1982; Ross, Green and House 1977). Aron et al. (1991) even argued that the elaborate knowledge of familiar others is mixed with information about the self. Observing information about a familiar target's product attitudes that is incongruent with the self, may consequently

elicit doubts about the own product attitudes. This introspection will not only cause unstable own attitudes, but may also result in incorrect judgments of the own product attitudes (Wilson and Schooler 1991).

Third, when people predict a familiar target's product attitude, we expect them to *overproject* their own attitudes at the cost of using target information. Although people who predict the product attitudes of a stranger, were found to adapt their degree of projection based on newly received attitude information (West 1996), we predict that people will stick to their own attitudes when this information belongs to a familiar target. As discussed above, familiarity results in assumptions of high similarity. Not only may these initial assumptions color the interpretation of ambiguous target information (e.g., Dunning, Perie and Story 1991; Higgins and Brendl 1995), they may also motivate predictors to ignore unambiguous information that is incongruent with their own product attitudes (e.g., Ickes and Simpson 1997). Consequently, high assumptions of attitude similarity may persist, despite the availability of veridical information about the target's product attitudes.

Finally, we also expect that people are *miscalibrated* while predicting attitudes of familiar others. People are found to be generally overconfident in judging their peers (e.g., Dunning et al. 1990). The main reason for miscalibration is that accuracy perceptions are often based on salient but nondiagnostic cues. Swann and Gill (1997), for instance, showed that overconfidence correlated with both relationship involvement and length because predictors used the amount of available target information as indicator of their prediction abilities. Thus, the possession of elaborate knowledge about familiar targets may cause people to perceive themselves as better predictors than they really are. This overconfidence is expected to limit attention and sensitivity to new, diagnostic information (Alba and Hutchinson 2000), eventually

resulting in less accurate predictions.

In summary, we propose that target familiarity will induce a negative effect on prediction accuracy in situations where people are exposed to information about a target's product attitudes. In order to investigate the problems underlying the expected prediction inaccuracy, we additionally test to what extent target familiarity affects (1) the validity of target information, (2) the validity of the own attitudes, (3) the level of projection, and (4) the degree of miscalibration. Therefore, we designed four experiments in which we systematically manipulated the awareness that one is predicting a familiar target's attitudes instead of manipulating the prediction target itself. By keeping the target constant in all conditions, we avoided confounding effects. For instance, many cross-sectional studies compare the performances of predicting the attitudes of a complete stranger with those of a familiar target, like the relationship partner. An observed difference may not be due to familiarity but to underlying differing characteristics of the two groups. For example, people typically associate themselves with similar others (Buss 1985), which leads to higher average similarity among familiar persons than among strangers. Using an awareness manipulation, we provide strong support that target familiarity hurts prediction accuracy when veridical feedback is available. More specifically, experiment 1 showed that, when attitude similarity was low, people who were aware that the target was their relationship partner were less accurate than those who were not aware of this. More detailed analyses further identified lower target validity as the main underlying problem. By manipulating the presence of attitude feedback in a second experiment, we demonstrated that people took less predictive advantage from this feedback when they were aware that it belonged to their partner. Experiment 3 extended this by showing that not the encoding, but the subsequent use of this new attitude information is less efficient when predicting highly familiar others. Next to replicating

the detrimental effect of target familiarity outside a partner setting, experiment 4 also indicated that it is the large amount of irrelevant information about familiar others that reduces the utilization of more diagnostic target information at prediction time.

EXPERIMENT 1

Subjects and Design

Thirty-five couples, who were in a relationship for at least six months (average 28 months), were invited to the laboratory. Participants were seated in separate, individual cubicles equipped with a computer on which the entire experiment was conducted. First, they provided their own attitude (by choosing 'positive' or 'negative') towards 30 different sets of bedroom furniture¹. Each alternative was presented on the computer screen and consisted of a picture of the bedroom, the brand name (e.g., Vannes, Cerenna), a description of the set-up (e.g., bed, two bedside tables and dresser), the finishing (e.g., cherry, rattan), and price. Next, they were asked to predict either their partner's or a complete stranger's attitudes concerning the bedroom furniture sets ('positive' or 'negative') and to indicate how confident they were about their prediction (0 to 100%). In reality, however, the participants predicted the attitudes of their partner in both conditions. After each prediction, they received feedback about their partner's actual attitude towards the bedroom set ('positive' or 'negative').

We also included similarity in our design. Similarity was calculated as the correlation between the predictor's and the partner's actual attitudes, on which a median split was performed (median = .19). Participants with a similarity higher than the median are referred to as high similars, the others as low similars. This results in a 2 (familiarity: partner vs. alleged stranger) x

¹ This product category was chosen because (1) chances are small that participants have pre-stored knowledge of their partner towards the presented bedroom sets and actually will have to

2 (similarity: low vs. high similars) between-subjects design.

Results

First, we expected a negative effect of target familiarity on *prediction accuracy*, calculated as the correlation between the predictions and the target's actual product attitudes². Next to a positive effect of similarity on accuracy ($M_{\text{low}} = .14$, $M_{\text{high}} = .42$; $F(1, 66) = 40.70$, $p < .0001$), the results partially confirmed that people who predicted their partner's attitudes ($M = .24$) were less accurate than those who predicted the attitudes of an alleged stranger ($M = .36$; $F(1, 66) = 3.08$, $p < .09$). However, the effect of familiarity was qualified by similarity ($F(1, 66) = 4.50$, $p < .04$; panel A of figure 1). Post-hoc analyses revealed that low similars predicted the product attitudes of their partner ($M = .05$) less accurately compared to those of an alleged stranger ($M = .22$). For high similars no effect of target familiarity was observed ($M_{\text{partner}} = .43$, $M_{\text{stranger}} = .41$). To further investigate the prediction problems underlying these accuracy differences, we followed the prediction model proposed by Hoch (1987, 1988) to calculate some additional measures (see Appendix for more details). First, we decomposed the accuracy into its component caused by the use of target information and the component due to projection of the own attitudes. Next, the level of projection is measured as the correlation between the own attitudes and the attitude prediction. Finally, calibration, that can be defined as the extent to which confidence in one's prediction is a valid indicator of actual prediction accuracy, is measured by the correlation between confidence and prediction accuracy over product alternatives (Alba and Hutchinson 2000).

predict the other's attitudes (Hoch 1984) and (2) buying decisions with respect to furniture are typically made jointly (Davis and Rigaux 1974).

Insert figure 1 about here

It was expected that target familiarity would have a negative effect on the *target information* component. Although the effect of target familiarity was not significant ($F(1, 66) = 2.09, p > .15$), it interacted with similarity ($F(1, 66) = 11.04, p < .01$; panel B of figure 1). Post-hoc analyses revealed that our expectation was confirmed for the low similars ($M_{\text{partner}} = .05, M_{\text{stranger}} = .23$) but not for high similars ($M_{\text{partner}} = .20, M_{\text{stranger}} = .13$).

Contrary to our expectations, target familiarity did not influence the *own attitudes* component ($F(1, 66) = 0.62, p > .43$; panel C of figure 1). We only observed that this component was significantly higher for high similars ($M = 0.26$) than for low similars ($M = 0.00$; $F(1, 66) = 84.29, p < .0001$).

We proposed that target familiarity would increase the level of *projection*. However, the results showed that participants did not project significantly more when predicting their partner ($M = 0.12$) than when predicting an alleged stranger ($M = 0.14$; $F(1, 66) = 0.27, p > .60$). High similars ($M = .56$) projected more than low similars ($M = .32$; $F(1, 66) = 18.10, p < .0001$). This indicates that the participants were able to adapt their level of projection to their actual level of similarity, without being interfered by their familiarity with the target. Higher levels of projection are typically found on issues that are perceived as more central to the relationship, since for these issues attitude discrepancies cause cognitive tensions (e.g., Davis and Rusbult 2001). It is quite probable that the partner's furniture attitudes are not perceived as central and critical to the relationship.

² For this and subsequent studies we also computed the absolute accuracy as the number of correct answers, and a sensitivity measure based on signal detection theory (McNicol 1972). The

Finally, target familiarity might also lower the level of *calibration*. However, participants who predicted their partner's attitudes ($M = 0.21$) were neither worse nor better calibrated than those who predicted the attitudes of an alleged stranger ($M = 0.21$; $F(1, 66) = 0.13, p > .78$). We observed only a significant effect of similarity ($F(1, 66) = 8.38, p < .01$), indicating that high similars ($M = .28$) were better able to adapt their confidence ratings to their actual accuracy level than low similars ($M = .15$).

Discussion

Instead of being a prediction advantage, this study demonstrates that target familiarity can even lead to prediction inaccuracy. Furthermore, this inaccuracy can mainly be ascribed to the lower prediction validity of the target information. While the weight that participants gave to this target information (as opposed to the own attitudes) was independent of the awareness manipulation, they gained less prediction accuracy by using target information if they knew that the target was their partner compared to if they thought it was a stranger. However, it should be pointed out that the negative effect of target familiarity on accuracy and target information validity was only observed when similarity between the product attitudes of the predictor and target was low. This corresponds to the finding of Hoch (1987) that highly similar predictors are better able to capitalize on relevant knowledge of familiar targets than low similars are. Also, people heavily increased their level of projection when attitude similarity was high. By consequence, the validity of target information has a weaker effect on accuracy, when similarity is high.

Consistent with our expectations, the lower validity of target information may indicate that target familiarity obstructed the optimal use of the attitude feedback due to encoding,

results for these two measures were always consistent with those based on the relative accuracy

weighing, or retrieval biases. However, an alternative explanation exists. Low predictive value of previously stored partner information may also have caused prediction inaccuracy. People predicting the attitudes of an unfamiliar target can only rely on base rate and stereotypical information, which may be quite valid (Nisbett and Kunda 1985). When predicting familiar targets, on the other hand, people are likely to ignore these valid base rates. Instead, they use more specific target information, often found to be invalid or irrelevant when predicting product attitudes (e.g., Davis et al. 1986; Dunning et al. 1990; Swann and Gill 1997). To rule out this alternative explanation, we manipulated the availability of feedback in experiment 2. In the conditions where no feedback was provided, we were able to test the differential effect of previously stored, target information versus base-rate and stereotypical information on prediction accuracy.

EXPERIMENT 2

Subjects and design

Eighty-four couples, with an average relationship length of 26 months, participated in this experiment. Half of them followed a procedure that was identical to experiment 1 and, received the actual attitude of their partner after each prediction. The other half of the participants followed a similar procedure except that they did not received any information on their partner's attitudes. The design was a 2 (feedback: feedback vs. no feedback) x 2 (familiarity: partner vs. alleged stranger) x 2 (similarity: low vs. high similars) between-subjects design.

Results

The results suggested that the previously found effects on *accuracy* depended on the availability of attitude feedback ($F(1, 159) = 3.65, p < .06$; panel A of figure 2). When the

and, therefore, they are not discussed in this article.

predictors received attitude feedback, the results confirmed that the familiarity effect on accuracy depended on the level of similarity ($F(1, 77) = 7.76, p < .01$). Low similars who predicted the product attitudes of an alleged stranger ($M = 0.24$) were more accurate than those who predicted their partner's attitudes ($M = 0.06; F(1, 77) = 9.19, p < .01$), while for high similars no familiarity difference was observed ($F(1, 77) = .90, p > .34$). When the predictors received no feedback and had to rely on prior target information, only similarity affected prediction accuracy ($F(1, 82) = 13.20, p < .001$). High similars ($M = 0.29$) were more accurate than low similars ($M = 0.13$).

Insert figure 2 about here

With respect to the *other information* component, the results differed depending on the availability of attitude feedback ($F(1, 159) = 3.77, p < .05$; panel B of figure 2). When attitude feedback was provided, familiarity was qualified by similarity ($F(1, 77) = 4.79, p < .04$). Low similars used more valid target information when they predicted the attitudes of an alleged stranger ($M = 0.21$) compared to those of their partner ($M = 0.02; F(1, 77) = 12.59, p < .001$). For high similars, this difference disappeared ($F(1, 77) = .03, p > .85$). When no attitude feedback was provided, we observed no significant effects on the other information component.

Similarity positively affected the *own attitudes* component ($M_{\text{low}} = .02, M_{\text{high}} = .19; F(1, 159) = 115.55, p < .0001$, panel C of figure 2) and the amount of *projection* ($M_{\text{low}} = .35, M_{\text{high}} = .47; F(1, 159) = 10.20, p < .01$). With respect to *calibration*, all three main effects were significant. High similars ($M = .20$) were better calibrated than low similars ($M = .12$) ($F(1, 159) = 7.50, p < .01$). Also receiving feedback ($M = .19$), compared with not obtaining feedback ($M = .12$), helped the participants match their confidence and accuracy levels ($F(1, 159) = 6.21, p <$

.02).). Contrary to expectations, calibration was higher when participants were aware the target was their partner ($M = .21$) compared with not being aware of this ($M = .12$; $F(1, 159) = 8.70, p < .01$).

Discussion

Although target familiarity enhanced calibration, the current findings further confirmed that it leads to lower prediction validity of target information when predictors received new, diagnostic attitude information. Yet, the awareness manipulation did not longer affect prediction accuracy when no feedback was available and the predictors had to rely on other, previously stored target information. A first possible explanation is that people, when encountering new information about a familiar target's product attitudes, fail to encode it or do so in a biased manner (e.g., Taylor and Crocker 1981; Srull and Wyer 1979). However, target familiarity is also found to have positive effects on encoding (Cohen 1981), probably because new information violating prior beliefs is more salient, processed deeper and remembered well (Hastie 1984; Srull, Lichtenstein and Rothbart 1985). A second explanation is that people encode the information of a familiar target at least as well as that of an alleged stranger, but they use other, less valid information at the time of prediction, either due to misweighing (e.g., Meyvis and Janiszewski 2002; Zukier and Jennings 1983) or memory problems (e.g., Hoch 1984; van Osselaer and Alba 2000). The next experiment was designed to test which of the two explanations is most likely by manipulating the time that we revealed the target as being the predictor's partner.

With experiment 3, we also wanted to investigate to what extent our findings could be replicated using another learning task. Therefore, we added a purely observational learning task (similar to Broniarczyk and Alba 1994). It is not only a more realistic and less involving, but also

a more limited learning environment than the prediction-learning task used in the previous experiments. In the latter, people not only received information about the prediction target, but also about the validity of their prediction strategy itself.

EXPERIMENT 3

Subjects and design

We added more stimuli to obtain 60 bedroom furniture sets in total. One hundred twelve couples (average acquaintance of 26 months) provided their own attitudes towards all bedroom sets. Next, they completed three more tasks: a learning task, a prediction task and a memory test. During this *learning task*, participants could learn more about the target's furniture attitudes. Therefore, they either predicted and subsequently received the target's actual attitudes or immediately observed the target's product attitudes towards a first subset of 30 bedroom sets. In the *prediction task*, all participants predicted their target's attitudes on the remaining 30 bedroom stimuli. Because no feedback on the actual attitudes was provided any more, they could only base their prediction on previously stored information. Finally, the participants were given a *memory test*. They were asked to recall the target's attitude on 15 furniture sets that were randomly chosen from the 30 sets they saw during the learning task. They answered with 'positive', 'negative' or 'no idea'. The two bedroom subsets were counterbalanced and the presentation order within each group was randomized.

Following Cohen (1981), we disentangled the effect of familiarity on the encoding of attitude information from the use of it during prediction by manipulating the moment of target identification: before the learning task, after the learning but before the prediction task, or not at all. For participants in the pre-learning condition, target familiarity could affect both encoding and subsequent use of target information during the prediction task. In the post-learning

condition, familiarity might still affect information use at prediction, but not the encoding. Finally, target familiarity could not influence the prediction process in the control condition where the target was not identified. This experiment had a 3 (familiarity: pre-learning vs. post-learning vs. control) x 2 (learning task: prediction vs. observation) x 2 (similarity: low vs. high similars) between-subjects design.

Results

As expected, target familiarity had a significant effect on prediction *accuracy* ($F(2, 214) = 5.89, p < .01$; panel A of figure 3). More specifically, target familiarity affected the prediction task but not the learning task. Participants in both the pre-learning ($F(1, 214) = 11.21, p < .001$) and post-learning ($F(1, 214) = 5.66, p < .02$) condition were less accurate compared to those in the control condition. No difference was observed between pre-learning and post-learning condition ($F(1, 214) = 1.03, p > .31$). Next, similarity had a positive effect on accuracy ($M_{\text{low}} = .16, M_{\text{high}} = .32; F(1, 214) = 39.62, p < .0001$). Finally, participants who learned the target's furniture attitudes by prediction ($M = .26$) were more accurate than those who learned by observation ($M = .21; F(1, 214) = 3.75, p < .06$). Type of learning task did not interact significantly with any of the other factors.

Insert figure 3 about here

Further analyses confirmed that target familiarity did not influence the encoding of information about the target's furniture attitudes during the learning task, but instead it negatively affected the validity of the target information that was used during the prediction task. This means that target familiarity significantly had a significant effect on the *target information* component ($F(2, 214) = 9.86, p < .0001$; panel B of figure 3). Participants in the pre-learning (M

= .10; $F(1, 214) = 18.53, p < .0001$) and post-learning condition ($M = .13$; $F(1, 214) = 10.01, p < .01$) used their target information worse than those in the control condition ($M = .22$). The target information component did not differ between the pre-learning and post-learning condition ($F(1, 214) = 1.43, p > .23$).

Target familiarity did not affect any of the other measures. With respect to the *own attitudes component*, we only observed a positive effect of similarity ($M_{low} = .01, M_{high} = .17$; $F(1, 214) = 253.81, p < .0001$). Not only are the own attitudes a more valid prediction cue for high similars, they ($M = .49$) also *projected* significantly more than low similars ($M = .29$; $F(1, 214) = 53.90, p < .0001$). With respect to *calibration*, similarity was again the only significant effect ($M_{low} = .14, M_{high} = .25$; $F(1, 214) = 22.07, p < .0001$).

During the *memory test*³, people who observed the attitudes when learning ($M = 11.29$) remembered more attitudes correctly than those doing a prediction task ($M = 9.78$; $F(1, 213) = 27.87, p < .0001$). No other effects were observed, suggesting that the ability to encode and retrieve the original feedback was independent of target identification ($M_{pre-learning} = 10.75, M_{post-learning} = 10.75, M_{control} = 10.10$; $F(1, 213) = 1.60, p > .20$)

Discussion

The results are inconsistent with an encoding explanation. If target familiarity hurts the encoding of new attitude information, participants aware that the target is their partner during the learning task should have been less accurate than those who only knew this after the learning task. Instead they performed equally well, but worse than those who were also not aware of the target's true identity during the prediction task. Although all participants recalled the same amount of furniture attitudes, further evidence showed that participants, who predicted

the attitudes of a familiar other instead of those of an alleged stranger, used less valuable target information during the prediction task.

The objective of a fourth and final experiment is twofold. First, we provide evidence that our results are generalizable beyond the partner context. Second, we performed a direct test that the extensive amount of vivid, but not necessarily diagnostic information that people already possess about a familiar target is the underlying factor driving the prediction problems. In other words, we predict that the accessibility of an elaborate prior knowledge base about a target will make it more difficult to use new target information that is diagnostic for the prediction task at hand.

EXPERIMENT 4

Subjects and design

One hundred and ninety-six students gave their own attitudes towards 30 different descriptions of bedroom furniture sets and subsequently predicted the furniture attitudes of the first author of this. Half of the participants were told they had to predict the attitudes of a famous male singer and television personality⁴ towards the bedrooms. The other half thought they would predict the attitudes of a celebrity, of whom we had to keep the identity secret. When the celebrity was identified, we assumed that much more elaborate and vivid information would be activated about him compared to when he was not identified. After each prediction, half of the participants received feedback on the target's attitudes. The other half immediately proceeded to the next bedroom without receiving any. This resulted in a 2 (familiarity: celebrity vs. stranger) x

³ One participant had to be excluded from the analyses because the program failed to store his or her answers on the memory test.

2 (feedback: feedback vs. no feedback) x 2 (similarity: low vs. high similars) between-subjects design.

Results

We expected that the celebrity information would interfere with the more diagnostic feedback about the target's furniture attitudes, resulting in lower prediction *accuracy*. Consistent with this prediction we found a significant target familiarity x feedback interaction ($F(1, 188) = 5.16, p < .03$; panel A of figure 4). Celebrity information had no (negative) effect on accuracy when no feedback is provided ($M_{\text{stranger}} = .22, M_{\text{celebrity}} = .27; F(1, 188) = 1.72, p > .19$), but it negatively affected accuracy when feedback was given ($M_{\text{stranger}} = .31, M_{\text{celebrity}} = .25; F(1, 188) = 4.09, p < .05$). Additionally, it was observed that high similars ($M = .34$) were more accurate than low similars ($M = .34; F(1, 188) = 43.14, p < .0001$).

Insert figure 4 about here

A similar pattern was observed with respect to the accuracy component due to *target information*. The effect of target familiarity was qualified by feedback ($F(1, 188) = 5.43, p < .03$; panel B of figure 4). The accuracy contribution of target information was equally high in the celebrity condition ($M = .09$) compared to the stranger condition when no feedback was provided ($M = .15; F(1, 188) = 2.19, p > .14$). Yet, the target information component was higher when the alleged celebrity identity was not revealed than when it was revealed ($M_{\text{stranger}} = .18, M_{\text{celebrity}} = .12; F(1, 188) = 3.61, p < .06$).

Target familiarity did not affect any of the other measures, only attitude similarity did.

⁴ This person was Koen Wouters. Next to being a very famous singer who was selected to defend his country in the Eurovision Song contest, he is also the host of many popular TV shows. Next to his name and a picture, we also included a small biography with his main accomplishments

The own attitudes component ($F(1, 188) = 200.39, p < .0001$; panel C of figure 4), the level of projection ($F(1,188) = 18.00, p < .0001$) and the amount of calibration ($F(1,186) = 9.75, p < .01$) were all higher for high similars ($M_{\text{own}} = .22; M_{\text{projection}} = .49, M_{\text{calibration}} = .18$) compared to low similars ($M_{\text{own}} = .04; M_{\text{projection}} = .36, M_{\text{calibration}} = .10$).

Discussion

With the current experiment, we replicated our findings of experiments 1 to 3 in another interpersonal context. The most important contribution of this experiment, however, is that it provides evidence that the extensive amount of vivid, non-diagnostic target information induced by target familiarity is driving the prediction inaccuracy. Although this extensive information base on itself did not make the predictors less accurate, it declined the prediction validity of target information when other, more relevant attitude feedback was given.

GENERAL DISCUSSION

Our findings reveal that being familiar with the person for whom you are predicting the product attitudes is a burden rather than an advantage (experiment 1), mainly because it prevents people from taking full advantage of newly provided information about that person's product attitudes (experiment 2). More specifically, target familiarity does not bias the encoding of that new attitude information, but instead it disrupts the later utilization of it (experiment 3). Further evidence shows that it is the extensive amount of vivid information that the predictors hold about familiar others that prevents them from selecting more valid prediction cues (experiment 4).

These findings contribute to the literature on (product) attitude predictions. This literature typically concludes that prediction inaccuracy is due to a lack of diagnostic target information, even for familiar targets (e.g., Kenny 1994; Swann and Gill 1997; Davis et al. 1986). Instead, our

and current projects on the instruction screen.

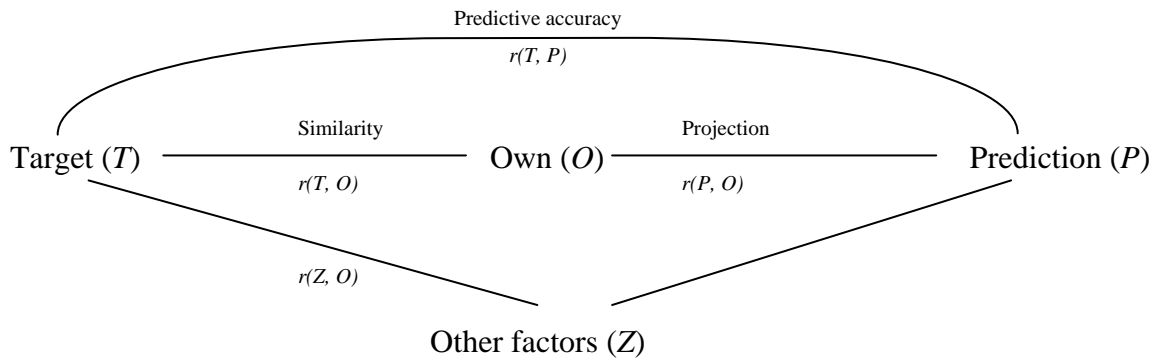
findings indicate that the inaccuracy is especially prevalent when diagnostic product attitude information is provided. At least psychological mechanisms may account for the prediction problems observed in our experiments. First, target familiarity may have resulted in distorted or incomplete memory at prediction time. Predictors may have misremembered (Arkes and Harkness 1980) or selectively retrieved (e.g., Dellarosa and Bourne 1984; Hoch 1984) attitude information that is consistent with prior judgments and beliefs about the familiar target. Also, already established prediction rules about familiar others may have 'blocked' the use of more recent, diagnostic prediction information (van Osselaer and Alba 2000). Second, target familiarity may have resulted in weighing deficiencies. People typically possess an elaborate amount of information about familiar targets, making it more difficult to select diagnostic and ignore irrelevant target information for the prediction task at hand (e.g., Meyvis and Janiszewski 2002; Zukier and Jennings 1983). Although no direct evidence is provided, our findings seem to be in favor of a weighing explanation. First, people were able to recall the original product attitudes of their partner as good as those of an alleged stranger (experiment 3). Second, relationship partners experienced the prediction problems only observed when attitude similarity was low (experiment 1 and 2). This low similarity might be quite surprising and have prompted a lot of thought about possible prediction cues, likely resulting in less optimal discrimination between diagnostic and irrelevant information (Tordesillas and Chaiken 1999; Wilson and Schooler 1991). However, these explanations are still tentative and in need for more research using other methodologies, like cognitive responses and talk-aloud protocols.

People are believed to become good predictors once diagnostic information about the other's product attitudes is available (e.g., Colvin and Funder 1991; Menon et al. 1995; West 1996). Our results add to these findings by indicating that predictors perform consistently less

efficient when that attitude information belongs to familiar others about whom also a lot of irrelevant information is accessible. More research could try to identify other situations that obstruct people to efficiently learn another person's product attitudes. Also, not much is known about the process people follow to learn another person's product attitudes. Our results indicate that people predict product attitudes better after a predictive learning task than after an observational learning task, but recalled more original product attitudes after the observational task (experiment 3). This suggests that the underlying learning process might be quite complex and counterintuitive, making future research on this topic worthwhile.

Obviously, further research is also needed to explore the generalizability of these results. For instance, we restricted the attitude information to very basic, electronic exchange of overall product attitudes, both devoid of physical contact or communication. This was necessary to extract the specific effect of target familiarity while controlling for factors like the amount and type of attitude feedback, and communication differences. Also, we would not have been able to keep the target person constant in face-to-face settings. Although it is not clear from the empathic accuracy literature if and how familiarity affects the face-to-face exchange of attitude information (e.g., Ellis & Hamilton 1985; Hancock & Ickes 1996), it could be that familiar people are more efficient communicators. However, based on our data one might wonder to what extent these higher amounts of attitude feedback will affect prediction accuracy, given that familiar predictors fail to use it properly during later predictions. In any case, future research could explore the impact of different feedback formats on prediction accuracy and, in particular, on use of new attitude information

Appendix



According to Hoch (1987, p. 224), attitude prediction can be expressed in the following formula:

$$P = B_0 + B_1 O + Z$$

- With: P = predicted product attitude of target
- B_1 = weight given to own attitudes
- O = own attitudes
- Z = other factors

In standardized form this can be expressed as:

$$p = b o + \sqrt{(1 - b^2)} z$$

- With: b = projection level
- = $r(p, t)$

Prediction accuracy $r(t, p)$ can be written as follows, then:

$$r(t, p) = b r(t, o) + \sqrt{(1 - b^2)} r(t, z)$$

- With: $b r(t, o)$ = component due to the use of own attitudes
- $\sqrt{(1 - b^2)} r(t, z)$ = component due to the use of other information.

References

- Alba, Joseph W. and J. Wesley Hutchinson (2000), "Knowledge Calibration: What Consumers Know and What They Think They Know," *Journal of Consumer Research*, 27 (2), 123-56.
- Alloy, Lauren B. and Naomi Tabachnik (1984), "Assessment of Covariation by Humans and Animals: The Joint Influence of Prior Expectations and Current Situational Information," *Psychological Review*, 91 (1), 112-49.
- Arkes, Hal R. and Allan R. Harkness (1980), "Effect of Making a Diagnosis on Subsequent Recognition of Symptoms," *Journal of Experimental Psychology: Human Learning and Memory*, 6 (5), 568-75.
- Aron, Arthur, Elaine N. Aron, Michael Tudor and Greg Nelson (1991), "Close Relationship as Including the Other in the Self," *Journal of Personality and Social Psychology*, 60 (2), 241-53.
- Bearden, William O. and Michael J. Etzel (1982), "Reference Group Influence on Product and Brand Purchase Decisions," *Journal of Consumer Research*, 9 (2), 183-94.
- Bohlmann, Jonathan D. and William J. Qualls (2001), "Household Preference Revisions and Decision Making: The Role of Disconfirmation," *International Journal of Research in Marketing*, 18 (4), 319-39.
- Broniarczyk, Susan M. and Joseph W. Alba (1994), "Theory Versus Data in Prediction and Correlation Tasks," *Organizational Behavior and Human Decision Processes*, 57 (1), 117-39.
- Buss, David M. (1985), "Human Mate Selection," *American Scientist*, 73 (1), 47-51.
- Chapman, Loren J. and Jean P. Chapman (1969), "Illusory Correlation as an Obstacle to the Use of Valid Psychodiagnostic Signs," *Journal of Abnormal Psychology*, 74 (3), 271-80.
- Childers, Terry L. and Akshay R. Rao (1992), "The Influence of Familial and Peer-Based Reference Groups on Consumer Decisions," *Journal of Consumer Research*, 19 (2), 198-211.

- Cohen, Claudia E. (1981), "Person Categories and Social Perception: Testing Some Boundaries of the Processing Effects of Prior Knowledge," *Journal of Personality and Social Psychology*, 40 (3), 441-52.
- Colvin, C. Randall and David C. Funder (1991), "Predicting Personality and Behavior: A Boundary on the Acquaintanceship Effect," *Journal of Personality and Social Psychology*, 60 (6), 884-94.
- Davis, Harry L., Stephen J. Hoch and E. K. Easton Ragsdale (1986), "An Anchoring and Adjustment Model of Spousal Predictions," *Journal of Consumer Research*, 13 (1), 25-37.
- Davis, Harry L. and Benny P. Rigaux (1974), "Perception of Marital Roles in Decision Processes," *Journal of Consumer Research*, 1 (1), 51-62.
- Davis, Jody L. and Caryl E. Rusbult (2001), "Attitude Alignment in Close Relationships," *Journal of Personality and Social Psychology*, 81 (1), 65-84.
- Dellaert, Benedict G.C., Mia Prodigalidad and Jordan Louviere (1998), "Family Members' Projections of Each Other's Preferences and Influence: A Two-Stage Conjoint Approach," *Marketing Letters*, 9 (2), 135-45.
- Dellarosa, Denise and Lyle E. Bourne (1984), "Decisions and Memory: Differential Retrievability of Consistent and Contradictory Evidence," *Journal of Verbal Learning and Verbal Behavior*, 23 (6), 669-82.
- Dunning, David, Dale W. Griffin, James D. Milojkovic and Lee Ross (1990), "The Overconfidence Effect in Social Prediction," *Journal of Personality and Social Psychology*, 58 (4), 568-81.
- Dunning, David, Marianne Perie and Amber L. Story (1991), "Self-Serving Prototypes of Social Categories," *Journal of Personality and Social Psychology*, 61 (6), 957-68.

- Ellis, Donald and Mark Hamilton (1985), "Syntactic and Pragmatic Code Choice in Interpersonal Communication," *Communication Monographs*, 52 (3), 264-78.
- Gershoff, Andrew D., Susan M. Broniarczyk and Patricia M. West (2001), "Recommendation or Evaluation? Task Sensitivity in Information Source Selection," *Journal of Consumer Research*, 28 (3), 418-38.
- Hancock, Melanie and William Ickes (1996), "Empathic Accuracy: When Does the Perceiver-Target Relationship Make a Difference?" *Journal of Social and Personal Relationships*, 13 (2), 179-99.
- Hastie, Reid (1984), "Causes and Effects of Causal Attribution," *Journal of Personality and Social Psychology*, 46 (1), 44-56.
- Higgins, E. Tory and C. Miguel Brendl (1995), "Accessibility and Applicability: Some 'Activation Rules' Influencing Judgment," *Journal of Experimental Social Psychology*, 31 (3), 218-43.
- Hoch, Stephen J. (1984), "Availability and Interference in Predictive Judgment," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 10 (4), 649-62.
- _____ (1987), "Perceived Consensus and Predictive Accuracy: The Pros and Cons of Projection," *Journal of Personality and Social Psychology*, 53 (2), 221-34.
- _____ (1988), "Who Do We Know: Predicting the Interests and Opinions of the American Consumer," *Journal of Consumer Research*, 15 (3), 315-24.
- Ickes, William J. and Jeffrey A. Simpson (1997), "Empathic Accuracy in Close Relationships," in *Empathic Accuracy*, ed. William J. Ickes, New York, NY: Guilford, 218-50.
- Kenny, David A. (1994), *Interpersonal Perception: A Social Relations Analysis*, New York, NY: Guilford.

- Kenny, David A. and Linda K. Acitelli (2001), "Accuracy and Bias in the Perception of the Partner in a Close Relationship," *Journal of Personality and Social Psychology*, 80 (3), 439-48.
- Krishnamurthi, Lakshman (1983), "The Salience of Relevant Others and Its Effect on Individual and Joint Preferences: An Experimental Investigation," *Journal of Consumer Research*, 10 (1), 62-72.
- Marks, Gary and Norman Miller (1987), "Ten Years of Research on the False Consensus Effect: An Empirical and Theoretical Review," *Psychological Bulletin*, 102 (1), 72-90.
- McNicol, Don (1972), *A Primer of Signal Detection Theory*, Sydney: Allen & Unwin.
- Menon, Geeta, Barbara Bickart, Seymour Sudman and Johnny Blair (1995), "How Well Do You Know Your Partner? Strategies for Formulating Proxy-Reports and Their Effects on Convergence to Self-Reports," *Journal of Marketing Research*, 32 (1), 75-84.
- Meyvis, Tom and Chris Janiszewski (2002), "Consumers' Beliefs About Product Benefits: The Effect of Obviously Irrelevant Product Information," *Journal of Consumer Research*, 28 (4), 618-35.
- Moreland, Richard L. and Robert B. Zajonc (1982), "Exposure effects in person perception: Familiarity, Similarity, and Attraction," *Journal of Experimental Social Psychology*, 18 (5), 395-415
- Nisbett, Richard E. and Ziva Kunda (1985), "Perception of Social Distributions," *Journal of Personality and Social Psychology*, 48 (2), 297-311.
- Otnes, Cele, Young Chan Kim and Tina M. Lowrey (1992), "Ho, Ho, Woe: Christmas Shopping for 'Difficult' People", in *Advances in Consumer Research*, Vol. 19, ed. John Sherry and Brian Sternthal, MI: Association for Consumer Research, 482-87.
- Otnes, Cele, Julie A. Ruth and Constance C. Milbourne (1994), "The Pleasure and Pain of Being

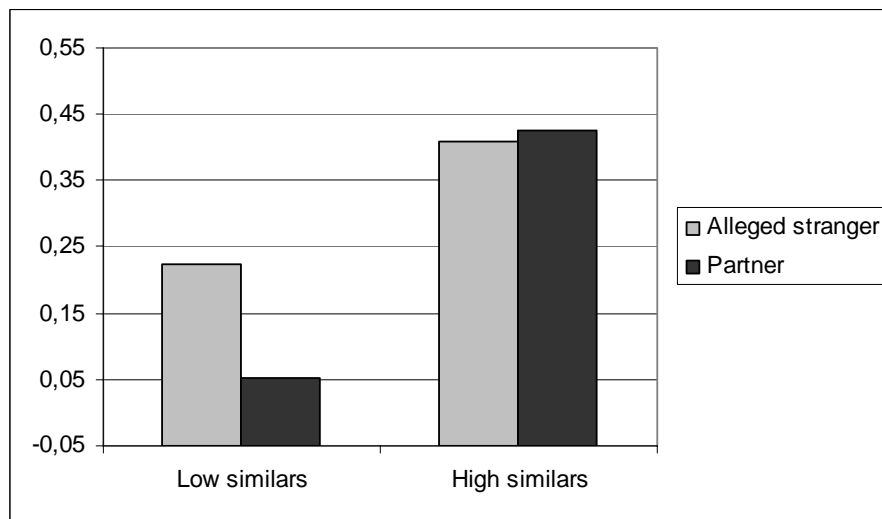
- Close: Men's Mixed Feelings About Participation in Valentine's Day Gift Exchange", in *Advances in Consumer Research*, Vol. 21, ed. Chris Allen and Deborah Roedder John, MI: Association for Consumer Research, 159-64.
- Park, C. Whan (1982), "Joint Decisions in Home Purchasing: A Muddling-through Process," *Journal of Consumer Research*, 9 (2), 151-62.
- Ross, Lee, David Green and Pamela House (1977), "The False Consensus Effect: An Egocentric Bias in Social Perception and Attribution Processes," *Journal of Experimental Social Psychology*, 13 (3), 279-301.
- Solomon, Michael R. (1986), "The Missing Link: Surrogate Consumers in the Marketing Chain," *Journal of Marketing*, 50 (4), 208-18.
- Strull, Thomas K., Meryl Lichtenstein and Myron Rothbart (1985), "Associative Storage and Retrieval Processes in Person Memory," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 11 (2), 316-45.
- Strull, Thomas K. and Robert S. Wyer (1979), "The Role of Category Accessibility in the Interpretation of Information About Persons: Some Determinants and Implications," *Journal of Personality and Social Psychology*, 37 (10), 1660-72.
- Swann, William B. and Michael J. Gill (1997), "Confidence and Accuracy in Person Perception: Do We Know What We Think We Know about Our Relationship Partners?" *Journal of Personality and Social Psychology*, 73 (4), 747-57.
- Taylor, Shelley E., and Jennifer Crocker (1981), "Schematic Bases of Social Information Processing," in *Social Cognition. The Ontario Symposium*, Vol. 1, ed. E. Tory Higgins, C. Peter Herman and Mark P. Zanna, Hillsdale, NJ: Erlbaum, 89-134.

- Tordesillas, Rosalind S. and Shelly Chaiken (1999), "Thinking Too Much or Too Little? The Effects of Introspection on the Decision-Making Process," *Personality and Social Psychology Bulletin*, 25 (5), 623-29.
- van Osselaer, Stijn M. J. and Joseph W. Alba (2000), "Consumer Learning and Brand Equity," *Journal of Consumer Research*, 27 (1), 1-16.
- Weitz, Barton A. (1978), "Relationship between Salesperson Performance and Understanding of Customer Decision Making," *Journal of Marketing Research*, 15 (4), 501-16.
- Weitz, Barton A., Harish Sujan and Mita Sujan (1986), "Knowledge, Motivation, and Adaptive Behavior: A Framework for Improving Selling Effectiveness," *Journal of Marketing*, 50 (4), 174-91.
- West, Patricia M. (1996), "Predicting Preferences: An Examination of Agent Learning," *Journal of Consumer Research*, 23 (1), 68-80.
- Wilson, Timothy D. and Jonathan W. Schooler (1991), "Thinking Too Much: Introspection Can Reduce the Quality of Preferences and Decisions," *Journal of Personality and Social Psychology*, 60 (2), 181-92.
- Wooten, David B. (2000), "Qualitative Steps toward an Expanded Model of Anxiety in Gift-Giving," *Journal of Consumer Research*, 27 (1), 84-95.
- Zukier, Henri and Dennis L. Jennings (1983), "Nondiagnosticity and Typicality Effects in Prediction," *Social Cognition*, 2 (July), 187-98.

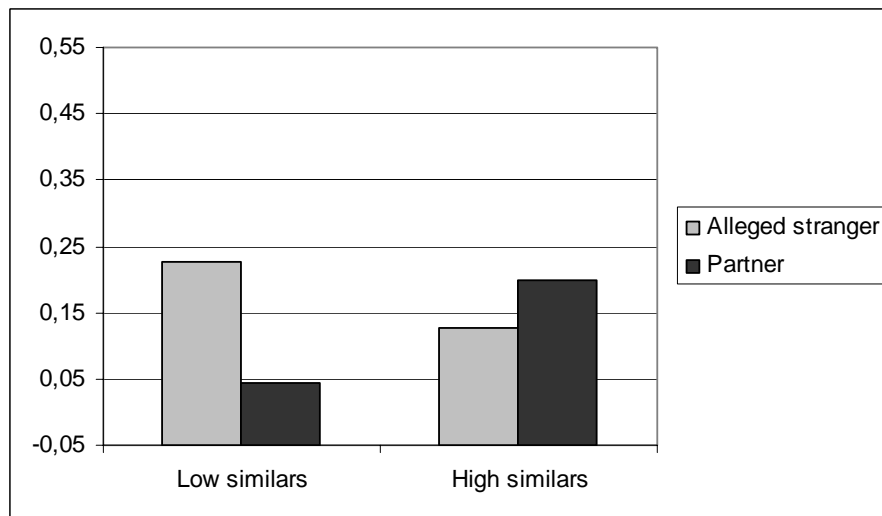
FIGURE 1

EXPERIMENT 1: DECOMPOSITION OF THE INTERACTION BETWEEN SIMILARITY AND CONDITION

PANEL A: TOTAL ACCURACY



PANEL B: OTHER INFORMATION COMPONENT



PANEL C: OWN ATTITUDES COMPONENT

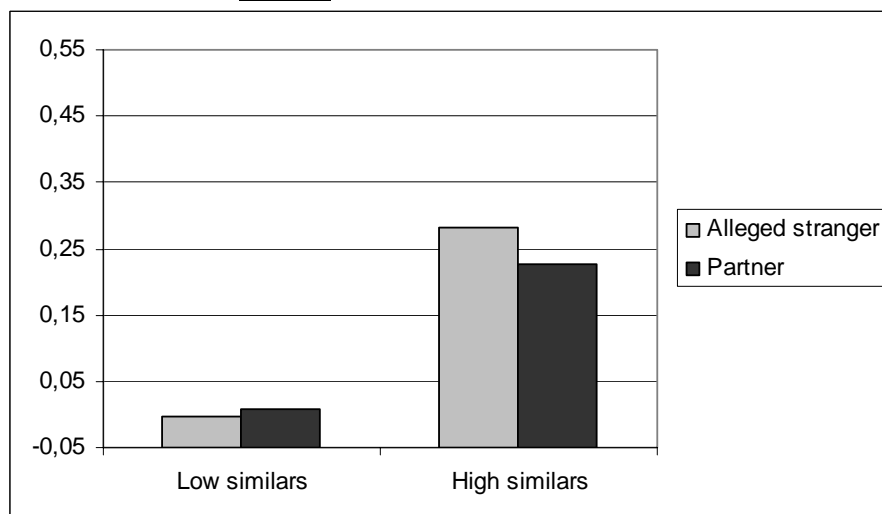
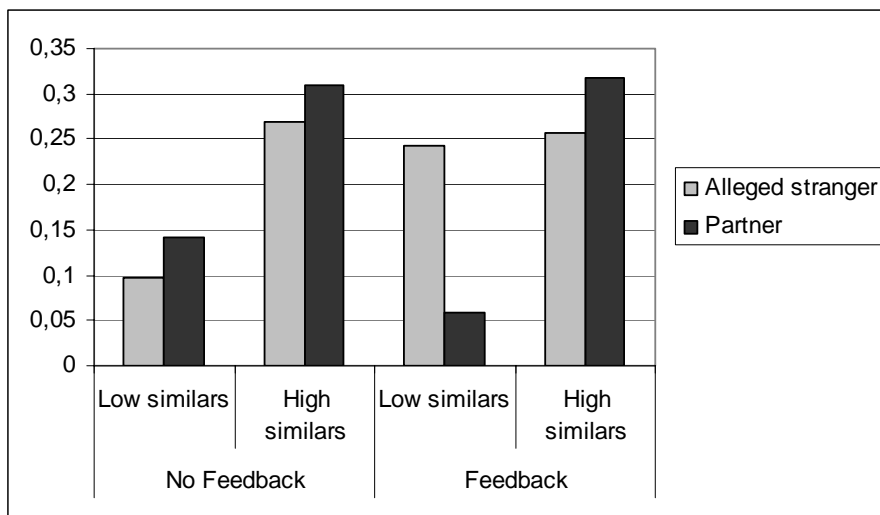
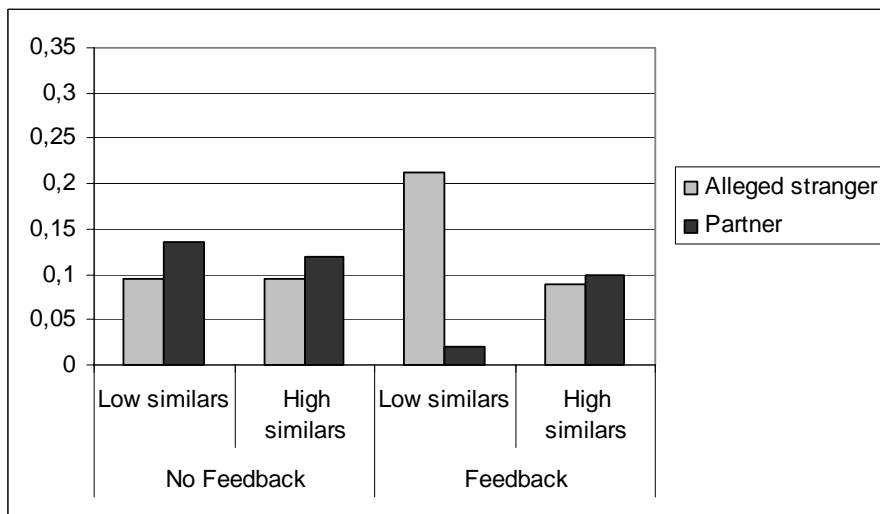


FIGURE 2
 EXPERIMENT 2:
 DECOMPOSITION OF THE INTERACTION BETWEEN SIMILARITY, CONDITION AND FEEDBACK

PANEL A: TOTAL ACCURACY



PANEL B: OTHER INFORMATION COMPONENT



PANEL C: OWN ATTITUDES COMPONENT

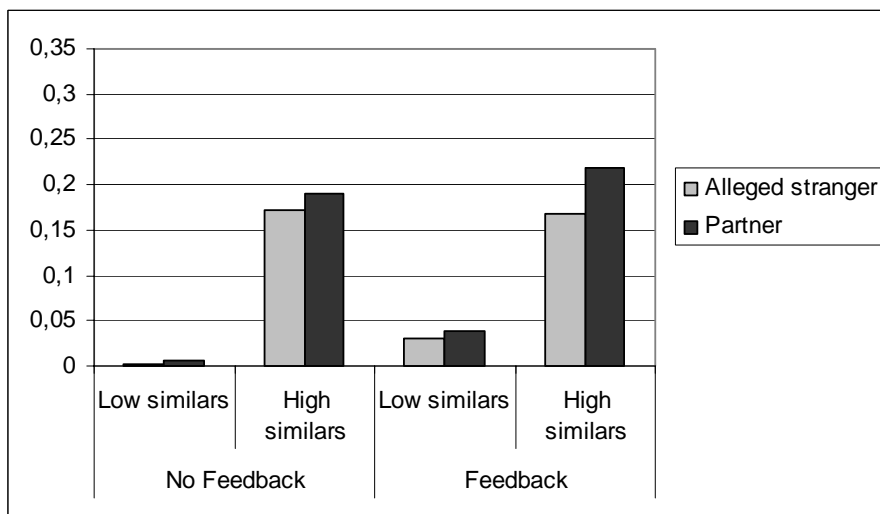
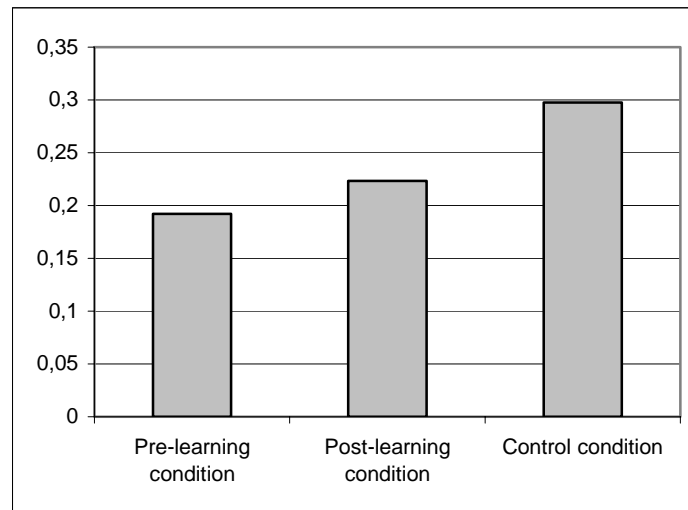
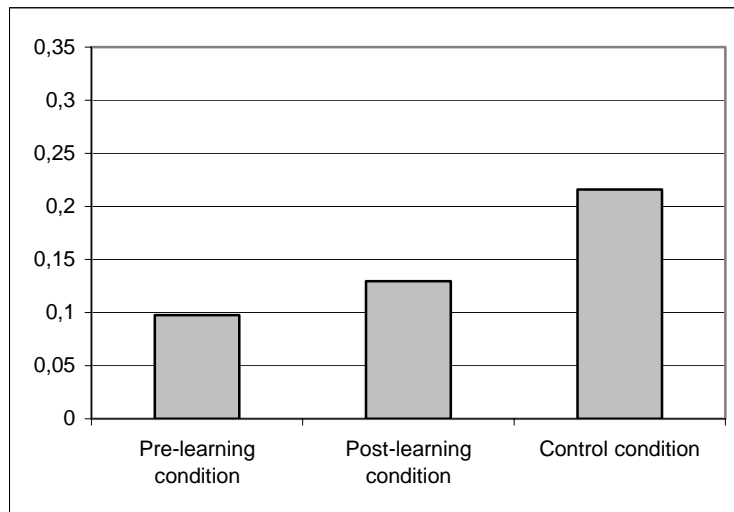


FIGURE 3
EXPERIMENT 3:
DECOMPOSITION OF THE MAIN EFFECT OF THE TARGET IDENTIFICATION MOMENT

PANEL A: TOTAL ACCURACY



PANEL B: OTHER INFORMATION COMPONENT



PANEL C: OWN ATTITUDES COMPONENT

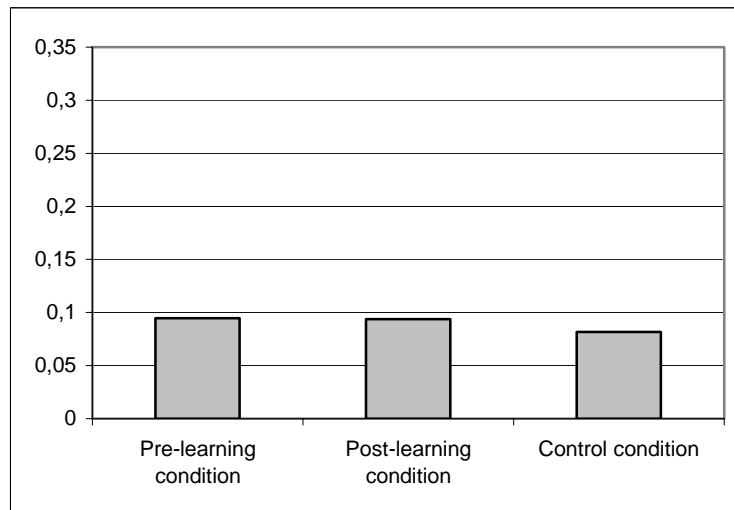
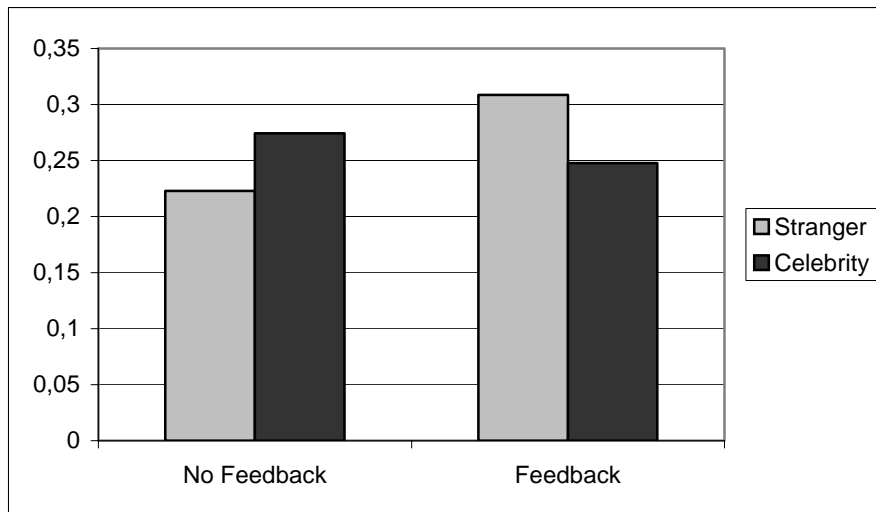
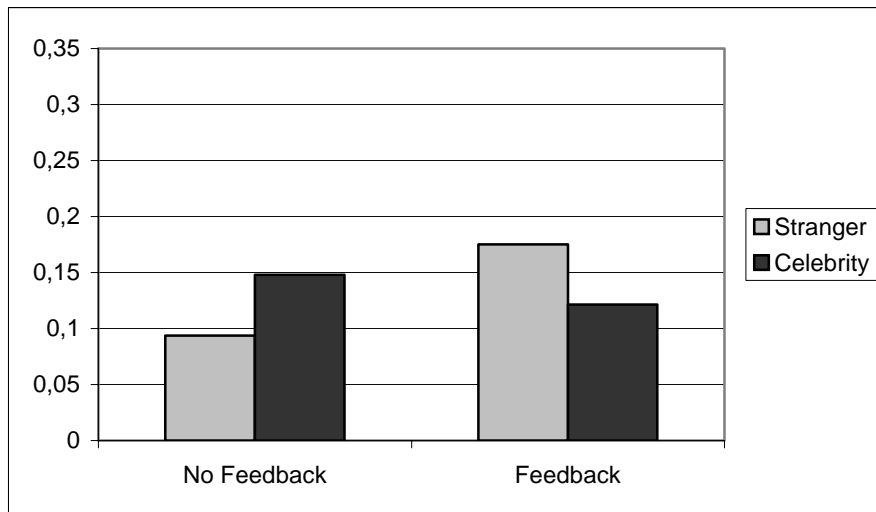


FIGURE 4
EXPERIMENT 4:
DECOMPOSITION OF THE INTERACTION BETWEEN SIMILARITY, CONDITION AND FEEDBACK

PANEL A: TOTAL ACCURACY



PANEL B: OTHER INFORMATION COMPONENT



PANEL C: OWN ATTITUDES COMPONENT

