Receiving advice on matters of taste: Similarity, majority influence, and taste discrimination

Article *in* Organizational Behavior and Human Decision Processes · May 2011

DOI: 10.1016/j.obhdp.2010.11.006

CITATIONS
66

READS
367

3 authors:

Ilan Yaniv
Hebrew University of Jerusalem
49 PUBLICATIONS **4,565** CITATIONS

SEE PROFILE

Shoham Choshen-Hillel
Hebrew University of Jerusalem
40 PUBLICATIONS **837** CITATIONS

SEE PROFILE

Maxim Milyavsky
Ono Academic College
35 PUBLICATIONS **711** CITATIONS

SEE PROFILE

Organizational Behavior and Human Decision Processes 115 (2011) 111–120

Contents lists available at ScienceDirect

Organizational Behavior and Human Decision Processes

journal homepage: www.elsevier.com/locate/obhdp

Receiving advice on matters of taste: Similarity, majority influence, and taste discrimination

Ilan Yaniv [a,*], Shoham Choshen-Hillel [b], Maxim Milyavsky [b]

[a] Department of Psychology & Center for the Study of Rationality, Hebrew University of Jerusalem, Jerusalem 91905, Israel
[b] Department of Psychology, Hebrew University of Jerusalem, Israel

ARTICLE INFO

Article history:
Received 22 January 2009
Accepted 16 November 2010
Available online 18 December 2010
Accepted by Xiao-Ping Chen

Keywords:
Decision making
Advisors
Opinions
Preferences
Similarity
Majority influence

ABSTRACT

People routinely consider the opinions of others prior to making decisions on matters of taste (e.g., a restaurant or movie). Our theoretical framework highlights the role of two sources, *social* (*majority*) *influence* and *similarity among advisors*, in such decisions. We suggest that individuals' use of these sources depends on their taste discrimination. While highly discriminating judges seek the opinion of a similar advisor rather than the majority opinion, less discriminating judges do so less. In four studies participants made musical choices based on recommendations. The studies document the great appeal of behavioral similarity and the role of demographic similarity. They also provide evidence for the discrimination hypothesis. A formal simulation is developed to account for the relationship between taste discrimination and the predictive accuracy of the majority and of similar advisors. The results shed light on theories of advice utilization and social influence, and are connected with applications involving personalized recommendation systems.

Introduction

Decision makers routinely consider the opinions of other people prior to making a decision. For example, a diner seeks recommendations for a dish at a restaurant and a moviegoer solicits opinions about a newly released movie. What role do other people's opinions play in such decisions involving tastes? At the focus of this research is the notion that other people's opinions help decision makers bridge an informational gap, that is, the uncertainty about their future pleasure from the outcomes of their present decisions. We suggest that decision makers use others' opinions in order to inform their *self-predictions*, that is, their predictions of how much they would like or enjoy the outcomes of their present choices. In doing so decision makers essentially assume that others' experience-based opinions are proxies for their own future experience.

Who do decision makers perceive to be useful sources of information on matters of taste? It is amply clear from the literature that two general kinds of sources deserve close attention. The first source, the average or majority opinion, is supported by the literature on social influence. The second source – termed here the 'similar other' – arises from the literature on social comparison processes. We review the relevant literatures for these two sources. We then develop a theoretical framework and report a series of studies, focusing on the degree to which these sources affect people's preferences in decisions on matters of taste.

Investigating the ways decision makers seek and use others' opinions on matters of taste is of theoretical importance and practical relevance. Research on basic advice-taking processes and modes of influence should be valuable to businesses and organizations. Specifically, such research could help marketing managers and consumer organizations acquire better understanding of how consumers seek information on hedonic services and products in making decisions involving their personal tastes.

Sources of advice: Social influence

A major source of influence on people's opinions is the average or majority opinion. Majority opinions exert influence on individual judgments of physical stimuli (Asch, 1955), as well as subjective preferences (e.g., Burnkrant & Cousineau, 1975; Stafford, 1966). This influence increases with the size of the majority (Latané, 1981). In one early study of consumer decision making (Venkatesan, 1966), participants were presented with three dress suits and asked to determine which seemed best. Later they were to announce their choices in groups of four members. Each group included one naïve participant and three confederates of the experimenter who each, in turn, announced the same choice. The naïve participants (who "happened" to occupy the fourth position in each group) tended to announce the choice indicated by the others.

* Corresponding author.
E-mail address: ilan.yaniv@huji.ac.il (I. Yaniv).

0749-5978/$ - see front matter © 2010 Elsevier Inc. All rights reserved.
doi:10.1016/j.obhdp.2010.11.006

Theoretically, the influence of the majority opinion on decision makers operates via two different routes, normative and informational (Deutsch & Gerard, 1955). Normative social influence results from people's tendency to yield to social pressure in settings where compliance is socially rewarding. Informational influences result from people's belief that the average opinion is a valid source of information. Both kinds of influence affect evaluations (Burnkrant & Cousineau, 1975), though there is evidence that informational influence produces more frequent and stronger shifts than does normative influence (Kaplan & Miller, 1987). The informational route of social influence is central to our research, which deals with the use of others' recommendations on matters of taste. In our paradigm, participants make decisions in private and thus they are *not* exposed to the social costs and benefits of deviance and compliance.

Sources of advice: Similar others

Another major informational source of influence on decision makers are 'similar others.' The relevance of similar others to the self was first recognized in social comparison theory (Festinger, 1954), a basic tenet of which is that individuals feel the need to evaluate the validity or correctness of their own opinions. Individuals perform such evaluations by comparing their own opinions to the opinions of others who they deem similar to themselves along relevant attributes (Goethals & Darley, 1977; Goethals & Nelson, 1973). Individuals also tend to be influenced by the opinions of similar others (rather than dissimilar ones) when evaluating current preferences (Suls, Martin, & Wheeler, 2000, 2002).

These insights provide the backdrop for our hypotheses regarding the role of similar others in making decisions on matters of taste. Since different individuals may hold different opinions about the same choice, decision makers seek similar others for information, based on the assumption that similar people have similar underlying preferences. The personal experience of a similar other should thus be a good forecast (proxy) of the decision maker's own future experience.

Profile similarity

How might decision makers assess similarity? First, they might compare the advisor's personal profile to their own. Personal profiles include demographic components (gender, age, ethnic origin), social status (organizational affiliation, education), as well as goals and values. Indeed, it has been suggested that people will take more advice from advisors whose values they judge to be more similar to their own (Siegrist, Gutscher, & Earle, 2005; Suls et al., 2000; Twyman, Harvey, & Harries, 2008). Also, in attempting to predict their own behavior, they are likely to take advice from others who are similar to them in terms of their demographic-profile (e.g., gender, geographical region, education, political affiliation and age) (Gino, Shang, & Croson, 2009).

We conducted a survey exploring the idea that, in decision settings, people seek advisors whose personal profile is similar to their own. Participants ($n = 56$) were presented with the following scenario: "You are about to choose a movie for tonight. Since you work in a large organization that employs numerous people, you decide to solicit a recommendation from someone during the lunch break. We will present the personal characteristics of these individuals and ask you to indicate whose opinion you would prefer."

Participants were presented with several questions on demographic characteristics, such as "You have an opportunity to talk to males and females. If you had a chance to talk to *one person only*, who would you choose, a male or a female?" Other questions prompted participants to indicate the age group, ethnic group, and level of religiosity they would prefer. Once participants had completed their choices of advisors, they were asked to describe themselves on the *very same* scales of gender, age group, and so on. The dependent variable was the proportion of cases in which the participant's preferred advisor was *identical* to his or her self-description. The results showed that, on every dimension, participants tended to prefer advisors who were similar to themselves. For example, 75% preferred to receive a recommendation about a movie from an individual of the same gender (binomial test, $p < .05$), 89% preferred a recommender of the same degree of religiosity, and so on. This survey serves to establish that, other things being equal, people prefer to rely on someone whose demographic-profile is similar to their own. These results are consistent with earlier research showing the major role of profile similarity in attitude formation (Suls et al., 2000). They also extend these ideas to the realm of decision making.

Behavioral similarity

Another type of similarity – which is at the focus of this research – is based on individuals' past choices. Earlier research has shown that people develop an emotional affinity with a person who is reported to have made a choice similar to their own (Brewer, 1979). In particular, individuals develop almost instantaneously feelings of closeness, trust, liking, and positive attitudes toward a person who has made a similar choice on just one former occasion. Behavioral similarity is becoming increasingly important in the present media-based social environment. Computerized recommendation systems give online shoppers information about other, anonymous individuals who are presumed to be trustworthy because they made similar past decisions. We suggest that decision makers use (revealed) behavioral similarity to assess the extent to which they share similar (internal) underlying preferences and tastes, and that such assessments guide their choice of advisors. Consequently, decision makers are likely to follow an advisor's recommendation in a given choice domain (e.g., action movies) if the advisor is known to have made the same judgments as their own in that domain on prior occasions.

Self-prediction: The role of taste discrimination

How might these two sources of advice (i.e., majority opinion and similar others) be used by decision makers? What determines people's relative weighting of these two sources of advice in their self-predictions? We introduce a new concept – *taste discrimination* – that may explain people's use of the two sources. Taste discrimination refers to an individual's capability to make distinctive, confident judgments about the attractiveness of various choices *in a particular domain*. Thus, when asked for their opinion on matters of taste (e.g., selections of music), highly discriminating judges can give reliable attractiveness judgments, whereas poorly discriminating judges provide vague, less confident judgments. For example, poor discrimination can lead one to give inconsistent assessments of the same object, or inconsistent preferences between options.

Presumably, discrimination in music develops as a function of one's exposure to a particular musical style and knowledge of performers, history, and musical instruments. In this sense, discrimination is *not* a general quality of the decision maker, but rather a domain-specific one, which subsumes one's knowledge in the target domain. A person may make stable, confident attractiveness judgments in one domain (e.g., classical music), but only vague, unstable judgments in another (e.g., rap). Specifically, she perceives her own musical judgment as crisp, distinctive and consistent when considering classical music, but uniform and coarse-grained ("This is all the same to me") when rap music is involved. Indeed, Rentfrow and Gosling (2003) suggest evidence consistent with the idea that individuals might have differential approaches to various musical styles.

We suggest that taste discrimination affects the choice of advisors for self-prediction. In particular, we hypothesize that the greater the discrimination of a person's taste in a given domain, the greater his or her tendency to seek the opinion of a similar other rather than an average (majority) advisor. In contrast, poorly discriminating individuals should be less likely to seek the advice of similar advisors. To understand the rationale for this hypothesis, consider again the example of an individual who has developed tastes for classical but not for rap music. To the extent that one's judgments are unreliable (i.e., about different selections of rap music), then one should find it hard to compute similarity and thus identify similar advisors. When asked to make a choice in this domain, the person would thus rely on the average opinion. Moreover, the predictive value of opinions produced by a similar other should be weighted less by a decision maker whose own judgments are unstable. In sum, poorly discriminating decision makers should rely on the average opinion more – and on the similar advisor less – than highly discriminating ones.

Overview

Four studies investigated people's preferential use of various sorts of advice. The studies explored the idea that taste discrimination affects the priority of similarity versus majority influence. The first three studies focused on behavioral similarity, while the fourth study involved demographic similarity. In Studies 1–3, participants first learned about other listeners' musical tastes through experience, and then made judgments and choices based on recommendations made by the same listeners. In Study 4, participants were presented with recommendations made by other listeners. The demographic characteristics of these listeners were also presented, thus participants could assess their similarity to these listeners in making their responses.

The studies used two different methods to assess participants' preferential use of the similar advisor's opinion vis-à-vis the majority opinion. In Studies 1 and 4, the participants made self-predictions, thus they rated how much they would enjoy listening to a piece of music given the opinions indicated about it. In Studies 2 and 3, the participants made consequential choices, thus they were supposed to select a piece of music to listen to, based on advice from different sources. These two methods were particularly suited to the different procedures we have used in these studies to present the similar and majority opinions. Finally, we report a theoretical simulation designed to investigate the normative conditions under which the similar advisor or the majority opinion is more useful.

Study 1

This study explored the role of behavioral similarity in decisions about matters of taste. In particular, it tested how decision makers weigh a similar advisor's opinion when it conflicts with the opinions of many others. The study used a realistic musical setup in which participants were asked to make self-predictions about their future enjoyment of music pieces, based on the opinions of other listeners. Information on other listeners was provided to participants, allowing them to assess their behavioral similarity. The dependent variable was the relative weight participants placed on the similar advisor's opinion compared with the majority opinion in making their self-predictions.

Two hypotheses are at stake. First, the relative influences of the similar advisor and majority opinion should vary as a function of the size of the group on which the majority opinion is based. The prediction that majority influence should increase with size is also based on social impact theory (Latané, 1981). Second, and more importantly, according to our discrimination hypothesis highly discriminating decision makers should find a similar advisor more informative for their own choices than less discriminating individuals should. Participants' taste discrimination was manipulated experimentally. We assumed that participants' discrimination would be better in judging familiar music (e.g., local music) than in judging unfamiliar music (e.g., ethnic music from remote countries, such as African music). Prior to the study we ran a pilot study to verify that judgment discrimination was indeed better for the familiar music.[1]

Table 1
Materials for Study 1: Sample table shown to participants in the prediction phase.

	Song # 1	Song # 2	Song # 3	Song # 4	New song
Your ratings	3	9	7	4	?
Listener 3	2	8	7	3	7
Listener 1	–	–	–	–	3
Listener 19	–	–	–	–	2
Listener 79	–	–	–	–	4

Note: Participants were cued to enter their prediction on the question mark.

Method

Participants

Data were collected from 137 undergraduate students in individual sessions. They received partial course credit or 20 Israeli Shekels (1 IS equaled $.30) for their participation.

Procedure

The procedure included a *listening* and a *prediction* phase. In the listening phase, the computer played four different music excerpts to the participants, each for 1.5 min. After each excerpt the participants received a prompt to rate how much they liked the music on a 9-point scale, anchored at 1 (''I don't like it at all'') and 9 (''I like it very much''). In the subsequent prediction phase, the participants were asked to predict how much they would enjoy a new (unnamed) piece on the basis of judgments made by other listeners who had had a chance to listen to that piece. On each trial, a different set of four pieces was played, and a new table of recommendations was presented. Finally, in a manipulation check done at the end of the study, we asked participants to rate the familiarity of the songs on a 9-point scale (1 = low, 9 = high).

Materials

On each of the two trials participants made a self-prediction as described above. The prediction was to be made on the basis of other listeners' recommendations, as shown in Table 1. The first row of this table shows the participant's own ratings of the four songs and the second one shows the ratings allegedly made by another participant who was selected due to his/her behavioral similarity to the participant. The similar rating profile was created by the computer online, simply by adding 0, 1, or −1 to the participant's ratings. Thus participants could easily

[1] To confirm that our high- and low-discrimination manipulation (familiar vs unfamiliar music) indeed affects participants' ability to make reliable judgments, we asked an independent sample of participants to judge the attractiveness of each music selection twice, in each of two sessions scheduled a week apart. In each session, participants (n = 39) listened individually to 16 different music excerpts played by the computer, for 75 s each. The pieces were played in a different order in each session. Participants rated how much they liked each excerpt on a 10-point scale, (1 = ''not at all'', 10 = ''very much''). For each participant, the test–retest correlations between the ratings were calculated, separately for the eight familiar and eight unfamiliar pieces. The mean correlations were .72 and .57, respectively, $t(38) = 2.25$, $p < .05$. Thus, the ratings of the unfamiliar pieces were less reliable, thereby confirming the assignment of the pieces to the high- and low-discrimination conditions in our main study.

see the similarity between their own and that listener's ratings. The other three rows represent other listeners who were allegedly picked at random from a pool of listeners who had participated in a similar study, but no information about their prior ratings was given. The right-hand column in Table 1 shows the listeners' advisory opinions about the new target piece (on a 9-point scale).

The advisory opinions were determined as follows. For half of the participants, on the *first* trial the similar advisor's opinion was 7, while the other listeners' opinions ranged from 2 to 4, with an average of 3 (as shown in Table 1). On the *second* trial, the similar advisor's opinion was 3, while the other listeners' opinions ranged from 6 to 8, with an average of 7. The ordering of the two trials was reversed for the other half of the participants.

Design

The experiment included two factors. The first was the number of advisory opinions. Half of the participants were presented with the opinions of one similar listener and *three* unidentified listeners (as in Table 1), and half were presented with the opinions of one similar listener and *eight* unidentified listeners (in a format equivalent to Table 1, except that it included more rows). The second factor was music discrimination (high vs. low). Half the participants listened to familiar pieces of music (e.g., local pop music), whereas the other half listened to unfamiliar pieces (e.g., African vocal music).

Results

The familiarity ratings (on a 9-point scale) were greater for the familiar than for the unfamiliar pieces; the means were 7.67 and 1.93, respectively, $t(135) = 20.64$, $p < .001$, $d = 3.6$. The manipulation check thus confirmed the assignment of the songs to the familiar and the unfamiliar conditions.

Participants' self-predictions were all within the range from 3 to 7. Thus each self-prediction could be expressed as a linear combination of the similar listener's opinion and the majority opinion, with the corresponding weights being *ws* and 1-*ws* (*ws* is the weight on the similar listener). Recall that in one trial the majority opinion (m) was 7 and the similar advisor's opinion (s) was 3, while in the other the values were $m = 3$ and $s = 7$. The *ws* index was inferred straightforwardly, using the equation $p = ws \cdot s + (1 - ws) \cdot \mathrm{m}$. The *ws* index thus takes values ranging from 0 to 1, where 0 is obtained if the participant adopts the majority opinion and 1 is obtained if the participant adheres to the opinion of the similar advisor. The *ws* index should equal .25 (or .11) if the participant weights all four (or nine) opinions equally.

The mean *ws* indices for all the conditions are shown in Table 2. The grand mean *ws* was .76, suggesting that participants placed a far greater weight overall on the similar advisor's opinion than on the average opinion. A two-way analysis of variance was carried out with *ws* as the dependent variable. First, there was a significant main effect of the number of listeners forming the average (3 vs. 8), $F(1, 133) = 9.56$, $p < .01$, $\eta^2 = .067$. Thus, participants gave less weight to the similar advisor when the average opinion was based on eight advisors (.70) than when it was based on three (.81). Second, there was a significant main effect of discrimination, $F(1, 133) = 5.92$, $p < .05$, $\eta^2 = .043$, indicating that the weight given to the similar advisor was greater in the high-discrimination (familiar) condition (.80) than in the low-discrimination (unfamiliar) condition (.71). The two-way interaction was not significant, $F < 1$.

Table 2
Results from Study 1: Mean weight[a] (SD) placed on the similar listener (*ws*) in self-prediction.

	Number of opinions included in the average	
Discrimination	3 Opinions	8 Opinions
High (familiar)	.85 (.19)	.76 (.20)
Low (unfamiliar)	.78 (.25)	.64 (.22)

[a] The higher the weight index (0–1 scale), the greater the weight placed on the similar advisor.

Discussion

The number of opinions included in the majority had a significant impact, as might be normatively expected (Kaplan & Miller, 1987). Participants gave more weight to the majority opinion when it was based on eight opinions than when it was based on three, consistent with social impact theory (Latané, 1981). Notwithstanding this effect of majority size, in all conditions the mean weight on the similar advisor was considerably greater (*ws* values >.70) than the equal-weighing baseline index (.25 or .11) that would have obtained had they considered all four or nine opinions of *equal* importance for their prediction. Not only was the opinion of the single similar listener given more weight than each of the individual opinions, but its weight actually superseded that of the majority opinion as a whole.

That similarity superseded the normative and informational social influences of the majority opinion (Deutsch & Gerard, 1955) is notable. What makes the opinion of the similar listener so powerful? We know already from past literature that people form positive attitudes towards individuals who share similar artistic preferences (Brewer, 1979) and that they trust more such people. In our own experimental setup participants listened to music in a private lab room and then expressed their opinions on how much they liked (or disliked) each piece. The highly experiential nature of this procedure presumably created deeper involvement with the task and enhanced participants' feeling towards the other listener who (supposedly) shared the same musical preferences ("a person who likes the very same music that I like"). This affinity presumably underlies the appeal of a person who has shown behavioral similarity.

Finally, and importantly, we found, as predicted, that taste discrimination moderated the tendency to rely on the similar listener. Specifically, degrading participants' ability to discriminate music (by playing highly unfamiliar pieces) led them to place less weight on the similar advisor's recommendation and rely more heavily on the average. This result supports our main hypothesis that taste discrimination influences people's policies.

Study 2

In the previous study information was given about the similar listener's past judgments, but no such information was given about the other listeners. This setup resembles typical settings where a similar other tends to be distinguished by similar preferences, while the individuals included in the majority are often anonymous. While this setup is realistic, the amount of information given about each listener is confounded with source type. In the current study we rectified this by presenting the same amount of information about each listener, similar or non-similar. In addition, we manipulated taste discrimination by presenting participants with pairs of musical pieces. In the *low*-discrimination condition, pairs of pieces of the same style and by the same performer were played, while in the *high*-discrimination condition, pairs of pieces of different styles and by different performers were played. A prior study confirmed the assignment of these pairs of pieces to the two conditions (i.e., the pairs assigned to the high-discrimination condition

indeed produced more reliable discrimination).[2] Finally, in this study participants made *consequential* judgments. They had to choose a piece to listen to at the end of the experiment, unlike Study 1, where they merely predicted how much they would like an unknown piece.

Method

Procedure

The experiment included two trials. Each trial had two phases, as in the previous study. At the start of the *listening phase* two musical pieces (labeled 1 and 2) were played by the computer to participants for 1.5 min each. Participants indicated *which one they liked better*. Next, they were informed about the preferences of four other listeners for the same two pieces. These listeners were identified by numbers, such as #6, #10, #19, and #29. Then two other pieces (labeled 3 and 4) were played; the participants were again asked to indicate which one they liked better. They were then shown the preferences of the same four listeners (identified by their numbers). Overall, participants had two opportunities to learn about the other listeners' musical taste by comparing their own preference to theirs.

Next, in the *choice phase,* participants were asked to choose *one* of two new (unidentified) pieces, one labeled A and the other B, which would be played to them immediately; thus their choice was consequential. This decision was to be made using a set of recommendations by the same four listeners whose tastes they had had a chance to learn about previously. The listeners' recommendations (A or B) were presented in a table along with their preferences from the listening phase (Table 3). The participants were asked to decide, taking the listeners' recommendations into account, which piece (A or B) they would prefer to listen to at the end of the session. The dependent measure was the participants' choice.

The second trial of the experiment involved the same listening and choice phases, except that different selections were played. The A and B labels were counterbalanced across trials. At the end of the session participants listened to some musical selections that were associated with their earlier choices (A or B) on each trial.

Description of advisors

The four listeners' preferences were manipulated as shown in Table 3. One (highly similar) listener allegedly made the same judgments as the participant during the listening phase. The other three listeners made different judgments for the first pair, the second pair, or both. The listeners' recommendations are shown in the table as well. The highly similar listener recommended B, while the other three listeners recommended A. The non-similar listeners were always in consensus, while the (single) highly similar listener expressed a different opinion.

Design

There were two between-participants conditions. In the *high*-discrimination condition, the pieces played in the listening phase were drawn from different musical styles (e.g., a pop song and a classical piano piece). In the *low*-discrimination condition, the pieces were similar in style (e.g., two pop songs performed by the same singer).

Table 3
Materials of Study 2: Table presented in the choice phase showing the other listeners' preferences during the listening phase and their recommendations for the new piece.

	The listeners' choices for each pair were:		
	First pair	Second pair	Recommendation
Listener 11	Same as yours	Different from yours	A
Listener 3	Same as yours	Same as yours	B
Listener 19	Different from yours	Same as yours	A
Listener 55	Different from yours	Different from yours	A

Participants

Undergraduate students ($n = 92$) participated in the study, either as part of their course requirements or for a flat fee of 15 IS.

Results and conclusions

The dependent variable in this study was the number of times (out of two trials) that participants chose to follow the similar advisor. Participants chose to follow the similar advisor on average 1.50 times (out of two trials). Music discrimination had a significant effect, as predicted. Participants followed the similar advisor more frequently in the high-discrimination condition (an average of 1.64 out of 2) than in the low-discrimination (1.36 out of 2), $t(91) = 2.03$, $p < .05$, $d = 0.43$. Although participants received the same amount of information about all the listeners, we obtained results comparable to those found in Study 1, namely that participants generally preferred the opinion of the single similar advisor over the majority opinion.

These findings further substantiate the idea that taste discrimination regulates the influence of different sources. The high- and low-discrimination manipulations presumably influence the confidence with which individuals make their choices in the listening phase. With high-discrimination, people are fairly confident in their preferences and thus trust their assessments of similarity between their own preferences and those of the similar advisor. They tend to rely more on the opinions of that person, placing high credence on the informational value of similarity. Under low-discrimination conditions, people are less confident in their preferences, and therefore find the preferences (and recommendations) of a similar other less informative and their predictive value less compelling. We further tested the validity of this explanation and the role of confidence in the following study.

Study 3

This study had two goals. First, we wanted to ascertain that the high- and low-discrimination manipulations do indeed affect confidence-in-choice. We therefore asked participants to rate their confidence in their choices in the *listening* phase. Second, we tested the role of similarity in choosing advisors more intensively. To do this, we included three (instead of two) rounds of judgments in the listening phase, thereby creating more finely-grained levels of similarity between the participant and the advisors. Finally, in the *choice* phase we elicited participants' (consequential) choices, along with their confidence in these choices. The latter measure allowed us to create a more sensitive, composite measure of the strength of people's preference.

[2] We ran an independent study to verify that the musical selections assigned to the two conditions indeed yield two different levels of discrimination. We used the attractiveness judgments reported in footnote 1 ($n = 39$); however, this time we grouped the 16 pieces into four pairs of similar pieces (e.g., two local pop songs), and four pairs of dissimilar pieces (e.g., a local pop song and African vocal music). For each participant, we calculated the intra-judge agreement in the *ordering* of ratings of the two pieces across the two sessions (i.e., the probability that the piece given a higher rating in the first session was also given a higher rating in the second session). The intra-judge agreement proportions were 69% and 55% in the high and low discrimination conditions, respectively, $t(38) = 4.52$, $p < .001$. These results confirm our assumption that the pieces assigned to the high- and low-discrimination conditions indeed differ in their reliability.

Method

Procedure

As before, the experiment included two trials, each with a listening and a choice phase. This time the *listening phase* included *three* different pairs of musical excerpts. Each pair included two excerpts that were played for 1.5 min each. The participants indicated which of the two they liked better. In addition, for each choice, participants rated their confidence in their musical judgment on a scale anchored at 1 (low) and 7 (high). They were then shown the opinions of four other listeners regarding the same pair. Then two more pairs of excerpts were played and judgments were solicited. This completed the listening phase. In the subsequent *choice phase*, the participants were asked to indicate which of two pieces they would prefer to hear at the end of the session. They were shown a table listing the judgments made by the four other listeners regarding the three pairs played in the listening phase, as well as their recommendations for the new piece (A or B). Three listeners recommended A, while the similar listener recommended B. The participants were asked to choose which of the two unnamed pieces they would like to hear and then rate their confidence in their choice on a 7-point scale.

Design and materials

The design included two between-participants factors. The first factor was the degree of agreement between the similar listener and the participant (high vs. intermediate agreement). In one condition the similar listener agreed with the participant for *three* out of three pairs, while the three other listeners each agreed with the participant on one occasion (disagreed twice). In the second condition, the similar listener agreed with the participant for *two* of the three choices while the three other listeners each agreed with the participant for one pair.

The second factor, discrimination, was manipulated as in the previous experiment. For the low-discrimination condition, pairs of musical excerpts were selected from the same genre and the same disk (e.g., two classical pieces by the same composer and same performer). For the high-discrimination condition, pairs of musical excerpts were selected from different genres (e.g., a classical piano piece and a pop song).

Participants

Undergraduate students ($n = 159$) were assigned randomly to one of four between-participants conditions, with 39 or 40 participants in each group. They were recruited and compensated as in the previous experiments.

Results

Listening phase

Participants were less confident in their judgments in the low- than in the high-discrimination condition (4.91 vs. 5.46), $t(157) = 4.39$, $p < .05$, $d = 0.7$. This manipulation check confirms that the discrimination manipulation was effective. The result gives credence to the idea that our manipulation in the listening phase induced different perception of participants' ability to discriminate reliably between musical pieces.

Choice phase

Next we analyzed the participants' final choices. The dependent variable was a composite measure of the participant's choice (A or B) and his/her confidence-in-choice rating (1–7). A composite 14-point scale was created, with −7 corresponding to a strong preference for the majority opinion and +7 corresponding to a strong preference for the similar listener's opinion.

As shown in Table 4, the mean preference was positive in all conditions, suggesting that people tended overall to rely on the similar advisor. A two-way analysis of variance for strength of preference revealed a significant effect of level of agreement, $F(1, 155) = 14.12$, $p < .05$, $\eta^2 = .04$. The effect of discrimination fell short of significance, $F(1, 155) = 3.18$, $p < .08$, $\eta^2 = .01$. There was no interaction effect, $F < 1$. A t-test showed a significant effect of discrimination on strength of preference, $t(157) = 1.74$, $p < .05$ (one-tail).

In sum, the data from the listening phase show that participants' confidence in their preferences increases as a function of the level of music discrimination. According to our theory, participants' feelings of confidence in their discrimination affect their reliance on the two types of advisors. The data from the choice phase further show the importance of behavioral similarity (degree of agreement between the participants and the similar listener). The greater the agreement between the similar listener and the participant, the more likely they were to rely on the similar listener's opinion. Also, we found evidence consistent with the discrimination hypothesis, which adds to the findings of Studies 1 and 2.

Table 4
Results from Study 3: Mean strength of choice* for the option endorsed by the similar advisor as a function of discriminability and level of agreement.

	Similar advisor agreed with the participant for	
Music in listening phase	2 Out of 3 pairs	3 Out of 3 pairs
Highly discriminable	2.79	4.49
Poorly discriminable	1.59	3.82

* Strength of choice is a composite measure based on the participants' choices and confidence judgments in the *choice* phase (−7 = choice of option endorsed by the majority; +7 = choice of option endorsed by the similar advisor).

Study 4

This study explores the possibility of extending the findings for behavioral similarity to the role of demographic similarity in making decisions on matters of taste. Does the influence of a single individual who is demographically similar supersede the majority influence? Will decision makers prefer the similar advisor's opinion, even when it conflicts with the opinions of many others? As in Study 1, we used a setup in which participants were asked to make self-predictions of their future enjoyment of musical pieces, taking into account the opinions of other listeners. One listener was similar in terms of gender and age, while the others were less-similar. As in Study 1, our dependent variable was the relative weight placed on the similar advisor's opinion compared with the majority opinion in making the self-predictions.

Method

Participants

Data were collected in individual sessions from 61 undergraduate female students. They received partial course credit for their participation.

Procedure

The participants were seated at computer stations in individual cubicles, wearing headsets, throughout the experiment. The procedure began with the computer playing five music excerpts to the participants, each for 1.5 min. After each excerpt, the participants received a prompt to rate how much they liked it on a 9-point scale, anchored at 1 (“I don't like it at all”) and 9 (“I like it very much”). Then, in the prediction phase, participants were asked to predict, on the basis of other listeners' recommendations, how much they would enjoy two new (unnamed) pieces.

Table 5
Materials of Study 4: Sample table shown to participants in the prediction phase.

Recommender's initials	Gender	Age group	New song rating
C.S	Female	Student	8
A.J.	Male	Parent	4
B.C.	Male	Student	3
T.S.	Female	Parent	4
J.R.	Male	Parent	5

There were two between-participants discrimination conditions. As in Study 1, discrimination was manipulated by varying the familiarity of the music. In one condition participants listened to familiar music, while in the second they listened to unfamiliar music. The assignment of items to the two familiarity levels was verified in Study 1.

Materials

Participants provided self-predictions twice, each on the basis of a different recommendation table (see, e.g., Table 5). Each table listed demographic information about five listeners and their opinions. Participants were told that the listeners were students and parents of students, who had been asked to rate various music pieces on a 9-point scale (i.e., in the same way that participants had rated the music in the listening phase). The listeners were described in terms of their gender (male or female) and age group (students or parents of students). Since all participants in Study 4 were female students, the demographically similar listener was always the female student, while the four other listeners differed in gender and/or age group.

The recommendations were specified as follows. On one trial, the similar listener's rating was 8, while the other listeners' ratings were 3, 4 or 5, with an average of 4 (Table 5). On the second trial, the similar advisor's opinion was 4, while the other listeners' opinions were 7, 8, or 9, with an average of 8. The order of these two trials was counterbalanced across participants.

Results and discussion

On one trial, the majority opinion (m) was 8 and the similar advisor's opinion (s) was 4, while on the other trial the values were $m = 4$ and $s = 8$. The participants' ratings were all within the range from 4 to 8. Therefore each self-prediction (p) could be expressed as a linear combination of the similar listener's opinion (s) and the majority opinion (m), with ws being the weight for the similar listener. This weight was derived from the equation $p = ws \cdot s + (1 - ws) \cdot m$. As indicated in Study 1, the parameter ws can take values ranging from 0 to 1, where 0 is obtained if the participant adopts the majority opinion and 1 is obtained if the participant adheres to the opinion of the similar advisor. A ws of .20 is obtained if the participant weights all five opinions equally.

The mean ws were .43 and .42 in the familiar and unfamiliar conditions, respectively, both significantly greater than the baseline of .20, $t(30) = 5.20$, $p < .01$, $d = 1.9$, and $t(29) = 6.46$, $p < .01$, $d = 2.4$. Similar results were obtained regardless of whether the values were $m = 4$ and $s = 8$, or vice versa, so the results were collapsed across this factor. Thus participants placed a greater weight on the similar advisor's opinion than on any other opinion. Specifically, they found the opinion of the listener who was similar to them in gender and age group to be proportionally more predictive of their own taste than any of the other opinions of the less-similar listeners.

Study 4 generally replicated the favorable status of the similar advisor found in Studies 1–3. Yet in this study, unlike previous studies, the similar listener's opinion did *not* supersede the majority opinion. Moreover, the discrimination factor had no effect on the weighting of the two sources – the demographically similar advisor and the majority (ws were .43 and .42, in the two conditions), $t(59) = .17$, $p > .8$, $d = .04$. Demographic similarity seemed useful as a first approximation in that participants placed more weight on the similar advisor than on any of the non-similar ones. Yet the weight on the demographically similar advisor was smaller than the weight on the majority opinion in both discrimination conditions.

Overall, the results of this and the previous studies suggest that the impact of behavioral similarity is significant, at least in the current experiential settings involving musical judgments. A study of demographic-profile similarity did not produce such effects on advisor utilization. These findings will be considered in more detail in the general discussion. We now turn our attention to a formal, conceptual framework that we believe provides a useful perspective on our findings so far.

Theoretical simulation

We have suggested that taste discrimination affects people's advice-seeking strategies. In particular, people's preference for a (behaviorally) similar advisor over the average advisor increases with discrimination (Studies 1–3). How might such reliance on behavioral similarity be normatively justified? In attempt to provide some preliminary answers to this question, we introduce a theoretical framework – a formal simulation – that captures the interplay between similarity and averaging as a function of discrimination and allows us to consider the relative merits of these two sources, in a greatly simplified setting.

Suppose a decision maker seeks an opinion regarding some choice, say a particular action movie. How accurate is an advisor's opinion as a forecast of the decision maker's evaluation of the movie? For simplicity, assume that similarity is a binary variable – that is, advisors belong to one of two types, people who generally have a high opinion of action films and those who have a low opinion of such films (i.e., people of the former type like such movies more than do people of the other type). We will call them Type 1 and Type 2. We assume (as is done, for example, in signal detection theory) that each type is represented by a normal distribution of opinions with a specified mean (μ) and standard deviation (σ). We investigate the accuracy of a similar advisor's opinion compared to an average advisor (the mean of K advisors drawn at random). The simulation results (below) suggest that the advantage of a similar advisor increases as a function of taste discrimination.

Method

A computer simulation was created in the MatLab programming environment to investigate the advantages of similar and average advisors under different conditions of taste discrimination. In each run of the simulation, a virtual population of 10,000 individual opinions about a target item (e.g., a movie) was constructed. This population of opinions includes Types 1 and 2 in equal proportions. The two types have different opinions regarding the target item. In creating opinions of Type 1, values were drawn from a normal distribution with a mean μl, while the values for Type 2 were drawn from a normal distribution with mean $\mu 2$ ($\neq \mu 1$). The distance ($\mu 1 - \mu 2$) was fixed in all runs, with only the variance of the distributions (σ^2) changing systematically. Discrimination is defined as the (square of) Cohen effect size d, that is, the ratio of the (squared) distance ($\mu 1 - \mu 2$) to σ^2.

In particular, in different simulation runs the ratio (d^2) took values ranging from 1/16 to 16 (i.e., 1/16, 1/8, 1/4... 4, 8, 16). The higher the ratio (d^2) the higher the discriminability, that is, the

greater the differences between high and low opinions of the target item. In particular, high-discrimination (d^2) implies that individuals of both types have precise opinions about the target piece that are narrowly distributed about their respective means, making the two types distinct.

Each simulation run includes 1000 cycles. In each cycle an individual decision maker's opinion is drawn at random from the Type 1 population. Then two kinds of advisors are drawn. A similar advisor is drawn from the *same* Type 1 distribution; and $K = 3$ advisors are drawn at random from the *entire* population (i.e., including both Type 1 and Type 2). (In other simulation runs $K = 1$ or $K = 16$.) The average of the K advisors is computed. Then, the simulation makes a comparison to assess the relative accuracy of the similar and average advisors; it thus determines whether the similar or average advisor predicted the decision maker's opinion more accurately. This completes one cycle, after which a new cycle starts, where a new decision maker and new advisors are drawn. The dependent measure is the *proportion of times that the similar advisor outperforms the average advisor* across 1000 cycles of the simulation run.

Results and conclusions

Fig. 1 shows the results of all the simulation runs. Each run used a fixed discrimination ratio (i.e., d^2 equaled one of the values between 1/16 and 16) and a fixed number of random advisors (K equaled 1, 3 or 16). In sum, each data point plotted in this figure is the result of one simulation run (1000 cycles) and a fixed set of d^2 and K. The vertical axis indicates the percentage of the times that the similar advisor outperformed the average advisor in a single run as a function of discriminability (horizontal axis). The 50% line represents a tie between the similar and the average advisors; points above the 50% line indicate the superiority of the similar advisor, while points below it indicate the inferiority of the similar advisor.

When discrimination is low (e.g., 1/16), the similar and the single random advisor ($K = 1$) are virtually tied in accuracy. This is to be expected, since similarity is of little use when discrimination is poor, that is, when the Type 1 and Type 2 distributions of opinions overlap greatly. The average advisor based on $K = 3$ or $K = 16$ opinions outperforms the similar advisor roughly 60% of the time when discrimination is low – the power of averaging supersedes the gains from similarity here. The advantage of similar advisors increases steadily with discrimination; when discrimination is high, similar advisors outperform average advisors. The crossover point also depends on K.

This formal simulation shows how the relative advantages of similar advisors and average advisors vary as a function of discrimination. Our implementation of the notions of discrimination and similarity is simplified, yet the crossover pattern produced by the simulation is remarkable in that it sheds light on the theoretical dilemma involved in consulting others on matters of taste. Basically a similar advisor is better than a randomly drawn advisor unless discrimination is very poor. With greater discrimination, a similar other might even be better than the average of a group of randomly drawn advisors. But, with lesser discrimination, the average advisor (when K > 1) is better than the similar advisor.

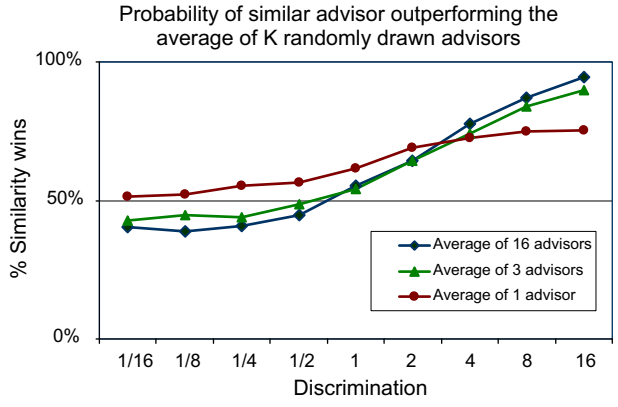

Fig. 1. Results of computer simulation.

General discussion

At the focus of this research on the use of advice in matters of taste is the idea that decision makers use other people's opinions to bridge an informational gap – their uncertainty about their future satisfaction with the outcomes of their present decisions. Decision makers use others' opinions in order to form *self-predictions*, that is, predictions of how much they expect to like or enjoy the outcomes of their present choices. Two prototypical sources of advice – similar others and majority opinions – were the focus of this work. Our goal was, first, to test the general role of these two types of advisors and, second, to investigate how advice utilization is affected by decision makers' taste discrimination, a construct referring to the extent to which decision makers trust their ability to judge choices in a given domain distinctively and reliably.

Studies 1 to 3 document the great appeal of advisors who show *behavioral* similarity – that is, individuals who are similar to the decision maker in terms of their past choices. Participants assigned a greater weight to the similar advisor than to the majority. Studies 1–3 also confirmed the hypothesis that decision makers' use of the two sources – the similar advisor and majority opinion – depends on their taste discrimination. Highly discriminating individuals sought the advice of similar others more than did less discriminating individuals; the latter were more willing to consider the majority opinion.

How might the appeal of behavioral similarity be justified normatively and why might it depend on taste discrimination? We constructed a computer simulation using taste discrimination and similar and average advisors. Although the simulation greatly simplifies the psychological concepts, we believe that it provides a valuable formal demonstration of the coherence of our hypothesis. The results show that, while an average advisor outperforms a similar advisor when discrimination is low, this pattern is sharply reversed as discrimination increases. Thus, from a normative point of view, seeking the opinion of a similar advisor is a good strategy if people believe that their own tastes are refined and they are highly discriminative.

Indeed, in Studies 1–3 participants assigned greater weight to the similar advisor's opinion than to the opinions of a whole group of other advisors. How might we interpret this? Our simulation results imply that a strong preference for a similar other is warranted when taste discrimination is good. Our empirical findings could thus be attributed to our participants' belief that their musical taste discrimination is quite good. Indeed, we speculate that music is a powerful stimulus that does not leave most people indifferent; music is associated with strong emotional, cognitive, and aesthetic responses which presumably enhance one's sense of taste discrimination. Seeking the opinion of a similar person rather than a statistical average is consistent with people's perceptions that they are in possession of highly discriminating tastes. The appeal of similar others (compared with the average opinion) is presumably greater in decisions on matters of taste (e.g., food and clothes) than in decisions involving more neutral products (e.g., consumer electronics). Purchase decisions for neutral products involve numerous factual considerations and thus should be more open to the infor-

mation conveyed by the majority opinion. Future research may shed more light on these ideas.

A related explanation for the appeal of similar advisors is that people give (perhaps undue) consideration to individuating information at the expense of sample statistics. This is consistent with earlier claims made in the judgment literature (e.g., Kahneman & Lovallo, 1993) and also with the "misappreciation of the averaging principle" (Larrick & Soll, 2006), namely, that people underestimate the utility of averaging as a method for improving factual judgments. People might likewise fail to see the usefulness of averaging opinions on matters of taste.

Our research has focused on behavioral similarity. Yet, we have also considered demographic (profile) similarity. The survey reported in the introduction shows that when given an opportunity, decision makers' default choice is to rely on the opinion of an advisor who is similar to them on demographic characteristics. For instance, other things being equal, individuals tend to prefer the opinion of a person of the same age group, gender, and religiosity as theirs. Thus, in Study 4, decision makers placed more weight on a demographically similar advisor than on a less-similar person. When similarity and majority were pitted one against the other, however, demographic similarity did not outweigh majority influence. Moreover, degree of taste discrimination had no effect on the relative weights placed on the similar and the majority advisors when similarity was portrayed in terms of demographic cues (age group and gender). The results of Study 4 were thus strikingly different from those obtained with behavioral similarity in Studies 1–3.

We speculate that these two types of similarity differ greatly in their strength and impact. Coming across a behaviorally similar advisor is experiential and stirs "hot" reactions, including positive feelings toward a person with whom one shares tastes ("Someone whose likes and dislikes are so close to mine"). Coming across an advisor who is demographically similar in gender and age involves, in contrast, "colder" calculations. People expect a demographically similar person to have *some* advantage over a non-similar one in predicting musical tastes; they do not expect that person to hold the same preferences as their own. In Study 4, the predictive advantage of a demographically similar advisor was found to be too small to override the majority opinion. In terms of our simulation, one might argue that, unlike behavioral similarity, a person's demographic similarity provides only weak evidence that s/he is of the same type as the decision maker.

One might argue that the specific demographic dimensions chosen to create similarity in Study 4 (i.e., age group and gender) were not sufficiently relevant and that different results would have occurred with another pair of dimensions. However, the dimensions used in the study are highly salient, and our preliminary survey (see, 'Introduction') showed that people view them as relevant for choosing advisors on matters of taste. Admittedly, there are very many dimensions that one could conceive of. Our hunch is, however, that other dimensions would not produce a pattern of results significantly different from the one we observed here.

Final comments

Our research was motivated by the idea that receiving advice on matters of taste facilitates decision making. Prior studies have documented decision makers' gains from receiving other people's opinions on matters of fact, such as estimates or forecasts (Budescu, Rantilla, Yu, & Karelitz, 2003; Budescu & Yu, 2007; Kerr & Tindale, 2004; Laughlin & Ellis, 1986; Schotter, 2003; Surowiecki, 2004; Yaniv, 2004a, 2004b; Yaniv, Choshen-Hillel, & Milyavsky, 2009; Yaniv & Kleinberger, 2000; Yaniv & Milyavsky, 2007; Yates, Veinott, & Patalano, 2003). Decisions on matters of fact and taste seem to differ; while the validity of advice on matters of fact is tested against external criteria, the usefulness of advice on matters of taste is evaluated against subjective, internal criteria (i.e., "To each his own"). Yet logical considerations suggest that majority opinions should also inform decisions on matters of taste, despite their subjective nature. Basic laws of statistics indicate that the mean of a set of opinions provides the best approximation of all the individual opinions. In the absence of *other* valid predictive information (e.g., poor discrimination renders the similar advisory uninformative), the average of a sample of opinions is thus, by default, the best one can do, even if it is far from being perfect.

Several issues involving advice on matters of taste deserve further research. Our methods in the present research were solely designed to study the informative role of advice in making self-predictions. Other people's opinions may have normative influences as well as informational influences on people's self-predictions. For example, recent research suggests that people's enjoyment of *shared* experiences also depends to some extent on the agreement between their opinions and those of others co-present with them (Raghunathan & Corfman, 2006). The study of normative influences would require different experimental approaches from those used here, such as the presence of the advisors in the decision setting.

Another issue deserving further research is the possibility that people mispredict their own preferences, perhaps due to hot–cold empathy gaps (Kahneman & Snell, 1990). Such cases are of interest since they may limit our present conclusions. People in affectively "cold" states (e.g., not hungry, not in pain) have difficulties appreciating how a "hot" state (being hungry or in pain) could influence their own preferences (Loewenstein, 2005). For example, a woman's choice at a prelabor stage about getting local anesthesia may differ from her actual wants at a later stage during childbirth (Sevdalis & Harvey, 2006). A useful starting point in making self-predictions would be to study the majority choice (e.g., about local anesthesia) made by women in the hot state, as it would be hard to seek behaviorally similar advisors in the case of rare decisions of this sort.

Finally, it is interesting to point out real-world applications related to the ideas presented here as they pertain to both individuals and organizations (cf. Gershoff, Mukherjee, & Mukhopadhyay, 2003). Using recent internet technology, retailers have been able to construct personalized recommendation systems; thus online bookstores can trace individual consumers' purchase history and recommend new items that cater to their personal taste, based on the choices of other people with similar purchase histories. Several researchers have pointed out the importance of understanding the rules that guide the receivers of these recommendations in deciding whose opinions (if any) to trust and use (cf. Yaniv & Foster, 1995; Yates, Price, Lee, & Ramirez, 1996). An important theoretical contribution of the present research involves the notion of taste discrimination and the way it ties with consumers' use of advisory opinions, especially those produced by individuals who are behaviorally similar to them.

Acknowledgment

This research was supported by Grant Nos. 344/05 and 327/10 from the Israel Science Foundation to the first author.

References

Asch, S. E. (1955). Opinions and social pressure. *Scientific American, 193*, 31–35.

Brewer, M. B. (1979). In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin, 86*, 307–324.

Budescu, D. V., Rantilla, A. K., Yu, H.-T., & Karelitz, T. M. (2003). The effects of asymmetry among advisors on the aggregation of their opinions. *Organizational Behavior and Human Decision Processes, 90*, 178–194.

Budescu, D. V., & Yu, H.-T. (2007). Aggregation of opinions based on correlated cues and advisors. *Journal of Behavioral Decision Making, 20*, 153–177.
Burnkrant, R. E., & Cousineau, A. (1975). Informational and normative social influence in buyer behavior. *Journal of Consumer Research, 2*, 206–215.
Deutsch, M., & Gerard, H. B. (1955). A study of normative and informational social influences upon individual judgment. *Journal of Abnormal and Social Psychology, 51*, 629–636.
Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117–140.
Gershoff, A. D., Mukherjee, A., & Mukhopadhyay, A. (2003). Consumer acceptance of online agent advice: Extremity and positivity effects. *Journal of Consumer Psychology, 13*, 161–170.
Gino, F., Shang, J., & Croson, R. (2009). The impact of information from similar or different advisors on judgment. *Organizational Behavior and Human Decision Processes, 108*, 287–302.
Goethals, G. R., & Darley, J. (1977). Social comparison theory: An attributional approach. In J. Suls & R. L. Miller (Eds.), *Social comparison processes: Theoretical and empirical perspectives* (pp. 259–278). Washington, DC: Hemisphere.
Goethals, G. R., & Nelson, R. E. (1973). Similarity in the influence process: The belief-value distinction. *Journal of Personality and Social Psychology, 25*, 117–122.
Kahneman, D., & Lovallo, D. (1993). Timid choices and bold forecasts: A cognitive perspective on risk and risk taking. *Management Science, 39*, 17–31.
Kahneman, D., & Snell, J. (1990). Predicting utility. In R. M. Hogarth (Ed.), *Insights in decision making: A tribute to Hillel J. Einhorn*. Chicago: University of Chicago Press.
Kaplan, M. F., & Miller, C. E. (1987). Group decision making and normative versus informational influence: Effects of type of issue and assigned decision rule. *Journal of Personality and Social Psychology, 53*, 306–313.
Kerr, N. L., & Tindale, R. S. (2004). Group performance and decision making. *Annual Review of Psychology, 55*, 623–655.
Larrick, R. P., & Soll, J. B. (2006). Intuitions about combining opinions: Misappreciation of the averaging principle. *Management Science, 52*, 111–127.
Latané, B. (1981). The psychology of social impact. *American Psychologist, 36*, 343–356.
Laughlin, P. R., & Ellis, A. L. (1986). Demonstrability and social combination processes on mathematical intellective tasks. *Journal of Experimental Social Psychology, 22*, 177–189.
Loewenstein, G. (2005). Hot–cold empathy gaps and medical decision making. *Health Psychology, 24*, S49–S56.
Raghunathan, R., & Corfman, K. P. (2006). Is Happiness shared doubled and sadness shared halved? Social influence on enjoyment of hedonic experiences. *Journal of Marketing Research, 43*, 386–394.
Rentfrow, P. J., & Gosling, S. D. (2003). The Do Re Mi's of everyday life: The structure and personality correlates of music preferences. *Journal of Personality and Social Psychology, 84*, 1236–1256.
Schotter, A. (2003). Decision making with naïve advice. *Experimental Economics, 93*, 196–201.
Sevdalis, N., & Harvey, N. (2006). Predicting preferences: A neglected aspect of shared decision-making. *Health Expectations, 9*, 245–251.
Siegrist, M., Gutscher, H., & Earle, T. C. (2005). Perception of risk: The influence of general trust, and general confidence. *Journal of Risk Research, 8*, 145–156.
Stafford, J. E. (1966). Effects of group influences on consumer brand preferences. *Journal of Marketing Research, 3*, 68–75.
Suls, J., Martin, R., & Wheeler, L. (2000). Three kinds of opinion comparison: The triadic model. *Personality and Social Psychology Review, 4*, 219–237.
Suls, J., Martin, R., & Wheeler, L. (2002). Social comparison: Why, with whom, and with what effects? *Current Directions in Psychological Science, 11*, 159–163.
Surowiecki, J. (2004). *The wisdom of crowds*. Random House.
Twyman, M., Harvey, N., & Harries, C. (2008). Trust in motives, trust in competence: Separate factors determining the effectiveness of risk communication. *Judgment and Decision Making, 3*, 111–120.
Venkatesan, M. (1966). Experimental study of consumer behavior, conformity and independence. *Journal of Marketing Research, 3*, 384–387.
Yaniv, I., & Foster, D. P. (1995). Graininess of judgment under uncertainty: An accuracy-informativeness trade-off. *Journal of Experimental Psychology: General, 124*, 424–432.
Yaniv, I., & Kleinberger, E. (2000). Advice taking in decision making: Egocentric discounting and reputation formation. *Organizational Behavior and Human Decision Processes, 83*, 260–281.
Yaniv, I. (2004a). The benefit of additional opinions. *Current Directions in Psychological Science, 13*, 75–78.
Yaniv, I. (2004b). Receiving other people's advice: Influence and benefit. *Organizational Behavior and Human Decision Processes, 93*, 1–13.
Yaniv, I., Choshen-Hillel, S., & Milyavsky, M. (2009). Spurious consensus and opinion revision: Why might people be more confident in their less accurate judgments? *Journal of Experimental Psychology: Learning, Memory and Cognition, 35*, 558–563.
Yaniv, I., & Milyavsky, M. (2007). Using advice from multiple sources to revise and improve judgment. *Organizational Behavior and Human Decision Processes, 103*, 104–120.
Yates, J. F., Price, P. C., Lee, J., & Ramirez, J. (1996). Good probabilistic forecasters: The "consumer's" perspective. *International Journal of Forecasting, 12*, 41–56.
Yates, J. F., Veinott, E. S., & Patalano, A. L. (2003). Hard decisions, bad decisions: On decision quality and decision aiding. In S. L. Schneider & J. Shanteau (Eds.), *Emerging perspectives on judgment and decision research* (pp. 13–63). New York: Cambridge University Press.