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Positive and Negative Opinion Modeling: The Influence of Another's Similarity and Dissimilarity

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Modeling research that has focused on the effects of observing similar others appears to have underestimated the influence of observing dissimilar others. Two experiments demonstrated that observing a model express liking for a piece of music induced more favorable opinions of the music (positive modeling) when the model was similar to the participant observer in relevant opinions, and more negative opinions (negative modeling) when the model was dissimilar to the participant in relevant opinions. Of note, this pattern was more pronounced when participants also believed their general backgrounds were dissimilar rather than similar to that of the model. Underlying social comparison processes and the mediational role of participants' liking of the model are considered.

Keywords: modeling, influence, similarity, dissimilarity, social comparison

Modeling research has generally sought to determine the conditions under which the attitudes and behaviors of an observer become more like those observed. A fairly consistent finding is that similarity in general background (e.g., Rosekrans, 1967) and more specific forms of model–observer similarity, along such dimensions as gender or age, can increase the probability of such modeling. For example, children are more likely to imitate opposite-gender role behaviors when they are performed by same-sex rather than opposite-sex models (Kobasigawa, 1968; Wolf, 1973). Also, individuals are more likely to imitate the behavior of a similar-aged model than an older or younger model when the modeled behavior is snake avoidance (Kornhaber & Schroeder, 1975), aggression (Hicks, 1965), or prosocial behavior (Becker & Glidden, 1979).

Most social influence research, whether involving conformity (e.g., Cooper, 1979; Thelen, Frautschi, Roberts, Kirkland, & Dollinger, 1981), compliance techniques (e.g., Cialdini, 2001), or modeling (e.g., Bandura, 1986; Flanders, 1968), has been concerned with influence in the positive direction, that is, with factors that make it more likely a person will adopt an attitude or perform a behavior similar to that of others (hereafter referred to as *positive modeling*). Although the reasons model–observer similarity augments positive modeling are not fully understood, informational and normative influences are likely involved. According to classic social comparison theory, people have a drive to evaluate their opinions, and they gain the most useful information about what is appropriate for themselves by using similar others as guides (Festinger, 1954). Research has shown that people do prefer to compare themselves with similar others in a number of situations (e.g., Gastorf & Suls, 1978; Goethals & Nelson, 1973; Gorenflo & Crano, 1989; C. T. Miller, 1982; Schachter, 1959; Suls, Gaes, & Gastorf, 1979; Suls, Gastorf, & Lawhon, 1978; Suls, Martin, & Wheeler, 2000; Wheeler, Koestner, & Driver, 1982; Zanna, Goethals, & Hill, 1975). Therefore, if people evaluate the appropriateness of an attitude or behavior by means of comparison with similar others, they may be more likely to respond like similar others, because such responses are considered appropriate for them (Berger, 1977). Another possibility is that because people tend to like similar others (Bovard, 1953; Kiesler & Corbin, 1965; Rotter, 1967; Singh & Ho, 2000), they are more apt to be concerned with gaining or maintaining the acceptance of similar others. Having socially inappropriate values or exhibiting inappropriate behavior could result in embarrassment or rejection by desirable social networks, whereas socially appropriate values and behaviors could result in acceptance and status (see Campbell & Fairey, 1989; Festinger, 1954; Kelley, 1952).

Many of the explanations proposed for why similar others cause positive modeling suggest that it also should be possible to make people less likely to exhibit particular behaviors or embrace particular attitudes when they observe dissimilar others. That is, because models whose backgrounds are dissimilar can convey what is not appropriate for people like the observer, or because the observer wants to disassociate from them, exposure to their behavior and attitudes may produce *negative modeling*—responses that are more dissimilar to the model's than would be the case without exposure. To date, however, empirical studies of social influence that have included dissimilar and similar model–observer conditions have reported only that observers tend to respond more like similar models and not any tendency of observers to respond less like dissimilar models. This would seem to

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suggest that model–observer dissimilarity does not lead to negative modeling. The lack of negative modeling could be due to people regarding the responses of dissimilar others as irrelevant (see Festinger, 1954; Gerard & Orive, 1987) and therefore that the possible outcomes of observing a model are positive modeling or no effect. We believe, however, that there are several reasons such a conclusion could be premature.

First, although not considered studies of negative modeling as such, a few studies have shown that dissimilar others can influence disagreement with political statements and expectations about future preferences in ways suggestive of negative modeling. A study of negative reference groups by Carver and Humphries (1981), for example, found that anti-Castro Cuban American students reported more negative attitudes toward a position if they believed the Castro-led Cuban government favored the position. Suls et al. (2000) found further that exposure to someone who exhibited consistently dissimilar preferences led individuals to expect they would react unlike that same person in the future.

Second, within the realm of modeling research, past studies generally have not included the experimental conditions necessary to detect negative modeling. Rosekrans (1967), for example, had participants observe a model who was portrayed as generally similar or dissimilar to the observers in general background and interests. A main effect of similarity was reported, with participants more likely to imitate the game-playing behavior of the similar model. However, this does not mean negative modeling did not occur. Because this study and others like it (see Berger, 1977; Bussey & Perry, 1976; Dove & McReynolds, 1972; Epstein, 1966; Graciano, 1976; Owens & Ascione, 1991) do not have a no-model condition, there are several possible ways to interpret observers giving responses more in line with a model's when the model is portrayed as similar compared with dissimilar to the observer. It could be that the similar model produced a positive effect, the negative model produced a negative effect, or both. It is even possible that both models increased or decreased the target behavior, but differentially.

A third possible reason that stronger evidence of negative modeling has not been reported is the low base-rate frequency of the targeted behaviors in many studies (e.g., Bandura & Adams, 1977; Bandura & Barab, 1973; Bandura, Blanchard, & Ritter, 1969; Bandura, Ross, & Ross, 1961; Fryrear & Thelen, 1969; Herbert, Gelfand, & Hartmann, 1969). If the probability that a participant would produce a response is near zero with no exposure to a model, a significant decrease in this probability may not be readily detectable or even possible. For example, it is unlikely that a child with a phobia of snakes will spontaneously approach and handle a snake. Therefore, even if the child became more resolute not to touch the snake after watching a dissimilar model approach the snake, it would nonetheless appear that the model had no effect, even in comparison to a no-model control group (Kornhaber & Schroeder, 1975). Other well-known near-zero probability responses in social influence (conformity) research include giving an obviously incorrect answer (Asch, 1955) and looking up at the top of a building (Milgram, Bickman, & Berkowitz, 1969).

The primary goal of the present research was to examine whether model similarity and dissimilarity can produce positive and negative opinion modeling, respectively. In the first experiment, we compared responses given in a similar model condition and a dissimilar model condition to responses given in a no-model condition in a setting where the responses of the participants could potentially increase or decrease. Specifically, participants were exposed to another person (the model) who expressed an opinion (i.e., preference) about a piece of music the participant had never heard. Participants later had the opportunity to express their own private opinions about how much they liked the music. Relative to a no-model condition, expressed opinions that become more similar to a model's would indicate positive opinion modeling, whereas opinions that become more dissimilar to a model's would indicate negative opinion modeling.

In the first experiment, we also examined whether there was an additional influence of a model's relevant expertise. To the extent that individuals model others because they think the models have better information, an expert model ought to have more influence. In fact, model expertise has augmented positive modeling effects in past research of skill acquisition (e.g., A. Johnson, 2003; Zimmerman & Kitsantas, 2002). Clearly it can be adaptive to be influenced by experts on matters of skill and fact, as with a mechanic's or doctor's diagnosis. As Goethals and Darley (1977) noted, however, opinions can involve either fact-based beliefs or subjective values (see Goethals & Nelson, 1973; Jones & Gerard, 1967). Beliefs involve questions like "Is this true or correct?" and are potentially verifiable; in contrast, values (or preferences) involve questions like "How much do I like it?" and as such are unverifiable attitudes that are not subject to objective testing (for additional preference distinctions, see also Suls et al., 2000).

Although expertise has been shown to increase modeling of verifiable beliefs, here we were interested specifically in the domain of subjective preferences. Preferences are not verifiable and therefore may be less influenced by experts. Still, it is conceivable that experts could be viewed as providing an additional guide to an appropriate response in a subjective context, one that is potentially separate from the guidance provided by similar others. It may be, for example, that professional critics, although perceived by most people as fairly dissimilar to themselves, guide opinions about food, films, and music in this way. Thus, even in the more subjective realm of preference opinions, expert models may have greater influence than nonexperts.

Consistent with these ideas, Suls et al. (2000) found that people were more interested in learning the views of an expert than the views of a nonexpert when making belief (right–wrong) judgments. People also were more interested in the views of an expert when making preference (liking) judgments, albeit to a lesser extent. Whether greater model expertise actually increases positive modeling of preferences or, in complementary fashion, whether a nonexpert might induce negative modeling is not known. That is, if an expert's preferences are deemed to represent good taste or sophistication, observing an expert in music respond favorably to a song may cause an observer to like the song more. Conversely, somebody who admits to no expertise whatsoever and responds favorably to a song may cause an observer to dislike the song.

Experiment 1

Method

Participants and Design

Because model–observer gender similarity could confound music-taste similarity, we limited this study to female participants and models. A total of 157 female undergraduates attending the University of California, San Diego (UCSD), were randomly assigned to individual sessions in a 2 (music-taste similarity) × 2 (model expertise) design or to a no-model appended condition. All participants received class credit for participation.

Primary Musical Stimulus

In order to be in a position to detect both positive and negative modeling effects, we conducted extensive pilot work to find a music selection that was not widely known, did not fit easily into a single genre of music, and was judged in fairly neutral terms by members of our subject pool (i.e., undergraduates). One individual described the selected song as an "out-of-date, ska-style pop song that is neither good nor bad." Pilot work indicated the selection produced fairly neutral, though slightly negative, reactions on average.

Procedure

When the participant arrived at the laboratory, she was asked to take a seat until "another participant" who had signed up for the experiment arrived. Shortly thereafter, the other participant, a confederate who served as the model, arrived. Participants were then told that they were about to take part in a pilot study about people's tastes in music and that the study would include interview questions about them and about their taste in music. A rigged coin toss determined that the participant would answer each of the interview questions first. Interviews were then administered in a manner that enabled the model to manipulate both her similarity to the participant in musical taste and her musical expertise (see below). The order of the music-taste and expertise interviews was counterbalanced.

Similarity manipulation. The music-taste interview was introduced to the participant and model as a series of ratings designed to get information about their current tastes in music. It consisted of six pieces of music covering a range of styles: classic rock, country, alternative rock, modern pop, classic pop, and classical. Each piece of music was played to the participant and model for 40–60 s. After each piece of music was played, the participant was asked to rate, out loud, how much she liked it on a scale from −10 (*dislike very much*) to 10 (*like very much*), with the midpoint labeled *neither like nor dislike*. For reference, a visual depiction of this scale was displayed on the wall.

After the participant had given her rating, the model was asked to give a rating on the same scale. Depending on the randomly assigned condition, the model gave a rating that was similar (within 2 points) or dissimilar (different by at least 6 points) to the participant's rating. Also, models were trained to color their ratings by giving nonchalant explanations for each rating. For instance, the model might say, "My parents used to listen to that music all the time when I was growing up, and I got totally sick of it. I'll give that song a negative seven." These embellishments were made in an effort to increase the salience of the model's ratings.

Expertise manipulation. The music-expertise interview, comprising 10 questions, was introduced as a way for the experimenter to find out about the participants' experiences with music. The first 4 questions asked for demographic information, and the remaining questions and scripted answers were designed to allow the model to manipulate her apparent expertise in music. These questions asked (a) whether they had jobs and, if so, the types of jobs; (b) whether they had taken any music classes; (c) whether they played any musical instruments; (d) whether they had taken any formal music lessons; (e) whether they had ever been associated with a musical group or band; and (f) where they tended to listen to music.

Models always responded to the first four questions in the same manner by giving a realistic age, year in school, and major. The model always said she was from Seattle, Washington, so that in expert conditions, she could make references to local music without the participant becoming suspicious (no participant was from Seattle). In expert conditions, the model's remaining answers to the experimenter's questions were that she (a) wrote a column for an independent music magazine and reviewed different bands in the area; (b) had taken a number of music classes, listing a few at UCSD and others at a community college in Seattle; (c) played the saxophone and violin; (d) had taken lessons until high school and then started teaching violin to make extra money; (e) had played in high school jazz bands, currently had a small group of friends with whom she played various types of music, and had played with the Seattle Symphony Orchestra for a year before coming to UCSD; and (f) listened to music very often, including while she was studying, cooking, and getting ready for school in the morning. The highly specific answers in the expert model condition served to make the model sound very knowledgeable about music. In nonexpert conditions, the model had no special connections with music. She said that she (a) did not have a job aside from being a student; (b) had never taken any music classes; (c) did not play any instruments; (d) never had any formal music lessons; (e) had never played in a band; and (f) did not listen to music very often, noting it "isn't really my thing."

No-model condition. No additional subject (i.e., model) was present in the no-model condition while the experimenter administered the music-taste and music-expertise interviews. Thereafter, the participant reported opinions about a "randomly chosen" piece of music (i.e., the primary stimulus) during the music-rating task described below.

Music-rating task. Once both interviews were completed, the experimenter asked the participant and model to help him narrow down a long list of music the lab had been gathering. Their task was to choose their favorite piece of music from a list containing 150 selections that ranged from classical to modern popular music. To prevent participants from guessing the song the model had chosen and to avoid expectations concerning the song, they were told their list and the model's list were different. About 60 s after beginning to inspect her list, the model exclaimed, "Wow! I can't believe you have this song. This is one of my favorites!" This was designed to increase the salience of the model's opinion. When the participant appeared to have made her choice, the experimenter asked the participant and the model to report only the number beside the songs they had chosen and not to reveal the titles or artists. The participant and model were also asked to rate out loud how much they liked their chosen pieces of music on a scale from −10 (*dislike very much*) to 10 (*like very much*). After she provided her rating, the participant heard the model answer that the piece of music she chose was "definitely a 10."

Next, the experimenter said he wanted to speak with each of the participants individually and that they would continue to go in the same order as during the interviews. The model therefore was asked to fill out some questionnaires at a desk in the hallway while the participant and experimenter spoke privately. This was done to avoid the social pressure that would likely have been created if the model had been present while the participant reported her opinions. The experimenter told the participant that they were going to continue to narrow down the long list of music by listening to the piece of music the "other participant" had chosen, whereupon 90 s of the primary music stimulus was played to the participant. The participant then was asked to complete questionnaires containing the dependent measures and manipulation checks. This was done deliberately with the model out of the room, and in writing, to minimize social conformity pressures.

Dependent measures. The primary dependent measure on the task questionnaire asked how much the participant liked the primary music stimulus, that is, the favorite selection chosen by the model (on a scale from −10 [*dislike very much*] to 10 [*like very much*]). We also asked participants to rate separately the sophistication of the piece of music (on a scale from −10 [*very unsophisticated*] to 10 [*very sophisticated*]). This allowed us to test the possibility that participants would view the selected piece of music as more sophisticated if the model was believed an expert and that such differential sophistication judgments would mediate any model-expertise effects on liking ratings.

After the participant completed these ratings, the experimenter asked her to switch places with the other participant and to complete a posttask questionnaire outside the room. The posttask questionnaire assessed the effectiveness of the similarity and expertise manipulations with ratings of the similarity of the participant's musical tastes to those of the model (on a scale from 0 [*not at all*] to 10 [*very much*]) and how much expertise the model had in music relative to the participant (on a scale from 0 [*much less*] to 10 [*much more*]).

Before debriefing, without the model present, participants were asked to explain in their own words what they thought was the true purpose of the experiment. All of the participants said they believed the experiment was aimed at getting different opinions about music, and none expressed any suspicions regarding the model or the experiment's goals. Participants were then debriefed, given credit, and thanked for their participation.

Results

Manipulation Checks

Self-reports of how similar the participants felt to the model in musical taste and how they regarded the model's musical expertise were analyzed with separate 2 (similarity condition) × 2 (expertise condition) analyses of variance (ANOVAs).

Similarity. Participants rated the similar model as much more similar to themselves than the dissimilar model ($Ms = 4.60$ vs. 1.21), $F(1, 120) = 353.95$, $p < .001$. Separately, participants also reported feeling more similar to the expert model than to the nonexpert model ($Ms = 3.18$ vs. 2.63), $F(1, 120) = 9.38$, $p < .03$. There was no significant interaction ($p > .05$).

Expertise. As intended, the participants rated the musical expertise of expert models much higher ($M = 8.83$) than nonexperts ($M = 3.38$), $F(1, 121) = 348.56$, $p < .001$. Also, there was a smaller but significant effect of model similarity such that similar models were judged more expert ($M = 6.47$) than dissimilar models ($M = 5.74$), $F(1, 121) = 6.16$, $p < .02$. However, there also was a marginally significant interaction between taste similarity and expertise, $F(1, 121) = 3.13$, $p < .08$, which indicated that similar models were judged to have more expertise than dissimilar models primarily when the model was nonexpert ($Ms = 4.00$ vs. 2.76), $t(59) = 2.61$, $p < .02$, rather than expert ($Ms = 8.94$ vs. 8.73), $t(62) = 0.60$, *ns*.

Reactions to the Primary Piece of Music

Ratings of the primary piece of music for liking and sophistication were first separately analyzed, excluding the no-model condition ($n = 32$), with 2 (similarity condition) × 2 (expertise condition) ANOVAs. Ratings in no-model conditions then were compared with those in model conditions by using independent *t* tests.

Preference ratings. As predicted, there was a significant main effect of model similarity on participants' ratings of how much they liked the piece of music, $F(1, 121) = 40.56$, $p < .001$ (see Figure 1A). Observing the more similar model give the music a favorable rating caused the participant to give substantially more favorable ratings of the music ($M = 0.30$) than did observing the relatively dissimilar model give it the same rating ($M = -4.39$). In contrast, the model's expertise had no effect on these ratings (expert $M = -1.96$ vs. nonexpert $M = -2.13$), and there was no interaction ($Fs < 1$).

Collapsing across expertise conditions, follow-up *t* tests revealed that relative to the no-model control condition ($M = -1.28$), preference ratings became marginally ($p = .08$) more positive after exposure to the similar model ($M = 0.30$) and

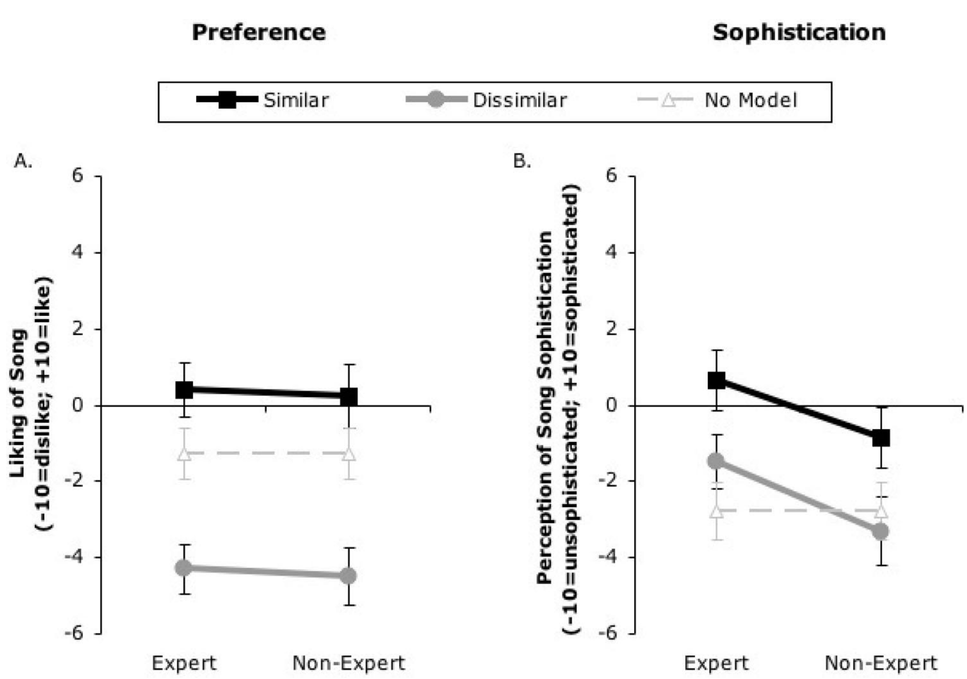

Figure 1. Experiment 1 mean ratings of (A) how much participants liked the critical song (preference) and (B) song sophistication by similarity and expertise conditions. Higher ratings indicate greater liking and greater sophistication.

significantly ($p < .001$) more negative in response to the dissimilar model ($M = -4.39$). Thus, there was weak evidence of positive modeling and strong evidence of negative modeling, as a function of model similarity.

Sophistication ratings. Model expertise did affect judgments of the music's sophistication, such that the piece was judged more sophisticated if the model was thought to be an expert relative to a nonexpert ($Ms = -0.42$ vs. -2.08), $F(1, 121) = 4.39$, $p < .04$ (see Figure 1B). Separately, a model similarity effect indicated that the music also was judged as more sophisticated if the model's musical tastes were believed to be relatively similar rather than dissimilar to the participant's ($Ms = -0.10$ vs. -2.40), $F(1, 121) = 8.44$, $p < .01$. There was no interaction between these factors ($F < 1$).

Collapsing across similarity conditions, follow-up t tests indicated that relative to no-model sophistication ratings ($M = -2.78$), ratings were significantly ($p < .02$) higher in the expert model condition ($M = -0.45$) and were not significantly different ($p > .45$) in the nonexpert model condition ($M = -2.02$). Additionally, collapsing across expertise conditions, t tests revealed that relative to the no-model ratings ($M = -2.78$), sophistication of the music was judged significantly ($p < .01$) higher in the similar model condition, ($M = -0.11$) and not significantly different ($p > .64$) in the dissimilar model condition ($M = -2.34$).

Discussion

Previous work involving skill acquisition has indicated that positive modeling is more likely in response to an expert than to a nonexpert model (for a discussion, see Schunk, 1987). In the current context, however, where the target behavior (liking a piece of music) is not objectively verifiable, we found no evidence that a model's expertise produced either positive or negative modeling. This null effect appears not to be attributable to any failure of the expertise manipulation; manipulation checks indicated that the expert and nonexpert models were perceived as intended, and the participants did judge the same piece of music as more sophisticated if it had been chosen by the expert compared with the nonexpert model. This latter finding is of some interest in that differential perceptions of the music's sophistication occurred despite the fact that the models never indicated their perceptions of the music's sophistication per se. Although we did not assess participants' schemas for music experts, we suspect there is a general expectation that experts, almost by definition, have relatively sophisticated tastes and that participants therefore likely inferred that the music must be more sophisticated if chosen by an expert. This might also explain why similar models, who were rated as more expert in music than dissimilar models, likewise had an effect on ratings of sophistication. The finding of more immediate interest, however, is that there was no evidence that expertise effects on perceptions of sophistication led to any modeling effects on participants' value judgments, that is, on their liking of the music.

Value judgments, however, were influenced significantly by the similarity of the model observed. The same piece of music that had been declared "a favorite" by a model was better liked by participants if they believed the model's tastes in music were relatively similar to their own. In addition, when compared with no-model conditions, participants in the dissimilar music-taste conditions had significantly more negative reactions, and those in similar music-taste conditions had marginally more positive reactions to the musical selection.

It is possible the positive modeling effect of the similar-taste model was not stronger because of limits in how similar the participants viewed the model. While the similarity manipulation clearly induced differences in perceived similarity, the mean similarity rating in the similar-taste condition fell slightly below the midpoint of the scale. Although interpretation of a scale mean like this in absolute terms is questionable without evidence of true interval scaling (Hays, 1994, pp. 71–77), we believe two factors may have reduced perceptions of music-taste similarity. First, we intentionally made the portrayals of the expert and nonexpert extreme to avoid the perception that the experts were more dissimilar to participants than the nonexperts. By doing so, neither model could be entirely similar to the participant (see Suls et al., 2000). Second, the primary piece of music was chosen because pilot study participants rated it neutrally, if not slightly negatively (as did no-model condition participants), enabling us to assess influence in both positive and negative directions. Participants' assessments of this piece therefore were very different from the models' assessment of it as "definitely a 10." Such disagreement would itself reduce perceptions of similarity (e.g., Orive, 1988). It is quite possible that a more similar model, matched with the participant, for example, also on expertise, would produce more positive modeling. The second experiment more directly creates model–observer similarity.

The effect of the dissimilar-taste model on participants' opinions provides the clearest evidence to date that model dissimilarity can produce negative modeling. More generally, the pattern of results supports the possibility that the previously reported greater effects of similar compared with dissimilar models (e.g., Kobasigawa, 1968; Rosekrans, 1967; Wolf, 1973) reflect not only that similar others can cause imitation, but also that dissimilar others can actually decrease the likelihood of imitation.

Given the relative novelty of the negative modeling effect found in the first experiment, a first goal of the next study was to see whether that effect is replicable. A second goal was to begin to look at possible positive and negative modeling mechanisms, focusing in particular on how much the participant likes the model. As previously noted, individuals tend to like people who are similar to themselves (e.g., C. D. Johnson, Gormly, & Gormly, 1973; Singh & Ho, 2000), and other work suggests that individuals may conform more with those they like, in part for acceptance (Bovard, 1953; Goethals & Nelson, 1973; Kiesler & Corbin, 1965; Rotter, 1967; Singh & Ho, 2000) and in part perhaps to maintain balance or cognitive consistency among cognitions (e.g., Heider, 1958; Newcomb, 1968; Rosenberg & Abelson, 1960). Heider's (1958) balance theory perspective, for example, would hold that if a participant in our first study liked the model, the participant should have felt pressure to become positive toward the musical selection made by the model, in order to achieve balance or consistency among the cognitive elements, namely, positive relationships among participant, model, and music. Conversely, if the participant disliked a model, the participant should become negative toward the model's selection in order to achieve balanced relationships. The latter prediction, despite its intuitive appeal ("If I dislike someone, I prefer to disagree with him or her"), appears to have received surprisingly little prior empirical support to date

(Burdick & Burnes, 1958; Newcomb, 1952). Accordingly, a second goal of the next study was to examine the possibility that the observed positive and negative modeling effects stem from how much a person likes or dislikes the model.

A third goal of the second study was to expand our consideration of model similarity. In the first study, we manipulated similarity along a dimension that was closely related to the target behavior, namely, the model's similarity to the participant in opinions about music. In addition to replicating this manipulation of relevant-opinion similarity in the next study, we sought to manipulate the general-background similarity of the model to determine whether it separately, or perhaps in interaction, would also affect the degree and direction of subsequent opinion modeling. A relatively straightforward prediction is based on the notion that people like others more when they are similar to them in more ways, and that this liking mediates tendencies to positively or negatively model others' opinions. Thus, a model that is similar in terms of relevant opinions and general background should induce maximal positive modeling, whereas the maximally dissimilar model should produce the most negative opinion modeling.

A somewhat different but plausible possibility is that general-background similarity and relevant-opinion similarity could exert an interactive influence on opinion modeling. This follows from an argument put forth by Goethals and Darley (1977) in their attributional reformulation of social comparison theory, which holds that individuals are motivated to find validation for their opinions, and the broader the validation of their views of the world, the better. From this perspective, someone who holds similar opinions but has a dissimilar general background may imply more prevalent agreement in the general population, because she or he presumably does not share one's biases the way a similar-background model would (Goethals, 1972; Goethals & Darley, 1977). Consistent with this view, Orive (1988) found that confidence in a mock jury judgment was unaffected by learning that others with similar crime-related attitudes agreed with the judgment, presumably because such agreement was assumed. Confidence did increase significantly, however, if agreement about the case came from others with dissimilar attitudes toward crime (see also Goethals & Nelson, 1973).

In the present context, a model who expresses similar relevant opinions and otherwise has a very different background may provide stronger validation of the participant's opinions and thereby might motivate even more positive modeling than would a model thought similar in both relevant opinions and general background. A model with a dissimilar background who expresses opinion similarity may particularly convey to the participant that her opinions are good by virtue of being widely shared. To preserve this relatively unexpected and valuable perceived validation, participants may become more favorable toward the model's selection (i.e., exhibit positive modeling).

Models with dissimilar relevant opinions would not provide information that validates participants' opinions, but they may provide information about what is an inappropriate opinion for someone like the participant (see Berger, 1977). In contrast to Festinger's (1954) suggestion that when others are too different they cease to become relevant for social comparison, it is possible that the observation of a model who is dissimilar to an observer in both relevant opinions and general background will cause more intense negative modeling than a model who is dissimilar to the observer in only relevant opinions. Such a maximally dissimilar model's preferences may seem especially inappropriate for someone like the participant. In addition, the response to a broadly dissimilar model may be derogation and hostility (see Schachter, 1951), which in the present context could contribute to a negative opinion-modeling effect. Thus, this social comparison perspective suggests the possibility that the positive and negative modeling effects we observed in the first study may be especially pronounced when the models are believed to have dissimilar general backgrounds.

Experiment 2

Method

Participants and Design

To avoid possible complications involved with having different model–observer sexes, we again limited this study to female participants and models. A total of 247 female undergraduates were randomly assigned to a 2 (relevant-opinion similarity) × 2 (general-background similarity) design or to a no-model appended condition. All participants received class credit.

Primary Musical Stimulus

The primary stimulus used in Experiment 1 was also used in this experiment.

Procedure

After the participant and model arrived at the laboratory, the experimenter explained that they were about to take part in an experiment concerned with how accurately people predict others' tastes. Participants were told that after a short interview, they would be given 5 min to "try to get to know one another a little better," and that thereafter they would report their reactions to a stimulus and predict how the other person would react to the same stimulus. This cover story allowed us to have a bonding period during which background similarity could be manipulated. It also served to maintain participants' interest in the model as a person, increasing the salience of the manipulations. A rigged coin toss determined that the participant would answer each of the interview questions first. Interviews were then administered in a manner that enabled the model to vary her similarity to the participant in musical taste and her general-background similarity (see below). The order of the musical-taste and background similarity manipulations was counterbalanced.

Relevant-opinion similarity manipulation. Similarity of taste in music was varied in a manner identical to the first experiment. Thus, each participant was asked to listen to six pieces of music that ranged widely in style and, after each selection, to rate out loud how much she liked that selection on a scale from −10 (*dislike very much*) to 10 (*like very much*), with the midpoint labeled *neither like nor dislike*. After the participant had given her rating, the model was asked to give a rating on the same scale. Depending on the randomly assigned condition, the model gave a rating that was similar (within 2 points) or dissimilar (different by at least 6 points) to the participant's rating, again accompanied by brief elaborations or explanations to increase salience and plausibility.

General-background similarity manipulation. The interview used to manipulate similarity of general background began with the same four demographic questions used on the music-expertise interview in the first experiment. The main purpose of this portion of the interview was to allow the model to obtain background information about the participant that the model could use during the impromptu bonding period (described below). The next six questions on the interview asked the participant and then the model to rate how much they liked certain activities (trying new foods, surfing the Internet, following world politics, going to a museum, and shopping at a mall) on a scale from −10 (*dislike very much*) to 10 (*like very much*). The models gave similar (within 2 points) or dissimilar (at least 6 points difference) ratings, depending on condition. As with the music-similarity manipulation, models also gave short explanations to increase the salience and credibility of their ratings.

After the background interview questions and ratings were completed, the experimenter left the room for 5 min to allow the model and participant to "get to know one another a little better." The experimenter explained that there was no right or wrong way to do this and recommended that they talk about something other than music, as that topic would be (or had already been, depending on counterbalancing) covered by the music-taste interview. During the bonding period, the model used the information the participant had provided during the general-background interview to help direct the conversation to topics that facilitated a discussion of similarities or dissimilarities. For example, if the model was familiar with the participant's hometown, she might choose to talk about where the participant was raised and opinions about that city in order to manipulate background similarity.

This unstructured bonding period allowed models to express more personally their background similarity or dissimilarity to each participant. Such a manipulation, because it involves actual interaction between participants and models, has the strengths of being more involving and having higher ecological validity, but it also has the potential trade-off of reduced experimental control. To minimize the latter, we trained models to follow strict guidelines. The model always asked for the participant's opinions about a topic before the participant asked for the model's opinion and tried to cover as many different topics during the 5-min bonding period as possible. Such topics included how much they liked classes, professors, different hobbies, weekend activities, and different areas of San Diego. Models manipulated their similarity to the participant by being from similar or dissimilar areas, having similar or different hobbies and pastimes, and having the same or different opinions about a variety of issues. Once 5 min had passed, the experimenter reentered and the experimental session continued.

No-model condition. As in the previous experiment, the no-model condition involved the same procedure as the model conditions, omitting the 2nd participant (model). Consistent with the model conditions in this experiment, participants were told they would be predicting the tastes of another person (who in this case was not present but would be described in writing on a posttask questionnaire). They also answered interview questions, although alone in this condition, and rated a "randomly chosen" song that was the primary stimulus during the music-rating task (described below).

Dependent measures. After the similarity manipulations, we followed the same music-rating task procedure used in the first experiment: Separate lists of music were distributed to the participants; the participant and model were asked to choose their favorite piece of music from their lists; while reading the list, the model expressed her surprise that one of her favorite songs was included; when asked by the experimenter, she rated her choice as "a definite 10"; the model was excused to wait in the hallway; and the participant was asked to listen in private to a 90-s segment of the model's favorite selection before completing the primary dependent measure, her rating of how much she liked or did not like the piece (on a scale from −10 [*dislike very much*] to 10 [*like very much*]).

Thereafter, participants took a seat in the hallway and completed a questionnaire that included items relevant to their liking of the model, in addition to manipulation checks. To assess liking, we asked participants to rate the likelihood that they could be friends with the model (on a scale from −10 [*not at all likely*] to 10 [*very likely*]) and their overall liking of the model (on a scale from −10 [*dislike very much*] to 10 [*like very much*]). In an effort to encourage honest responses, we reminded participants with a sentence following each of these questions that their answers would be kept completely confidential and that the other subject would not be shown their answers. These items were strongly interrelated (α = .94) and therefore were summed to create a model-liking index for analyses.

To assess the effectiveness of the relevant-opinion similarity manipulation, we asked participants to rate how similar they thought the other participant's tastes in music were to their own (on a scale from −10 [*very dissimilar*] to 10 [*very similar*]) and the likelihood that they listened to the same radio stations as the model (on a scale from −10 [*not at all*] to 10 [*very likely*]). Cronbach's alpha revealed high reliability for these items (α = .86), and they therefore were summed to create a music-taste similarity index. To check on the effectiveness of the manipulation of general-background similarity, we asked participants to rate their similarity to the model in terms of general background (regardless of their tastes in music), hobbies, and career goals (on a scale from −10 [*very dissimilar*] to 10 [*very similar*]). These items were strongly interrelated (α = .84) and therefore were summed to create a background-similarity index. Finally, to assess overall perceptions of similarity, we asked participants how similar they felt the model was to them in general, considering everything they knew about the model (on a scale from −10 [*very dissimilar*] to 10 [*very similar*]).

Once participants had completed this questionnaire, they were first probed for suspicions as in the first experiment (with similar reassuring results) before being debriefed, thanked for their participation, and given credit.

Results

Manipulation Checks

Both similarity manipulations appear to have been effective. Condition means are reported in Table 1.

Relevant-opinion similarity index. A 2 (relevant-opinion similarity) × 2 (general-background similarity) ANOVA performed on the relevant-opinion similarity index indicated that participants gave substantially higher similarity ratings to the similar compared with dissimilar relevant-opinion models (*M*s = 4.81 vs. −12.92), $F(1, 177) = 231.54$, $p < .001$. There was also some effect of the other manipulation, in that participants separately rated models that were similar compared with dissimilar to them in terms of their general backgrounds as sharing more similar relevant opinions (*M*s = −2.26 vs. −5.85), $F(1, 177) = 9.48$, $p < .003$. There was no interaction ($p > .10$).

General-background similarity index. A 2 × 2 ANOVA performed on the general-background similarity index indicated that participants gave models in the similar-background condition significantly higher similarity ratings ($M = 7.38$) than those in the dissimilar-background condition ($M = -8.95$), $F(1, 177) = 89.62$, $p < .001$. Again, there was some effect of the other manipulation: Participants felt that models with similar compared with dissimilar relevant opinions were also more similar to themselves in general background (*M*s = 2.80 vs. −4.35), $F(1, 177) = 17.13$, $p < .001$. There was no interaction ($p > .10$).

Perceptions of overall similarity. A parallel 2 × 2 ANOVA revealed that participants judged models that were in the similar-opinion condition ($p < .0001$) or in the similar-background condition ($p < .0001$) to be more similar overall to them than were their dissimilar-condition counterparts, respectively. There was also an interaction effect, $F(1, 177) = 4.27$, $p < .05$. As indicated in Table 1, the effect of relevant-opinion dissimilarity was particularly strong when the model was also believed to have a dissimilar general background, such that participants judged models that

Table 1
Experiment 2 Mean Ratings of Relevant-Opinion Similarity, General-Background Similarity, Overall Similarity, and Liking of the Model by Condition

	Similar background		Dissimilar background	
Posttask measure	Similar opinion	Dissimilar opinion	Similar opinion	Dissimilar opinion
Manipulation check indexes[a]				
Relevant-opinion similarity (−20 to 20)	6.26	−10.78	3.37	−15.06
Background similarity (−30 to 30)	9.60	5.20	−4.00	−13.90
Overall similarity (−10 to 10)	2.34	0.11	0.39	−4.21
Liking of model index (−20 to 20)[b]	8.02	7.44	7.71	2.04

[a] Higher ratings = greater perceived similarity. [b] Higher ratings = greater liking of the model.

were dissimilar on both dimensions to be more than additively dissimilar to themselves overall.[1]

Preference Ratings

An initial 2 (relevant-opinion similarity) × 2 (general-background similarity) ANOVA, excluding the no-model condition ($n = 66$), was performed on participants' ratings of how much they liked the models' favorite song. This analysis revealed a significant effect of opinion similarity, $F(1, 177) = 11.85$, $p < .002$. Ratings of the piece of music were significantly more positive (or less negative) when participants believed the model's relevant opinions were similar compared with dissimilar to their own (*M*s = −1.12 vs. −3.55). There was no main effect of background similarity ($F < 1$), but the main effect of opinion similarity was qualified somewhat by an interaction with the model's background similarity, $F(1, 177) = 3.67$, $p = .057$. As can be seen in Figure 2, the more favorable ratings of the music given when models were similar compared with dissimilar in musical taste, although present in both cases, were statistically different when participants believed their general background was dissimilar, $t(87) = 3.57$, $p < .01$, but not similar, $t(90) = 1.15$, $p > .20$, to that of the model.

Figure 2 also indicates that music ratings in the no-model conditions were less favorable than in the similar-taste model conditions and were more favorable than in the dissimilar-taste model conditions. However, when the models were similar to the participant in general background, independent *t* tests indicated no significant differences between no-model and similar-opinion conditions ($p > .38$) or between no-model and dissimilar-opinion conditions ($p > .65$). In contrast, *t* tests showed that when the models were dissimilar to the participant in general background, there were significant differences between the no-model and dissimilar-opinion conditions ($p < .03$) and between no-model and similar-opinion conditions ($p < .05$; see Figure 2). Thus, significant evidence of positive and negative modeling was found as a function of similarity of relevant opinions, but only when participants thought the model's general background was different from their own.

Liking of Model

A 2 (relevant-opinion similarity) × 2 (general-background similarity) ANOVA performed on the liking index revealed main effects of opinion similarity and background similarity, such that models more similar in relevant opinions or in general background were better liked than their relatively dissimilar counterparts (*p*s < .02). These effects were qualified, however, by their significant interaction, $F(1, 177) = 5.28$, $p < .03$. As can be seen in Table 1, the similarity of the model's relevant opinions exerted substantially more pronounced effects on liking when the model was thought to have a general background that was dissimilar to the participant's background. Specifically, participants indicated substantially less liking for the models who differed not only in their opinions but also in their general backgrounds.

Mediation Analyses

We next conducted mediation analyses, following Baron and Kenny (1986), to determine whether the degree to which participants liked the model mediated the degree to which they modeled her stated musical preference. Regressing participants' ratings of the music piece on the independent variables (music-taste similarity, general-background similarity, and their interaction) produced results that parallel ANOVA results previously reported (viz., a significant effect of music-taste similarity, $\beta = .25$, $p < .001$; and a marginal interaction effect, $\beta = .62$, $p = .057$), as did a parallel regression on the hypothesized mediator, model liking (viz., significant effects of music-taste similarity, $\beta = .20$, $p < .01$; background similarity, $\beta = .19$, $p < .02$; and their interaction, $\beta = .73$, $p < .03$). The key analysis then involved regressing participants' ratings of the music piece simultaneously on the independent variables and model liking to determine whether model liking accounted for the significant relationships between model similar-

[1] Additional analyses of the manipulation checks indicated in each case that similarity and dissimilarity perceptions differed significantly from the midpoint of the relevant scale such that (a) the similar and dissimilar opinion models produced mean perceptions on the relevant-opinion similarity index that were significantly above and below the neutral midpoint (0), respectively (*p*s < .0001); (b) the similar and dissimilar background models produced mean perceptions on the background-similarity index that were significantly above and below the midpoint, respectively (*p*s < .0001); and (c) both the similar-opinion and similar-background models produced mean perceptions of overall similarity that were greater than the midpoint (*p*s < .002), whereas the dissimilar-opinion and dissimilar-background models produced means significantly below the midpoint (*p*s < .0001).

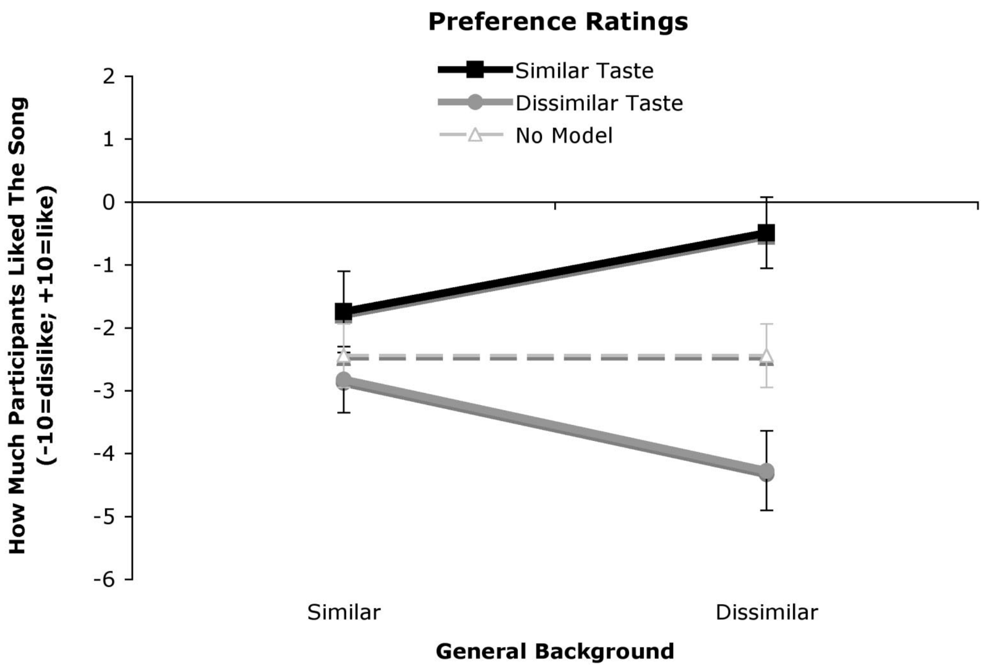

Figure 2. Experiment 2 mean ratings of preference by relevant-opinion (music taste) and general-background similarity conditions.

ity and music ratings. The results of this regression analysis indicated that the more participants liked a model, the higher (more similarly) they rated the piece of music chosen by the model ($\beta = .19$, $p < .02$) and that, controlling for this effect, neither the main effect of music-taste similarity ($\beta = .11$, $p > .60$) nor its interaction with background similarity ($\beta = .48$, $p > .15$) approached significance. One-tailed Sobel tests showed that the mediator accounted for a significant amount of variance in the main effect ($z = -1.86$, $p < .03$) and interaction ($z = -1.71$, $p < .04$). Thus, together these results provide evidence that the amount participants liked or disliked a model can account at least partially for the degree to which they exhibited positive or negative opinion modeling.

General Discussion

In accord with previous work (e.g., Becker & Glidden, 1979; Berger, 1977; Hicks, 1965; Kobasigawa, 1968; Kornhaber & Schroeder, 1975; Rosekrans, 1967; Wolf, 1973), both studies show that people's responses to a stimulus become more in line with the responses of others who are similar compared with dissimilar to them. More important, both studies also showed that dissimilar others can actually induce negative opinion modeling. That is, opinions became more unlike those of a dissimilar person than would have been the case had there been no exposure to that person's view. We found that relevant-opinion similarity and dissimilarity can produce positive and negative modeling, respectively, but do so more strongly under certain conditions. The first study revealed that when the general background of the other person was unknown, information conveying relevant-opinion similarity (similarity in musical taste) produced near-significant positive opinion modeling, and relevant-opinion dissimilarity information produced significant negative opinion modeling. The second study extended these results by demonstrating that relevant-opinion similarity is particularly likely to produce positive and negative opinion modeling when the other person's general background is believed to be dissimilar rather than similar. Specifically, we found that relevant-opinion similarity and dissimilarity produced only weak trends toward positive and negative modeling, respectively, when the general background of the other person was known to be similar to the participant's; in contrast, when the general background of the other person was known to be dissimilar, relevant-opinion similarity produced significant positive modeling, and relevant-opinion dissimilarity produced significant negative modeling of opinions.

Mediation analyses further suggest that opinion modeling stemmed in part from how much participants liked the various models. People generally like those with whom they agree, in part because having one's view of the world validated is reinforcing (e.g., Byrne, 1961; Clore & Baldridge, 1968; Condon & Crano, 1988; Festinger, 1951; Gutman, Knox, & Storm, 1974; C. E. Miller & Norman, 1976). Similarity on other dimensions also tends to foster liking (e.g., Byrne, Clore, & Worchel, 1966; Byrne, Griffith, & Stefaniak, 1967), perhaps because with similarity comes familiarity, which tends to produce liking (Bornstein, 1989). Thus, it was not particularly surprising that, in the second study, we found that the models who were thought to be similar to participants in general background and in relevant opinions were better liked than their dissimilar counterparts. In fact, being similar along just one dimension (opinions or background) had a notable effect on how much participants liked the model compared with when the model and participant were not similar on either dimension. That is, models who were dissimilar to the participant in both opinions and background were particularly less well liked than the other models. More important, reports of how much participants liked or disliked the models accounted significantly for the degree to which the participants exhibited positive or negative opinion modeling.

These mediation results are broadly consistent with Heider's (1958) balance theory perspective, though we have no direct evidence that it was a desire for cognitive consistency per se that led participants to exhibit positive opinion modeling to those they liked and negative opinion modeling to those they did not like.[2] Although the amount participants liked or disliked the model appears to have been a significant factor in producing positive and negative opinion modeling, inspection of the overall data pattern suggests that additional processes, beyond those suggested by balance models, were likely involved. Although the one truly disliked model (dissimilar both in background and relevant opinions) produced the strongest evidence of negative opinion modeling, it was not the case that the most liked model produced the strongest evidence of positive opinion modeling. That is, the maximally similar model (similar both in background and relevant opinions) received the highest mean liking rating (though not appreciably higher than those of the two models who were similar to the participant in just one domain), but it was the model who was similar in relevant opinions but dissimilar in background that produced the strongest evidence of positive modeling.

It is always possible that our liking measure lacked the sensitivity needed to detect actual liking differences between the similar-opinion models. On the other hand, it may be that although people fundamentally like others more if they share their views of the world (and therefore are more apt to adopt their attitudes), people may be more impressed when opinion similarity comes from others whose general backgrounds are unlike their own. This could be the case for several reasons. First, shared opinions from someone of dissimilar background should be relatively unexpected (Goethals & Darley, 1977; Orive, 1988; Wheeler & Levine, 1967), and to the extent that unexpected information tends to capture more attention than expected information (Henderson & Hollingworth, 1998; Meyer, Niepel, Rudolph, & Schuetzwohl, 1991; Schuetzwohl, 1998), it might thereby have had more impact.

Beyond possible attention differences, a social comparison perspective would suggest that having similar opinions to someone of different general background provides an especially strong validation of the correctness of those opinions; the greatest opinion validation from a single source may come from agreement with others of dissimilar general background, because it connotes relatively wide acceptance (and correctness) of one's views (Goethals & Darley, 1977; Jones & Gerard, 1967; Orive, 1988; Suls et al., 2000; Wheeler & Levine, 1967). If so, a person may be especially likely to try to continue to see the world as such individuals do, not only (or perhaps even not principally) because he or she likes these individuals more, but in order to maintain the relatively high level of validation for his or her own opinions. That is, people may adopt the opinions of those who have validated their opinions to reciprocate a validating social comparison and to continue a positive social exchange (see Thibault & Kelley, 1959). In contrast, when others with dissimilar backgrounds exhibit dissimilar opinions in a domain, a person may not judge such dissimilar individuals to be completely irrelevant for social comparison, rendering their behavior without impact, as has long been presumed (Festinger, 1954; Gerard & Orive, 1987). Rather, in effect, people may infer that it is appropriate to not like what such people like.

Future work will be needed to determine more directly whether social comparison processes contribute to positive and negative opinion modeling separately from, or in conjunction with, how much an individual likes or dislikes the model. This may be a particularly difficult set of issues to untangle, as research has repeatedly shown that similarity and likability are strongly related (e.g., Bornstein, 1989; Byrne, 1961; Byrne et al., 1966; Byrne et al., 1967; Clore & Baldridge, 1968; Condon & Crano, 1988; Gutman et al., 1974; C. E. Miller & Norman, 1976). Manipulations of similarity with the model and liking for the model will overlap considerably because of people's robust tendency to like those who are similar and dislike those who are dissimilar to them. These two are related, of course, not just in laboratory manipulations, but also with actual friends and enemies. It may be theoretically interesting but not often applicable to understand the modeling impact of someone an individual greatly likes but simultaneously regards as very different from him or her in both general background and specific relevant opinions.

Because both experiments involved female participants and confederates, questions of how gender might moderate positive or negative modeling were not addressed here. It is worth noting that historically it was believed that women are more easily influenced and that men are more influential (Eagly, 1978). In addition, some data have suggested that women participate in social comparison slightly more often than men (Gibbons & Buunk, 1999) and that women may be more affected by downward comparisons (Kemmelmeier & Oyserman, 2001). However, gender differences in modeling and social comparison have not been consistent and appear to be highly personality and domain specific (Carli, 2001; Deaux & Major, 1987). For instance, opinions or behaviors believed to be particularly masculine or feminine may result in different male and female responses, and these differences may depend on personality characteristics, such as gender role and desire to individuate (Maslach, Santee, & Wade, 1987). Also, depending on the domain, the gender of a model may connote status or competence, thus causing differences in how observers respond (Eagly, 1983; Schunk, 1987). We believe that music is a relatively gender-neutral topic and that there is no clear a priori reason to anticipate that male dyads should react differently than female dyads. Nonetheless, gender differences in positive and negative modeling are potential issues for future research and will likely depend on other personality and situational factors.

Another important issue concerning these and any social influence processes is the internalization of the effects of influence. In our experiments, we went to some lengths to minimize pressures for public conformity without internalization. First, we had participants give their reactions to the primary music stimulus without the model present and with the understanding that the model would

[2] As an anonymous reviewer noted, Newcomb's (1968) extension of Heider's (1958) original balance model differs in positing that when a person (P) has a negative bond with (dislikes) another person (O), P should have no interest in, and therefore should feel no cognitive consistency pressures to reject, O's attitudes (see Crano & Cooper, 1973). To the extent that the negative modeling we observed involved consistency pressures, then, our results are more consistent with Heider's model.

never see the participants' responses. In addition, responses were given in writing, so even the experimenter had no knowledge of the participant's reaction. We therefore believe that the obtained effects are unlikely to be just compliance or to reflect a desire to please the other participant or the experimenter, but represent a genuine shift in the impression of the music. Future research can profitably further examine how this change came about (in addition to the duration of such opinion change and whether similar effects occur when social pressure is more public). It could be, for example, that knowing a certain person loves a piece of music changes the way one first listens to the music and causes one to interpret an otherwise ambiguous response as liking (or disliking). It could be that the effect is a consequence of having a positive expectation, regardless of how that is derived. It would take experiments that varied the source of prior expectations (e.g., see Suls et al., 2000), and the complexity or ambiguity of the stimulus, to disentangle various possible mechanisms of change.

It also will be important to determine whether similar positive and negative modeling processes occur in other realms. Here, we examined modeling effects on value (or preference) assessments, which concern questions like "Do I like X?" (Suls et al., 2000) and, as such, are not objectively verifiable (Goethals & Darley, 1977). Whether similar effects would be found in the realms of beliefs, which involve verifiable questions like "Is X true or correct?" (Goethals & Darley, 1977; Suls et al., 2000), or skill acquisition is unknown. When an objectively correct answer or response is possible, modeling may be more strongly mediated by the information a model provides than by liking for the model. Therefore, we might expect that, under such circumstances, the expertise of a model will have a greater impact. An expert model is more likely than a nonexpert to know the truth in his or her domain of expertise. Suls et al. (2000) found that when people indicated a verifiable belief, they preferred to learn the judgment of an advantaged (more expert) other over that of someone more similar to themselves. In contrast, when people were asked to indicate a preference (liking) judgment, they made comparison choices based more on the other's similarity than expertise. This suggests that the model–observer characteristics that lead to positive and negative modeling, and the processes underlying these effects, might differ in situations where the target opinion is a belief rather than a preference.

These caveats regarding domain noted, we believe our results nonetheless suggest that past conclusions that similar models have more influence than dissimilar models likely have been wrong in some instances and more generally have oversimplified the influence of model similarity (e.g., Bandura, 1986; Berger, 1977; Schunk, 1987). Studies demonstrating, for example, that children more frequently imitate same- than opposite-sex models (e.g., Wolf, 1973), although typically taken as evidence that similar models produce more influence, could reflect also, or instead, that children avoid acting like opposite-sex others—that is, negative modeling. People with backgrounds dissimilar to an observer's do not necessarily fail to influence modeling. On the contrary, our results indicate that someone with a dissimilar compared with a similar general background can actually evoke either more positive or more negative opinion modeling, depending on their similarity to the observer on other dimensions.

More generally, our findings extend the current understanding of modeling and of social comparison and interpersonal processes to include the impact of similarity and dissimilarity along multiple dimensions in a single source. Models, or social comparison referents, are never similar or dissimilar to an observer along only one dimension, yet research has rarely addressed this fact. Our results may also be relevant to intergroup behavior, inasmuch as groups, like individuals, are similar to each other on some dimensions and are dissimilar on others.

In considering the potential practical implications of our results, we note that opinion modeling opportunities are a pervasive aspect of everyday life, occurring, for example, whenever people informally compare their opinions of music, movies, food, or fashion. Opinion modeling can also involve more deliberate attempts to influence, such as through experts' critical reviews, advertising campaigns, and public health programs. Our results suggest that the impact of such models will depend on their similarity to the target of influence along several dimensions and may not be maximized by maximizing similarity. Our data also suggest that social influence efforts may not only fail to have their intended effect when the models are too different from the targets, but that they may actually backfire, by moving people in the opposite direction. Thus, it is possible that models who differ from targets across multiple dimensions could, for example, lead health campaigns to inadvertently encourage smoking, drinking, or drug use or cause commercial advertisements to produce avoidance of the promoted product. A better understanding of the additive and interactive effects of various dimensions of model similarity may enable optimal intended and minimal unintended social influence. Further examination of similarity across multiple dimensions promises to provide richer results and generate new theoretical questions.

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