

**SEEING THE SUBJECTIVE AS OBJECTIVE:  
NAÏVE REALISM IN AESTHETIC JUDGMENTS**

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## Abstract

Naïve realism, or the belief that one is privy to a knowable, objective reality (Robinson, Keltner, Ross, & Ward, 1995), represents a significant barrier to cooperation, conflict resolution, and effective communication. This research represents a novel contribution to the naïve realism literature in demonstrating for the first time that naïve realistic beliefs, and attributions about others based on those beliefs, are pervasive even in domains typically thought of as subjective, such as in aesthetic preferences. In this series of studies, participants made aesthetic judgments about various paintings and saw an alleged subject's preferences that either agreed with the participant or with another person who had supposedly been in the study. Participants believed another "participant's" preferences to be more objective when they matched those of the self, and were more likely to make negative dispositional attributions about the other (e.g., about individuality or leadership potential) when they possessed preferences opposite those of the self. These attributions crucially depend on the preferences and not the person being agreed with, are not predicated on witnessing a specific act of agreement, and emerge regardless of the ostensible source of bias. Implications for interpersonal perception and group cooperation and conflict are discussed.

*Keywords:* naïve realism, social influence, attribution, interpersonal perception

### Seeing the Subjective as Objective: Naïve Realism in Aesthetic Judgments

Armed with the knowledge that humans are so susceptible to various cognitive biases, few skeptical psychologists would argue that people experience the world as it truly is. Nonetheless, one still often clings to the “unshakeable conviction that he or she is somehow privy to an invariant, knowable, objective reality” (Robinson, Keltner, Ward, & Ross, 1995, p. 405). This pervasive lay theory, termed naïve realism (Griffin & Ross, 1991; Robinson et al., 1995), is the belief (and motivation) that one’s attitudes, experiences, preferences, and opinions reflect what is objectively good and true. Research on naïve realism sheds light on the consequences of thinking that one’s subjective experiences and attitudes are objectively true and correct for interpersonal perception as well as intergroup perception, cooperation, and conflict. To some extent, almost every person possesses naïve realistic beliefs: if one believes that they have found the best pizza place in Chicago or the best live band in Austin, for instance, they have already (to some extent) subscribed to naïve realistic beliefs about objectivity in food or music preferences. If one believes that one’s political party or religion is objectively true—and that others with different beliefs perhaps have a less privileged access to the truth—then one holds naïve realistic beliefs all the more. Intuition may tell us that one might be more likely to acknowledge subjectivity in one’s preferences about food or music, however, than one’s carefully-chosen positions on politics or religion. Given that people act as if they have some access to objective reality, to what extent do these beliefs about subjectivity actually matter? The present research represents the first investigation of the consequences of naïve realistic beliefs about objectivity in the subjective domain of artistic preferences.

In everyday experience, regardless of domain, one witnesses many different instances of two people possessing the same attitude, belief, or preference. Whenever one encounters two

other people who share the same opinions, there is an opportunity to make an attribution about *why* they share that opinion. If one believes that one's own subjective beliefs, opinions, and values are actually objective, then by extension one might believe that others who share one's attitudes objectively see the world as it truly is, too. If one witnesses someone agreeing with one's own beliefs, therefore, one might see it as another person independently arriving at what is objectively true and be more inclined to miss (or ignore) the fact that their attitudes or judgments could possibly be influenced by something else instead of "objective" reality. But how might one see others that agree with someone else (instead of the self) when they do not share one's view of reality? In short, one may construe their departure from "objective reality" (i.e., one's subjective perception of the world) as being attributable to one sort of bias or another.

### **Naïve Realism and Bias**

The insight that people may attribute bias to those who disagree with them, though profound in its consequences, is not new. First, the classic example of Princeton and Dartmouth fans making different attributions about the same exact game (Hastorf & Cantril, 1954), and much research since (see, e.g., Lord, Ross, & Lepper, 1979; Vallone, Ross, & Lepper, 1985), has made the point that people perceive "objective" reality in a subjective, and motivated, fashion. Even though one necessarily perceives objective reality subjectively, one still assumes that others will share in one's subjective perceptions. Evidence supporting the false consensus effect (Ross, Greene, & House, 1977; Gilovich, 1991), for instance, has illustrated that people overweight their own construal and preferences in making judgments about what others will perceive or prefer, a natural consequence of thinking one's preferences correspond to objective

reality. One may believe one's own perceptions, attitudes, and experiences to be objective, and overestimate agreement in others, but what happens when others disagree?

Naturally, if one believes one's own preferences to be objective, he or she will believe that others who disagree with them do not share their view of reality, even if they have more in common with one's views than previously realized (Robinson & Keltner, 1996; Robinson et al., 1995). Research on the introspection illusion (see Pronin, 2009, for a review) and the bias blind spot (Pronin, Lin, & Ross, 2002) has additionally explored ways in which people measure themselves by a different rod than they do others when it comes to attributions of bias and objectivity (cf. Pronin, 2008). First, people are quick to recognize (and sometimes even overestimate) bias in others' judgments, but have great difficulty doing the same when the bias applies to them instead (Pronin, 2007; Pronin, Gilovich, & Ross, 2004; Pronin, Lin, & Ross, 2002). When considering conformity, people often judge themselves to be less susceptible to social influence than their peers in a variety of domains (Pronin, Berger, & Molouki, 2007). Because of these asymmetries, one may be reluctant to attribute bias to others who agree with them, even when it could plausibly exist; by the same token, one is quick to identify bias in others who disagree. In contrast to when others agree with one's own preferences, when witnessing someone agree with another person who holds opposite preferences to the self one may forsake the explanation that they also independently formed an evaluation, judgment, or belief for the attribution that their shared attitude or behavior *must* have come from some sort of social influence or other biasing factor. Why else would they believe (or at least espouse) something so "obviously" false?



### **Social Influence and Agreement**

When witnessing agreement, the attributions made about other parties and the specific act of agreement may crucially depend upon whether the target is agreeing with one's own "objective" attitudes or to the opinions and beliefs of another. In addition to overestimating the prevalence (and correctness) of their own beliefs, people assign biases to those who see the world differently. The biases attributed to differences in opinion, however, likely correspond to the available or salient attributions about the biased source of another's preference. When witnessing someone agreeing with another who doesn't share one's beliefs or preferences, then, one may particularly make attributions of social influence in order to explain the source of their disagreement.

Social influence has been a consistently active area of psychological research despite the topic's age (see Cialdini & Goldstein, 2004, for a review of the recent literature). Most often, however, social influence is studied from the point of view of eliciting, enabling, or understanding conformity, compliance, or obedience: what conditions lead to conformity (e.g., Asch, 1956; Sherif, 1935)? How likely are people to conform in a given situation, and how do they behave once they conform (e.g., Baron et al., 1996)? How can one get others to conform, comply, or obey (e.g., Cialdini, 1990, 2003)? How do people resist social influence and break with conformity (e.g., minority influence; Moscovici & Nemeth, 1974)? What does social influence look like across time (Latané & Bourgeois, 2001; Newcomb, 1943, 1967; Prentice & Miller, 1993) or in the brain (Klucharev et al., 2009)? While research investigating these questions is extremely important, research on social influence almost always approaches the phenomena of conformity, compliance, and obedience from the perspective of the conformer, i.e. the one who is the subject of social influence, with some notable exceptions (see, e.g., Jones,

Jones, & Gergen, 1963). The present research, on the other hand, attempts to investigate attributions of social influence and dispositional attributions related to conformity from the point of view of the target (i.e., the one at whom agreement is directed) or observer of agreement.

### **Naïve Realism or Similarity-Attraction?**

So far, we have seen plenty of evidence demonstrating the consequences of naïve realism: people overestimate the prevalence of their own beliefs, ignore their own biases, and are quick to attribute bias (especially social influence) to those that disagree with their view of the world. These phenomena come about, from the naïve realism perspective, because one believes one's own views to be objective and that any other rational person with access to the same information would come to the same conclusion (Ross & Ward, 1996). When one encounters another person who doesn't share one's views, one may make negative attributions about that person relative to another person who does share one's views because one may believe them to be biased. Research on naïve realism, therefore, often generates predictions about how people see others who show divergent views from one's own "objective" perception of reality.

Another research tradition, however, would predict the same relative difference in attributions about those who agree with the self's views and those who disagree. Decades of research on the similarity-attraction hypothesis (Byrne, 1971; see also Heider, 1958; Berscheid, 1985) would similarly predict that one would see those that share the self's preferences more positively than one would see others because people like, and are attracted to, those who hold similar attitudes. In contrast to naïve realism's focus on how people make negative attributions about those that hold differing views than the self, the similarity-attraction hypothesis tradition is more concerned about how people make positive attributions about those that hold similar

attitudes to the self. Indeed, as has been shown in many different contexts, attitude similarity predicts both initial attraction across dyads, as well as increased mutual attraction over time (Neimeyer & Mitchell, 1988). Originally, researchers posited that this increased interpersonal attraction was related to cognitive consistency (e.g., Byrne, 1971; Heider, 1958), but others have since put forth alternative mechanisms for the similarity-attraction relationship such as the influence of valenced cognitive responses (e.g., Montoya & Horton, 2004, 2013; but see Singh, Ho, Tan, & Bell, 2007).

While similarity-attraction may seem an easy explanation for any difference in attributions made for those that agree vs. disagree with the self, the relationship between similarity and attraction may not be as simple as it might seem at first blush. Exactly *why* similarity breeds attraction, for instance, is still an open question for research. Evidence from a meta-analysis of 313 studies has suggested that attitude similarity itself does not play a pivotal role in the similarity-attraction effect, but rather that perceptions of similarity predict liking (Montoya, Horton, & Kirchner, 2008; but see Hoyle, 1993). Even when differences in similarity do not exist, however, people often assume a high degree of similarity even when another person displays negative characteristics (e.g., Byrne, Clore, & Smeaton, 1986), an explanation consistent with the false consensus effect. Besides emphasizing that perceptions of similarity are predictive of attraction over and above actual similarity, other researchers have asserted that it is similarity to one's ideal, and not actual, self that drives the similarity-attraction effect (e.g., Herbst, Gaertner, & Insko, 2003; Wetzel & Insko, 1982).

It is also worth noting that similarity does not always predict interpersonal attraction. In line with a cognitive response account of the similarity-attraction hypothesis, there is evidence that the relationship between similarity and attraction is determined by the goals, motivation, and

behavior of the perceiver. In some cases, for instance, the similarity-attraction relationship has been shown to be mediated by attributions about the other person's reciprocal evaluation of the perceiver (Condon & Crano, 1988). Others have pointed out, too, that in certain circumstances, complementarity, not similarity, can determine interpersonal attraction. In dyadic interaction, for example, partners who exhibit complementary dominant and submissive behaviors or goals report greater satisfaction than participants who enact the same dominant or submissive behavior or pursue the same goal (Dryer & Horowitz, 1997).

The literature on the similarity-attraction relationship has obvious parallels to naïve realism. After all, when encountering someone else who shares one's own "objective" view of the world, one might very likely deem them similar to the self. In the same vein but in the reverse order, if one believes someone to be similar to the self (especially in terms of attitudes), one might expect that one would make positive, not negative, attributions about their objectivity, autonomy, or virtually any other characteristic. In other words, it is quite likely that perceptions of similarity and objectivity are related and perhaps even have a reciprocal relationship. Given the complexity of the similarity-attraction relationship, however, it is unclear whether or not perceptions of similarity and naïve realistic judgments about another's objectivity would predict the same variance in attribution when witnessing those that agree vs. disagree with the self. In this program of research, we aim to investigate the attributions that people make when witnessing agreement or disagreement. It is a partial goal, then, to examine the relative effects of perceived similarity and judgments of objectivity on attributions made about those that agree or disagree with the self. While we do not argue that perceptions of similarity to those that agree with the self have no effect on attributions of another's objectivity, individuality, and autonomy,

we hypothesize that the belief that someone else is objective or biased predicts variance in these sorts of attributions over and above mere perceptions of similarity.

### **Naïve Realism and Decision-Making**

A recent surge of interest in collaborative decision-making has made headway exploring how naïve realism interacts with judgment and decision-making in a social setting. Not only do these experiments extend naïve realism findings outside of the political sphere, but they also provide evidence that naïve realistic beliefs about the self's correctness influence one's decisions and are responsible for suboptimal outcomes in an objective domain. In various quantitative estimation tasks that involve the receipt of advice from another participant "advisor," participants do to some extent shift towards estimates provided by others. Whereas a rational actor in this situation might average the two pieces of data (estimates) to increase his/her accuracy, however, participants actually routinely overweight their own judgment in combining the two estimates (Yaniv, 2004). In other words, although participants do shift their estimates in response to others' advice, they insufficiently adjust their own estimates to integrate them with others' estimates and suffer a cost to accuracy because of it. This is especially true when participants have a more "informed" estimate due to expertise. As a consequence, they steeply discount their advisor's advice and therefore gain less accuracy from integrating their estimates with another's estimate relative to participants without expertise (Yaniv, 2004; Yaniv & Milyavsky, 2007). Even though participants can detect and weight helpful advice more than unhelpful advice, they employ egocentric, not objective, discounting (Yaniv & Milyavsky, 2007). In other words, instead of discounting advice around the true value being estimated, participants in these studies eliminate and weight advice based upon their initial estimates. This

results from the differential accessibility of the reasons for their own and their advisor's estimates (as in the introspection illusion; cf. Pronin, 2009).

In an interesting twist, one study had participants estimate the calories of certain foods and then manipulated whether participants were given 3 advisors' estimates that were drawn independently from a sample of others' estimates or selected based on their proximity to the participant's own estimate (Yaniv, Choshen-Hillel, & Milyavsky, 2009). Importantly, participants were told about whether the estimates were dependent or independently sampled. While participants' revisions of their estimates based on the advice from others improved their accuracy in both conditions, those that received independent advice were more likely to change their estimate and displayed more accuracy gains (27%) than did those that received advice dependent on their own estimate (7%). Their confidence, however, displayed the opposite pattern: those that received dependently-determined advice increased their confidence and even bet more on the accuracy of their estimate relative to those who received independent advice. These results show the dangers of egocentric weighting of one's own estimates: if we misperceive consensus even when that consensus is totally dependent on one's own opinions, one may attain suboptimal outcomes with paradoxically greater confidence.

In other collaborative decision-making studies involving dyads of multiple-round estimation, the same type of effects have been replicated: that is, participants failed to give proper weight to their partners' estimates in subsequent revised estimates, and this was especially true for estimates that were greatly divergent (Minson, Liberman, & Ross, 2011). Furthermore, the naïve realistic overweighting of one's own opinions was so pervasive that feedback about previous accuracy or inaccuracy did not improve the weight given to partners' estimates *or* the accuracy of participants' judgments. If one were to integrate others' advice optimally, one would

instead expect participants' estimates to be sensitive to both their own accuracy and the accuracy of their partner across multiple rounds. Even dyads with long-standing social relationships suffer from the same overweighting of their own estimates, with similar consequences for the accuracy of their judgments. Taken together, the literature on naïve realism, collaborative decision-making, and the introspection illusion illustrate that it is extremely difficult, if not impossible, to escape overconfidence in one's own ability to discern what is objectively true.

### **Naïve Realism in Subjective Domains**

Besides investigating differing attributions of social influence as a function of naïve realistic beliefs about agreement with the self vs. others, the present research seeks to explore for the first time whether naïve realistic beliefs about one's preferences produce the same attributions about the objectivity or autonomy of others in subjective domains such as artistic preferences. In the past, empirical research investigating naïve realism and its consequences has largely focused on topics in the political domain, such as the Israeli-Palestinian conflict (Vallone et al., 1985) or political issues such as abortion (Keltner et al., 1995). If naïve realism is indeed a basic perceptual bias in the way people see the world and make attributions about it, however, we would expect to find patterns of attribution characteristic of naïve realistic beliefs about one's own objectivity even in domains normatively thought of as subjective or even acknowledged on behalf of the perceiver as subjective. This research, therefore, is the first of its kind to empirically investigate the boundary conditions (or lack thereof) of naïve realism across domains.

Aside from helping to illustrate the pervasiveness of naïve realistic beliefs, demonstrating the presence of naïve realistic beliefs in domains traditionally thought of as subjective would

mark a significant contribution to understanding naïve realism itself. First, if people make negative attributions about the objectivity and autonomy of those that disagree with one's own preferences in a subjective domain, this suggests the novel conclusion that naïve realistic beliefs about one's own objectivity can paradoxically coexist with the acknowledgment that the world, or at least a particular domain, is subjective. This paradox is often evident, but rarely acknowledged, in everyday life: one may simultaneously believe that preferences in music are entirely subjective, and yet lament the fact that anyone should ever choose to listen to Justin Bieber. The same often rings true with other domains typically thought of as subjective, such as art or cuisine: one may acknowledge the worthiness of others' divergent opinions and various different perspectives, and yet distinctions in "good" and "bad" art, food, and music are easily intelligible.

Second, if the perceived subjectivity of a domain leads one to believe that they are more charitable and tolerant in the attributions made about those that disagree, then one may not make any attempt to either detect bias in one's own judgments or correct or modulate one's attributions about others' preferences. Prior research in bias correction, such as in the Flexible Correction Model (Petty & Wegener, 1993, 1997; Wegener & Petty, 1995), has identified the importance of the motivation and ability to detect bias in one's judgments. Once a naïve theory about how a biasing factor is affecting one's judgment has been identified, people then attempt to correct for the bias if they again possess the motivation and ability to do so. Naïve theories about the subjectivity of a domain, therefore, may make one less motivated to look for bias in one's own judgments and, if a bias is found, less motivated to correct for it. In this way, one might argue that negative attributions about the objectivity or autonomy of those that disagree with the self in subjective domains are potentially even more insidious than those that occur in domains



perceived to be more objective, as egocentric bias due to naïve realistic beliefs about the self's objectivity seems less credible and influential in the context of a subjective domain.

Some pilot survey data lend credence to these intuitions<sup>1</sup>. Not only do our data suggest that people do indeed see artistic preferences as more of a matter of opinion relative to politics, but they also indicate that people are more likely to believe those that disagree with them are objectively wrong when that disagreement is in the political, relative to artistic, domain. While the purpose of this research is not merely to identify differences in how people think about art vs. politics, this comparison is useful for demonstrating that people have different ideas about the subjectivity or objectivity of various domains and different perceptions of how they might react to those that disagree with the self. Though our pilot data suggest that people often identify artistic preferences as being a subjective matter of opinion and believe themselves to be more fair or even-handed with those that hold different opinions about art, we argue, in contrast, that beliefs about subjectivity paradoxically do not alter naïve realistic judgments about others' objectivity or autonomy when witnessing others express preferences opposite those of the self.

### **The Aesthetic Preference Paradigm**

To explore these topics of interest, we created a paradigm where participants made aesthetic judgments about various paintings and then received fabricated feedback from a (fictional) partner who either agreed with the participant's own judgments or to the judgments of another who holds opposite preferences. We predicted that participants witnessing agreement

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<sup>1</sup> We recruited participants ( $N = 40$ ) via Amazon's Mechanical Turk service. Using 7-point Likert-type scales, participants were asked, "When it comes to works of art [political issues], do you think there are correct and incorrect views, or is it more a matter of opinion?" and "If someone disagrees with your opinion about a painting [political issue], how likely are you to think that they are objectively wrong?" Participants rated art as more a matter of opinion ( $M = 6.18$ ,  $SD = 0.90$ ) relative to politics ( $M = 3.68$ ,  $SD = 1.86$ ),  $t(39) = 7.91$ ,  $p < .001$ ,  $\eta^2_p = .62$ , and thought those that disagreed about politics ( $M = 4.53$ ,  $SD = 1.36$ ) were more likely to be objectively wrong than those that disagreed about art ( $M = 2.78$ ,  $SD = 1.51$ ),  $t(39) = -5.90$ ,  $p < .001$ ,  $\eta^2_p = .47$ .

with their own judgments would rate the partner's judgments as more indicative of the objective quality of the paintings being evaluated relative to participants witnessing agreement with another's (opposite) judgments. Furthermore, we hypothesized that participants witnessing agreement with another's judgments would be more likely to attribute that agreement to social influence compared to participants who witnessed agreement with their own judgments, and this attribution of social influence would be determined by their beliefs about their partner's objectivity and not by their judgments of similarity to their partner (Study 1). In following studies, we expected participants who witnessed agreement with their own judgments to make more positive dispositional attributions about their partner's individuality, leadership potential, and originality relative to participants who witnessed agreement with another. Crucially, we expected these attributions to be driven by differences in preferences and not any sort of basic self-other difference in attribution (Studies 2 and 3). Finally, we predicted that the attributions stemming from naïve realistic beliefs about the objectivity of one's own preferences are generalizable and robust to changes in context, paradigm, or bias. Not only do dispositional attributions about objectivity and autonomy occur without the plausible possibility of social influence (Study 4), but can also be seen in the context of other forms of potential bias (Study 5). Taken together, these studies provide novel convergent evidence that naïve realistic attributions about objectivity, leadership, and autonomy paradoxically do not depend on naïve theories about the subjectivity of the domain or even acknowledgment of the self's lack of objectivity.

### **Study 1**

Study 1 served as an exploratory field experiment to investigate whether or not participants were prompted to make different attributions about the objectivity of their partner's

responses, as well as their susceptibility to social influence, in a characteristically subjective domain such as artistic preferences. To test this, participants first completed an aesthetic preference task where they indicated their preferences for a variety of paintings. Afterwards, participants were asked to rate another ostensible participant's responses that had supposedly been made after seeing either the participant's own responses or the responses of a different, third participant. We predicted that participants who witnessed another participant agreeing with their own preferences would judge that participant's responses to be more indicative of the true quality of the paintings—and less reflective of social influence—than participants who witnessed agreement with another's dissimilar preferences for the paintings. Because we were also interested in whether—and how much—participants' judgments of social influence were influenced by perceptions of attitudinal similarity, we also included secondary measures of similarity and typicality. If encountering different views prompts attributions of social influence because of a belief that those views are objectively wrong or biased as we hypothesize, we would predict that participants' judgments of the degree to which their partner's responses represent objective reality, and not participants' perceptions of similarity to their partner, should determine the extent to which they make attributions about social influence in response to agreement.

## Method

**Participants.** Participants were 90 undergraduate students over 18 years of age recruited at various locations on a college campus. Because the paradigm necessitated deception, we were forced to eliminate 16 participants due to suspicion of the deception. Additionally, four participants had to be eliminated due to experimenter error or failure to follow instructions, leaving us with a final valid sample of  $N = 70$ .

**Materials.** The eight paintings used in this study for the aesthetic judgment task were selected from the collections of the Metropolitan Museum of Art, the Los Angeles County Museum of Art, the Art Institute of Chicago, and the Louvre (see Appendix). Three portraits, two landscapes, and three abstract paintings were selected from a wide variety of artistic styles and time periods to avoid any potential confounds. We selected the paintings to be unfamiliar to the average participant and to be striking or unique enough to provoke an evaluative reaction so that the participants' aesthetic judgments would be salient, accessible, and retained in memory through the whole experiment. The paintings were presented to the participant in an 8"x11" booklet with one painting printed on each page.

**Procedure.** In this study, participants first made aesthetic judgments about a variety of paintings and then evaluated another ostensible participant's judgments about the same paintings. These other participant's judgments either agreed with those of the actual participant or with another fictional participant who held opposite preferences to the actual participant. While the schematic design is simple, our experimental paradigm made use of an elaborate cover story to provide experimental realism.

After approaching the subject and obtaining written consent, the experimenter explained to the participant that he/she was interested in students' aesthetic judgments about a set of eight paintings. To make it more likely that participants would base their judgments on their own preferences instead of on their familiarity (or lack thereof) with the paintings used, the experimenter explained that all the paintings were selected from the collections of world-class art museums within the United States and are currently on display to the general public. Similarly, to discourage participants from relying on the opinion of the curators of art museums (i.e., those

responsible for judging them fit to display to the public) to make their judgments of the paintings, the experimenter explained that the general public's opinion of museum-quality paintings often does not align with the curators that selected the paintings for display and that the experimenter was solely interested in the participant's own aesthetic opinion of the painting. After the instructions were given to the participant, the participant was asked if he/she understood the instructions or if he/she needed to see a sample response, ostensibly to clarify the procedure. None of the participants requested to see a sample. When the participant was ready to begin the task, a booklet of the paintings and a sheet on which to make their judgments featuring miniature thumbnails of the paintings were given to the participant. The aesthetic judgment task was very simple: participants were simply asked to look through the booklet of paintings and circle those paintings on the sheet that they thought were "truly great," and cross out with an X those paintings that they thought were "overrated." This served as a simple way of having participants form evaluative judgments about the paintings that would be easily remembered.

Once this was completed for all eight paintings, the experimenter then asked the participant if he/she minded if the experimenter came back in a couple minutes to ask the participant a couple of questions about another person's judgments for "quality control reasons." All participants agreed to this request.

While the experimenter was ostensibly finding other participants for the survey, he/she was actually busy fabricating other participants' responses. In the *agreement with self* condition, the experimenter fabricated another participant's responses on the aesthetic judgments sheet to match the actual participant's judgments exactly. In other words, the fabricated participant agreed with the actual participant on all eight items, regardless of whether the actual participant thought each painting was truly great or overrated. In the *agreement with other* condition, the

experimenter fabricated *two* other participants' responses that disagreed with the participant's judgments on every item. Because the aesthetic judgment task had a binary choice format, this meant that the two fabricated participants' responses on the aesthetic judgment task matched each other perfectly in the agreement with other condition. In essence, the experimenter fabricated other participants' responses such that the actual participant would either encounter someone who completely agreed with them (the agreement with self condition) or someone who completely agreed with someone else (the agreement with other condition) while disagreeing completely with the participant. While it may have been simpler to assess participants' responses to agreement vs. disagreement by simply showing them the responses of someone who agreed vs. disagreed with their own preferences, having the target of attributions (their "partner") agree with a third party who held preferences opposite the self has two distinct advantages. First, it allows us to look at attributions as to whether participants believed their partner's responses were a product of social influence, since including a third party allowed for the possibility of social influence in both the agreement with self and agreement with other conditions. Second, it controls for any sort of validation effect: by including a third party, we ensure that both the agreement to self and agreement to other conditions have *two* people that share the same preference. Were this not the case, participants' preferences in the agreement to self condition would appear more popular, or validated, than in the agreement to other condition.

After a short time, the experimenter returned to the participant and asked for the participant's help in making some judgments about another participant's responses on the aesthetic judgment task. As part of the cover story, the experimenter noted that most participants decline to see a sample response sheet after having heard the instructions (as all actual participants had; see above), but then remarked that another (fabricated) participant had

requested to see a sample. In such a situation, the experimenter explained, he/she liked to get another subject's input about whether or not the sample might have influenced the other participant's responses. In the agreement with self condition, the experimenter told the participant that the other participant had seen *their* responses used as a sample; in the agreement with other condition, the participant was told that the other participant had seen a third person's responses as a sample. In the agreement with self condition, the participant was handed their own responses (with "SAMPLE" written at the top) as well as the other participant's matching responses; in the agreement with other condition, the participant was handed the other participant's responses and the matching sample that they had supposedly seen.

The experimenter then handed the participant a sheet containing the study's main dependent measures. All items were presented in a seven-point Likert-type scale format, with anchors at 1 (*Not at all*), 4 (*Somewhat*), and 7 (*Very much*). These items included our main measures of naïve realistic thinking (*Do you think the other participant's judgments are a direct reflection of his/her true personal preferences?* and *Do you think the other participant's judgments directly reflect the true quality of each painting?*), two measures that assessed attributions of social influence (*Do you think the other participant's judgments basically copied the sample judgments about the paintings?* and *Do you think the other participant's judgments were directly influenced by the sample responses?*), and measures of similarity, liking, and typicality. After filling out the study's dependent measures, participants were debriefed, thanked, and compensated.

## Results

**Measures of naïve realism.** To test whether participants placed greater weight on their own aesthetic judgments than on the judgments of others, we conducted independent-samples  $t$  tests on each of our two measures of naïve realism across conditions. While we found that there was not a significant difference between the agreement with self and agreement with other conditions for judgments that the other participant was expressing his/her true preferences ( $M = 3.80$ ,  $SD = 1.59$ , vs.  $M = 3.67$ ,  $SD = 1.61$ , respectively),  $p = .74$ , participants in the agreement with self condition expressed that the other participant's preferences were more reflective of the paintings' true quality ( $M = 3.91$ ,  $SD = 1.63$ ) than participants in the agreement with other condition ( $M = 2.43$ ,  $SD = 1.09$ ),  $t(68) = 4.47$ ,  $p < .001^2$ ,  $\eta^2_p = .23$ . Consistent with the predictions from naïve realism, when the other participant's aesthetic preferences agreed with those of the actual participant, the participant was more likely to judge his/her preferences as reflecting objective reality.

**Measures of social influence attribution.** To assess the degree to which participants attributed the source of others' judgments to social influence, we conducted independent-samples  $t$  tests on our measures of social influence attribution. We hypothesized that participants in the agreement with other condition (where the other participant agreed with another but disagreed with the actual participant) would attribute more social influence to the other participants' judgments than would the participants in the agreement with self condition. Although participants in the agreement with other condition ( $M = 5.14$ ,  $SD = 1.85$ ) were indeed more

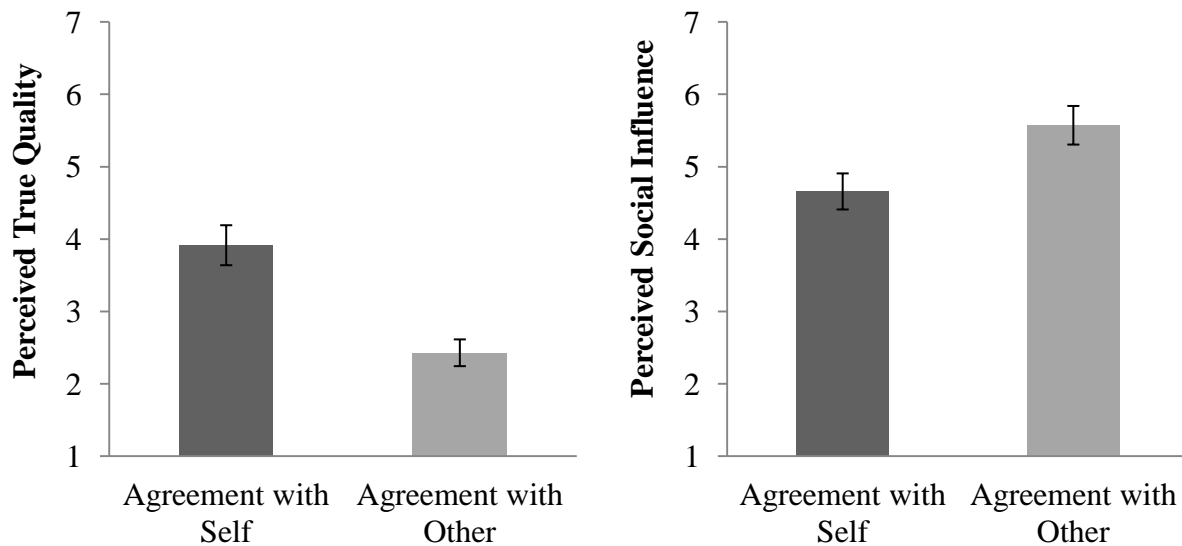
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<sup>2</sup>Concerned that the "truly great" and "overrated" labels for the aesthetic preference task could prompt experimental demand about objectivity, we have replicated our results for agreement using "love it!" and "hate it!" labels for this measure,  $t(79) = 6.71$ ,  $p < .001$ ,  $\eta^2_p = .36$ , as well as the individualism,  $t(79) = -2.43$ ,  $p = .02$ ,  $\eta^2_p = .07$ , and leadership potential,  $t(79) = 3.97$ ,  $p < .001$ ,  $\eta^2_p = .17$ , measures used in studies that follow.



likely to say that the other participant directly copied the sample than participants in the agreement with self condition ( $M = 4.51, SD = 1.95$ ) as predicted, this difference was not significant,  $p = .17$ .

Since participants might be reluctant to accuse another participant of directly copying another's responses, our main measure of social influence was the extent to which participants thought the other participant's responses were directly influenced by the sample shown to them. In line with our predictions, our analyses revealed that participants judged their partner to be more likely to have been affected by the sample shown to them when the other participant had agreed with someone else's preferences ( $M = 5.57, SD = 1.58$ ) than when the other participant had agreed with the preferences of the actual participant ( $M = 4.66, SD = 1.47$ ),  $t(68) = -2.51, p = .02, \eta^2_p = .09$ .



*Figure 1.* Attributions that the other participant's responses were reflective of the paintings' true quality (left) or social influence (right) when witnessing agreement with the self's preferences or the opposite preferences of another in Study 1.

**Liking and similarity.** In addition to our primary measures of naïve realism and social influence judgments, we also investigated whether the similarity or the dissimilarity of the fictional other participant's preferences affected the actual participant's judgments of liking for, similarity to, and typicality of their partner. We performed independent-samples  $t$  tests to compare the two conditions on our secondary measures. Our data show that there was a significant difference between the two conditions both on our measures of liking,  $t(68) = 3.44$ ,  $p = .001$ ,  $\eta^2_p = .15$ , and similarity,  $t(68) = 15.35$ ,  $p < .001$ ,  $\eta^2_p = .78$ , such that participants in the agreement with self condition liked the other participant more and had increased feelings of similarity ( $M = 4.59$ ,  $SD = 1.21$ , and  $M = 6.46$ ,  $SD = 1.07$ , respectively) towards the other participant than in the agreement with other condition ( $M = 3.57$ ,  $SD = 1.24$ , and  $M = 1.97$ ,  $SD = 1.36$ ). As one would expect given our earlier discussion of the similarity-attraction hypothesis, these measures of similarity and liking were significantly and positively correlated, Pearson's  $r(68) = .49$  (two-tailed),  $p < .01$ . In contrast, there were no significant differences between the agreement with self and agreement with other conditions on judgments of the other participant's typicality ( $M = 4.43$ ,  $SD = 0.98$  vs.  $M = 4.29$ ,  $SD = 0.99$ ),  $t(68) = 0.61$ ,  $p = .55$ .

**Multiple mediation analysis.** To investigate whether perceived similarity or naïve realistic beliefs about the partner's objectivity drove participants' attributions of social influence, we conducted a multiple mediation analysis comparing the indirect effects of our similarity and true quality measures on the relationship between agreement and our measure of social influence (cf. Preacher & Hayes, 2008). To begin with, we examined the bivariate partial correlations between our outcome measure of social influence, our IV (agreement) and our two potential mediators. We found that attributions of social influence were significantly related to agreement,

Pearson's  $r(78) = .29, p = .02$ , as well as both true quality,  $r(78) = -.42, p < .001$ , and similarity,  $r(78) = -.25, p = .04$ . Our multiple mediation analysis revealed that agreement significantly predicted attributions of true quality,  $B = -1.49, SE = .33, t = -4.47, p < .001$ , and similarity,  $B = -4.49, SE = .29, t = -15.35, p < .001$ , as well as the outcome measure of social influence,  $B = .91, SE = .36, t = 2.51, p = .01$ . When both similarity and judgments of true quality were entered into the model mediating the relationship between agreement and attributions of social influence, however, the direct effect of agreement on social influence attributions dropped to nonsignificance,  $B = .31, SE = .77, t = .41, p = .68$ , indicating the effect of agreement on attribution of social influence was fully mediated by participants' perceptions of similarity and the degree to which their partner's responses reflected the true quality of the paintings. This combined model significantly predicted variance in social influence attributions,  $F(3, 66) = 5.25, p = .003, R^2_{adj} = .16$ . In terms of our mediators, when both were simultaneously entered into the model, our true quality measure significantly predicted social influence attributions,  $B = -.38, SE = .13, t = -2.97, p = .004$ , while similarity did not significantly predict social influence,  $B = -.01, SE = .14, t = -0.06, p = .95$ , suggesting that participants' attributions of social influence were being driven by their perceptions of their partner's objectivity and not by judgments of attitude similarity.

## Discussion

Study 1 suggests that, perhaps because of naïve realistic beliefs about one's own preferences and judgments, people tend to attribute others' beliefs that agree with the self to objective reality while others' beliefs that disagree with the self are more likely to be labeled as having been a product of social influence, even when those beliefs concern a subjective domain

such as art. It is important to note, however, that our more direct or explicit measures of both naïve realism and social influence—i.e., participants' judgments of whether their partner was being deceptive by not expressing their own preferences or directly copying the preferences of another—did not reach statistical significance, even though both differences between conditions were in the predicted direction. While participants are willing to judge others who disagree with them as lacking objectivity or being susceptible to social influence, they may perhaps be unwilling to make harsher negative attributions about their partner's intentions out of social desirability concerns.

Though participants are not willing to explicitly accuse their partners of copying, our data suggest that people are not reluctant to ascribe social influence to others' behavior when that behavior forsakes one's own view of "objective" reality in favor of someone else's dissimilar view. In addition to providing preliminary evidence that naïve realistic beliefs about subjective artistic preferences may lead to negative attributions about disagreeing others' susceptibility to social influence, our multiple mediation analyses suggest that these attributions stem from participants' judgments about the objectivity of their partner and not from decreased perceptions of attitude similarity.

Even though the results of Study 1 suggest that people treat agreement with the self and agreement with another differently in terms of attribution, the role of one's actual preferences still remains somewhat unclear. In Study 1, the preferences being agreed with (i.e., the participant's own preferences vs. preferences opposite the participant's own) were confounded with the target of agreement (i.e., the self or another). The observed differences in attribution for witnessing agreement to the self vs. another, therefore, could have plausibly arisen not because of differing perceptions of those that share vs. reject one's view of the world but instead because

of differing perceptions of those that simply emulate the self vs. another. Study 2 was designed to disentangle these two possibilities by manipulating the preferences expressed by either the self or another person.

### Study 2

Study 2 was designed to explore in more depth the role that one's preferences play in attributing social influence to another's agreement in the aesthetic domain. If the asymmetrical self-other attributions of objectivity and social influence found in Study 1 are being driven by whether another shares the same preferences as the self (and not by the mere act of agreement to the self), one would expect that these differences in attribution would be attenuated if one witnesses agreement to the self *but not the self's preferences*. Study 2, therefore, sought to replicate Study 1 but also disambiguate agreement to one's preferences from agreement to oneself. To do this, we used the same paradigm but manipulated whether or not participants expressed their actual preferences (or, in the agreement to other condition, believed that the other participant had expressed their actual preferences). This took the form of either asking participants to make aesthetic judgments about the paintings according to their own preferences (as before) or according to a randomly-generated "coin flip" for each painting. We predicted that this manipulation of preferences would diminish the previously found differences when witnessing agreement with the self vs. agreement with another in judgments about the other participant's painting preferences and attributions of social influence to the other participant. In addition, we were curious whether viewing one's partner as less objective and more susceptible to social influence would lead to more impactful negative attributions about the partner's character. To investigate this, we added a number of new measures assessing perceptions of the

partner's individualism, originality, and leadership potential to the list of dependent variables to see whether these beliefs and attributions would produce further downstream dispositional inferences about the partner's personality. Since we found that similarity did not predict separate variance in social influence attributions from our true quality measure, we no longer included that dependent measure.

## Method

Because we wanted to explore whether naïve realistic beliefs about one's true preferences truly drive the self-other asymmetries found in Study 1, Study 2 closely resembles Study 1 in design and procedure. Unlike Study 1, however, participants ( $N = 346$ ) in Study 2 were recruited online via Amazon's Mechanical Turk web service. While a small proportion of participants inevitably expressed suspicion about their partner being real, eliminating these participants did not change the outcome of any of our analyses for this and all subsequent studies. Our analyses, therefore, are presented including the full sample of participants. The general paradigm of Study 1 was adapted to an online survey format where participants believed they were participating at the same time as the alleged other participants in the study. In addition, to test whether participants' beliefs about the objectivity of their own aesthetic preferences contributed to attributions of social influence, we manipulated whether or not participants' responses to the aesthetic preferences task corresponded to their view of reality. To do this, before indicating for each of the eight paintings whether it was truly great or overrated, half of the participants were given instructions that they would randomly-generate their "preferences" via a virtual coin flip for the purpose of the study. In this *random preferences* condition, participants were instructed to respond according to a randomly-generated coin displayed above each painting (participants

viewed the paintings, and the corresponding coin flip, one at a time in Study 2). In the *actual preferences* condition, by contrast, participants (as in Study 1) generated their responses to the eight paintings by simply answering according to their actual judgment of the paintings' quality. With the addition of this variable, Study 2 comprised a 2 (Agreement: self, other) x 2 (Preferences: actual, random) factorial design. While agreement with self vs. other was manipulated in the same way as in Study 1, it is worth mentioning that because participants in the agreement with self/random preferences condition knew that their own responses did not reflect their actual preferences, participants in the agreement with other/random preferences condition were instructed that the target of agreement in that case had similarly randomly generated his/her responses using a coin flip.

After participants witnessed agreement with the self or with another, they received the same main dependent measures from Study 1 assessing naïve realistic beliefs about the extent to which their partner's judgments were indicative of the true quality of the paintings and a product of social influence. Because we were interested in whether participants would extend their attributions of social influence about their partner's specific behavior to make dispositional inferences about their partner's character, we added a measure of how much the participant judged the other to be an "individualist" vs. "emulator" to avoid any possible social desirability concerns that participants might have had about applying a negative label to another participant in the study. We also included our measure of liking from Study 1. Finally, because we were interested not only in the extent to which agreement with the self vs. another would produce differences in attributions of social influence but also in the extent to which it might produce other generally negative judgments or attributions (cf. Jones & Harris, 1967; Ross, 1977), we added measures assessing participants' judgments of their partner's leadership potential (*Do you*

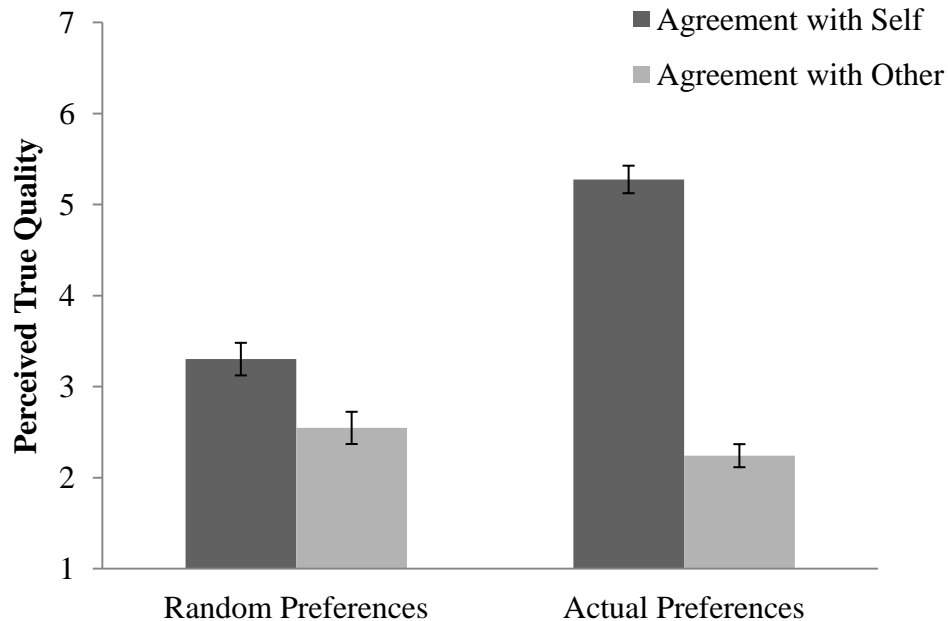
*think your partner would make a good leader?*) and originality (*How difficult do you think it is for your partner to come up with original ideas?*) using the same 7-point Likert-type scales as before.

## Results

**Measures of naïve realism.** We conducted a 2x2 ANOVA on our true quality measure to investigate the role of preferences and agreement. As in Study 1, participants once more judged their partner's responses as being more indicative of the true quality of the paintings when those responses agreed with their own assessments ( $M = 4.29$ ,  $SD = 1.83$ ) vs. those of another ( $M = 2.39$ ,  $SD = 1.43$ ),  $F(1, 342) = 140.77$ ,  $p < .001$ ,  $\eta^2_p = .29$  (see Figure 2). In addition, participants who responded according to their actual preferences similarly made more naïve realistic attributions about their partner's responses ( $M = 3.76$ ,  $SD = 2.00$ ) than participants in the random preferences condition ( $M = 2.92$ ,  $SD = 1.69$ ),  $F(1, 342) = 27.28$ ,  $p < .001$ ,  $\eta^2_p = .07$ . These findings, however, were qualified by a significant agreement X preferences interaction,  $F(1, 342) = 50.88$ ,  $p < .001$ . Because the assumption of homogeneity of variance was violated, Levene's  $F(3, 342) = 4.77$ ,  $p = .003$ , the error term from the omnibus analysis was not used in our analysis of simple effects. Simple effects analyses revealed that while participants who generated their preferences randomly judged the partner's responses to be more reflective of the true quality of the painting when those responses agreed with the self ( $M = 3.30$ ,  $SD = 1.66$ ) vs. another ( $M = 2.55$ ,  $SD = 1.64$ ),  $F(1, 170) = 9.01$ ,  $p = .003$ ,  $\eta^2_p = .05$ , participants who had reported their own actual preferences for the aesthetic judgments task were *much* more likely (to a massive extent) to report that their partner's judgments reflected the true quality of the paintings after witnessing



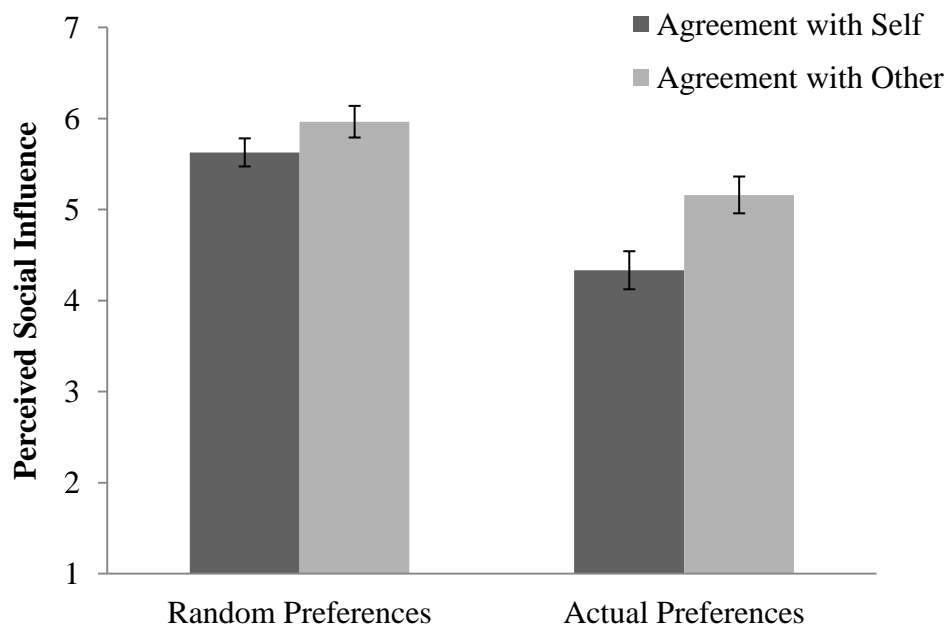
agreement with the self ( $M = 5.28$ ,  $SD = 1.41$ ) than agreement with another ( $M = 2.24$ ,  $SD = 1.18$ ),  $F(1, 172) = 236.50$ ,  $p < .001$ ,  $\eta^2_p = .58$ .



*Figure 2.* Attributions that the other participant's responses were reflective of the paintings' true quality when witnessing agreement to the self vs. another after reporting actual vs. randomly-generated preferences in Study 2.

**Measures of social influence attribution.** In accordance with our predictions, Study 2 replicated the self-other difference in attributions of social influence such that participants who witnessed agreement with another were significantly more likely to judge their partner's responses as having been a product of social influence ( $M = 5.56$ ,  $SD = 1.80$ ) than participants who witnessed agreement with the self ( $M = 4.98$ ,  $SD = 1.83$ ),  $F(1, 342) = 9.76$ ,  $p = .002$ ,  $\eta^2_p = .03$ . Also in line with our predictions, we additionally observed a significant main effect of the type of preferences, such that participants who witnessed agreement with randomly-generated responses were more likely to judge their partner's responses as having been a product of social influence ( $M = 5.80$ ,  $SD = 1.53$ ) than partners who responded according to their own actual

preferences ( $M = 4.75$ ,  $SD = 1.96$ ),  $F(1, 342) = 31.69$ ,  $p < .001$ ,  $\eta^2_p = .09$ . The interaction, however, did not reach statistical significance,  $p = .19$  (see Figure 3).



*Figure 3.* Attributions of social influence to the other participant’s responses when witnessing agreement to the self vs. another after reporting actual vs. randomly-generated preferences in Study 2.

**Dispositional attributions.** Our results for the extent to which participants labeled their partner as an “individualist” vs. “emulator” resemble the results for attributions of social influence. Once again, participants who witnessed agreement with another were significantly more likely to label their partner as more of an “emulator” ( $M = 5.53$ ,  $SD = 1.58$ ) than participants who witnessed agreement to the self ( $M = 4.93$ ,  $SD = 1.56$ ),  $F(1, 342) = 12.57$ ,  $p < .001$ ,  $\eta^2_p = .04$  (see Figure 4). Similarly, participants that expressed their own actual preferences were significantly more likely to label their partner as less of an “emulator” ( $M = 5.02$ ,  $SD = 1.62$ ) vs. partners that randomly-generated their painting preferences ( $M = 5.44$ ,  $SD = 1.56$ ),  $F(1,$

342) = 6.08,  $p = .01$ ,  $\eta^2_p = .02$ . Once again, the agreement X preferences interaction did not reach statistical significance,  $p = .13$ .

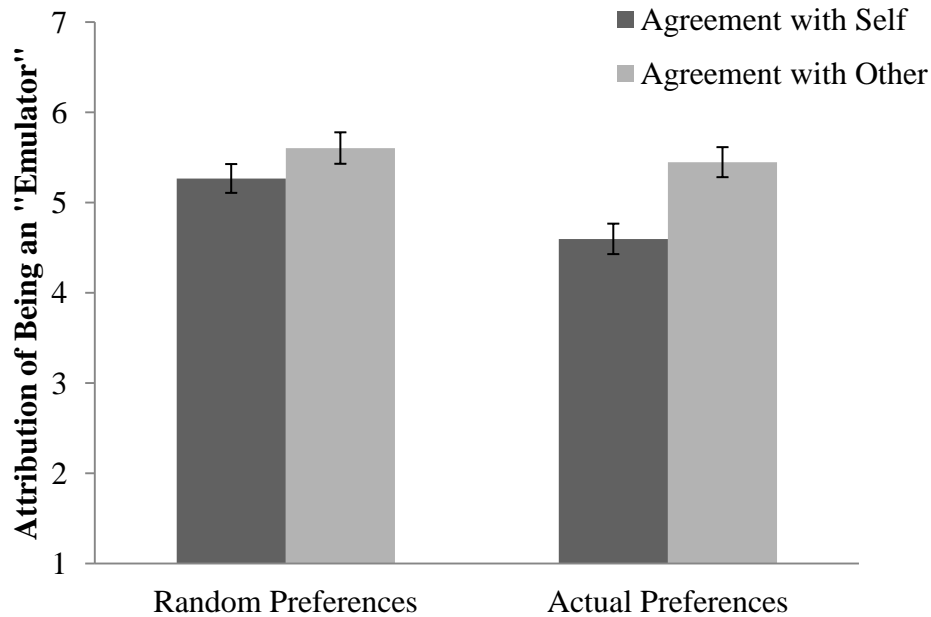


Figure 4. Judgments of the other participant being an “emulator” (vs. “individualist”) when witnessing agreement to the self vs. another after reporting actual vs. randomly-generated preferences in Study 2.

Our measure assessing participants’ judgment of their partner’s potential for leadership followed a slightly different pattern. For our leadership measure, we again observed a significant main effect of agreement such that partners who agreed with the self ( $M = 3.44$ ,  $SD = 1.36$ ) vs. other ( $M = 2.53$ ,  $SD = 1.30$ ) were rated as having higher leadership potential,  $F(1, 342) = 42.35$ ,  $p < .001$ ,  $\eta^2_p = .11$ . The main effect of preferences was not significant, however,  $p = .15$ . These effects were qualified by a significant agreement X preferences interaction,  $F(1, 342) = 10.27$ ,  $p = .001$ . As for our true quality measure of naïve realism, analysis of simple effects revealed a significant difference between witnessing agreement with the self ( $M = 3.12$ ,  $SD = 1.38$ ) vs. other ( $M = 2.65$ ,  $SD = 1.38$ ) for participants who generated their preferences randomly,  $F(1, 342)$

= 5.42,  $p = .02$ ,  $\eta^2_p = .03$ , such that participants whose partners agreed with the self rated their partner as having greater leadership potential than those whose partners agreed with another. In line with our predictions, however, participants who reported their actual preferences judged their partner to have greater leadership potential when they agreed with the self ( $M = 3.77$ ,  $SD = 1.25$ ) vs. another ( $M = 2.40$ ,  $SD = 1.41$ ),  $F(1, 342) = 47.45$ ,  $p < .001$ ,  $\eta^2_p = .24$ , to a greater extent than participants who generated their preferences randomly.

**Liking.** We once again observed a significant difference between the agreement with self ( $M = 4.54$ ,  $SD = 1.25$ ) and other ( $M = 3.34$ ,  $SD = 1.36$ ) conditions for our measure of liking,  $F(1, 342) = 75.71$ ,  $p < .001$ ,  $\eta^2_p = .18$ , such that participants who witnessed agreement with the self liked their partner more than participants who witnessed agreement with another. We also observed a significant main effect of preferences, such that participants who reported their actual preferences ( $M = 4.08$ ,  $SD = 1.54$ ) liked their partner more than participants who randomly-generated their preferences ( $M = 3.80$ ,  $SD = 1.31$ ),  $F(1, 342) = 4.29$ ,  $p = .04$ ,  $\eta^2_p = .01$ . These results were qualified by a significant agreement X preferences interaction,  $F(1, 342) = 13.69$ ,  $p < .001$ . Once again, analyses of simple effects revealed that although participants who reported randomly-generated preferences still liked the other participant more when they agreed with the self ( $M = 4.14$ ,  $SD = 1.22$ ) vs. another ( $M = 3.45$ ,  $SD = 1.31$ ),  $F(1, 342) = 12.43$ ,  $p < .001$ ,  $\eta^2_p = .07$ , participants who reported their true preferences liked their partner to a greater extent when that partner agreed with their own aesthetic judgments ( $M = 4.93$ ,  $SD = 1.16$ ) as opposed to the judgments of another ( $M = 3.23$ ,  $SD = 1.40$ ),  $F(1, 342) = 77.32$ ,  $p < .001$ ,  $\eta^2_p = .31$ .

## Discussion

Aside from replicating the findings of Study 1, Study 2 demonstrated the important role that naïve realistic beliefs play in attribution of social influence to others' judgments. Not only did participants attribute more social influence to their partner's judgments when witnessing agreement with another than they did to the self (as in Study 1), but they also attributed more social influence to their partner's judgments when those judgments agreed with randomly-generated responses that did not correspond to the participants' real beliefs about the objective quality of the paintings. Across all of our measures, the self-other difference in attribution was greater in the actual preferences condition than in the random preferences condition. Individually and as a whole, these findings suggest that it is not merely agreement with another person that prompts negative attributions about objectivity and autonomy but that these attributions depend in part on the beliefs on which they are based. In other words, if someone agrees with the self, it is easy to believe that they arrived at their beliefs through objective observation of the true state of the world (in this case, the true quality of the paintings) when those beliefs match one's own view of "objective" reality. On the other hand, if that person agrees with one's randomly-generated beliefs or others' beliefs that do not accord with one's actual view of reality, it is likely that one will attribute some sort of bias—in this case, social influence—to the other person's judgments.

In addition to clarifying the role that naïve realistic beliefs play in negative attributions made about others whose aesthetic preferences differ from one's own, it is important that Study 2 extended the self-other asymmetry in attribution to domains beyond judgments about the other participant's specific behavior. Not only were participants more likely to attribute social influence to their partner's judgments when those judgments agreed with another's (as opposed

to the self's) preferences (and especially so when those were their actual preferences), but participants were also more likely to say that their partner was more likely to be an "emulator," less likely to attribute leadership potential to their partner, and more likely to report that their partner would have a difficult time coming up with original ideas. These findings illustrate the potential negative consequences that holding naïve realistic beliefs may have for interpersonal interaction or intergroup conflict, as situational attributions about the source of others' (dissimilar) preferences give way to negative inferences about the dispositional characteristics of another person. While we cannot address whether or not these attributions contribute to a global, generalizable negative impression of the partner with the present data, the sorts of negative attributions made about the partner as a result of their agreement with another's dissimilar preferences would certainly pose a barrier to effective communication, negotiation, cooperation, or group-based decision-making.

Finally, it's worth addressing that even though the greatest differences in self-other attribution were observed when participants reported their actual preferences, we did find some significant differences in attribution when witnessing agreement to the self vs. another even in the random preferences condition. While one could interpret these differences as evidence for a basic self-other difference in agreement, it is possible that these differences stem from the nature of the random preferences task. Because participants generated their preferences randomly, and did not report the opposite of their true preferences, it is likely that, on average, participants in the random preferences condition randomly generated at least some responses that were congruent with their actual preferences. If this is the case, self-other differences in attribution might still emerge as a function of witnessing agreement vs. disagreement to one's preferences when generated randomly. Since we did not collect participants' ratings of similarity, however, it

is impossible to rule out the explanation that similarity-attraction effects are creating the self-other differences observed in the random preferences conditions, especially for measures that are traditionally tightly linked to similarity, such as our measure of liking.

In light of these issues, Study 3 presents additional clarifying evidence about the role that one's preferences play in differences in attribution about agreement. Study 2 sought to explore this role through investigating whether manipulating the preferences expressed by the self vs. another would change the attributions made in response to agreement. If we are interested in clarifying which target of agreement—i.e., the preferences or the person—is important for attribution, there is another way to investigate the same hypothesis. Instead of looking at the effect of manipulating one's *preferences* on attributions made about the same *person* (as in Study 2), one could instead examine the effect of manipulating the *person* expressing the same *preferences*. The paradigm of Study 3 therefore adopts the latter strategy in order to provide convergent evidence about the importance of agreement vs. disagreement to one's preferences in attributions about objectivity and autonomy.

### Study 3

Study 2 provided preliminary evidence that agreement (or disagreement) with one's true preferences contributes to negative attributions about one's objectivity and autonomy more drastically than agreement with randomly-generated preferences. Study 3 attempts to further clarify this point by investigating the importance of agreement vs. disagreement to one's actual preferences in another way. If agreement or disagreement with one's true preferences is driving attributions about objectivity and autonomy over and above mere agreement with the self, then we might expect that agreement with another who shares one's opinions might look very similar

(in terms of the attributions we make about that agreement and the person) to agreement with one's own preferences. Study 3, therefore, made use of the same paradigm as Study 1, but instead varied the targets of agreement: participants witnessed another (fabricated) participant's agreement with their own indicated preferences for the various paintings, agreement with a third participant's preferences that matched the preferences of the actual participant, or agreement with a third person's preferences that were the opposite of the participant's own preferences. If, as we hypothesize, naïve realism is a pervasive bias even in subjective domains, we would expect whether or not someone agrees with one's preferences, and not whether or not someone agrees with oneself, to predict the types of attributions made about that person. In other words, we predict that while agreement with someone else who has dissimilar preferences relative to the self will produce negative attributions about objectivity and autonomy, agreement with someone else who shares the self's preferences may not be differentiable in terms of attribution from agreement with the self's own preferences.

## **Method**

As described above, Study 3 included three conditions to test our hypothesis that preferences—not just the person—matter for attributions about objectivity and autonomy in the aesthetic domain. Like Study 2, Study 3 also recruited participants ( $N = 260$ ) from Amazon's Mechanical Turk service. The procedure for Study 3 directly followed that of Study 1, but after making their own judgments about the paintings, participants were instead exposed to one of three different types of the other participant's fabricated preferences: those who agreed with the participant's own preferences (*agreement with self* condition), those who agreed with another's preferences that were the same as the participant's (*agreement with similar other* condition), and



those who agreed with another's preferences that were the opposite of the participant's (*agreement with dissimilar other* condition). For clarity, note that the agreement with self and agreement with dissimilar other conditions are direct replications of the two agreement conditions used in Study 1 and Study 2. Because we wanted to hone in on measures that would potentially have consequences for interpersonal perception, conflict, and cooperation, we shifted our focus to dispositional attributions made about participants' partners for our dependent measures. For this reason, and in order to eliminate redundant measures, we eliminated both previous measures of social influence and difficulty being original. Our analyses are therefore focused on our "true quality" measure of perceived objectivity as well as the dispositional attribution measures of individuality, leadership potential, and liking. These measures all used the same 7-point Likert-type scales as before.

## Results

**Measures of naïve realism.** To test whether naïve realistic beliefs about the accuracy or objectivity of their partner's responses varied depending upon witnessing agreement with the self vs. other or same vs. different preferences, we conducted a one-way ANOVA. Unsurprisingly, we found that participant's perceptions of whether their partner's preferences were indicative of the true quality of the paintings varied by condition,  $F(2, 256) = 73.65, p < .001$ . We therefore turned to post-hoc comparisons (Tukey) to test our specific hypotheses. Once again, we replicated the finding from Studies 1 and 2 that participants in the agreement with self condition ( $M = 4.87, SD = 1.99$ ) judged their partner's preferences to be more indicative of the true quality of the paintings than participants who witnessed agreement with another who held the opposite preferences as the self ( $M = 2.21, SD = 1.24$ ),  $p < .001$ . As predicted, participants in the

agreement with similar other condition ( $M = 4.95$ ,  $SD = 1.69$ ) who witnessed agreement with another person who held the same preferences as the self similarly judged the other participant's preferences to be more indicative of true quality than participants in the agreement with dissimilar other condition,  $p < .001$ . These differences, however, were not evident between participants who witnessed agreement with the self and those who witnessed agreement with another who shared the self's preferences,  $p = .95$  (see Figure 5).

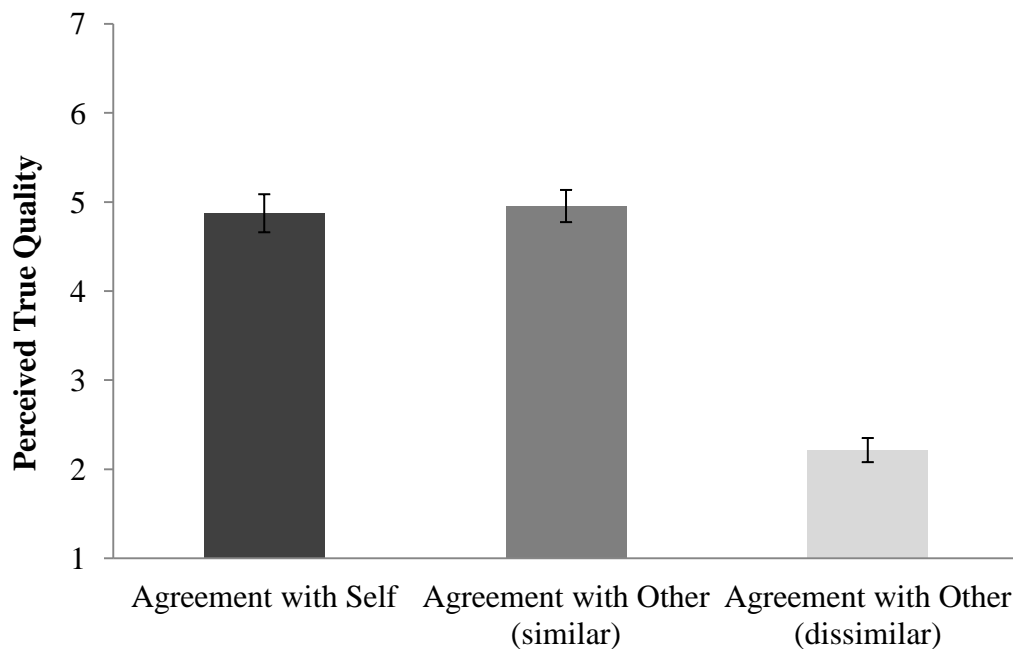
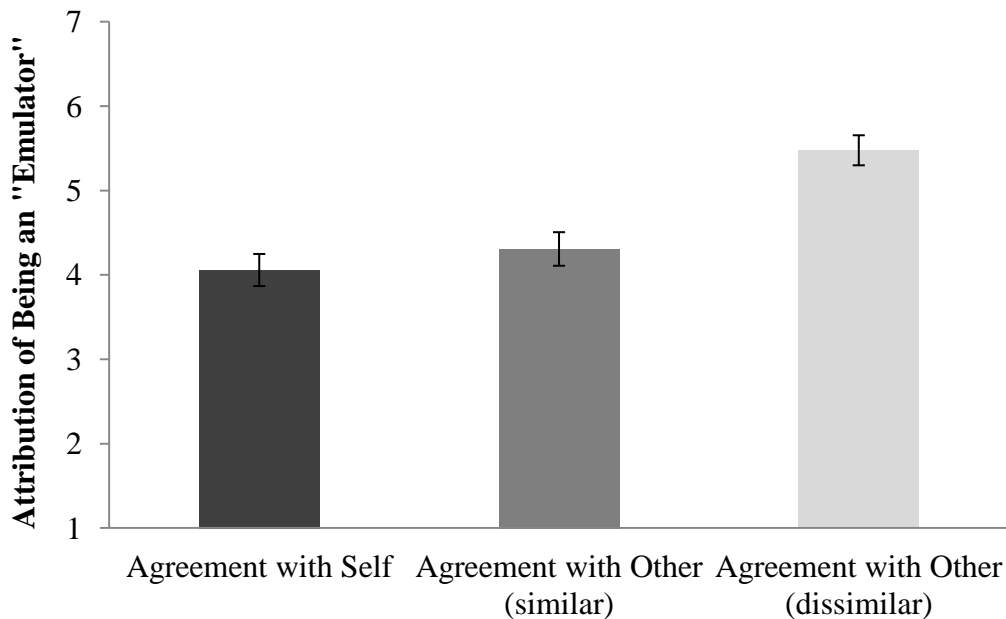


Figure 5. Attributions that the other participant's responses were reflective of the paintings' true quality when witnessing agreement to the self, agreement with another who shares the self's preferences, and agreement with another who has opposite preferences to the self in Study 3.

**Dispositional attributions.** For our measure of participants' judgments of their partners as individualists vs. emulators, we found that agreement had a significant effect on participants' ratings,  $F(2, 256) = 15.74$ ,  $p < .001$ . Post-hoc comparisons (Tukey) revealed that while participants in the agreement with self condition ( $M = 4.06$ ,  $SD = 1.77$ ) did not significantly differ in their attributions from participants in the agreement with similar other condition ( $M =$

4.31,  $SD = 1.87$ ),  $p = .62$ , participants in the agreement with dissimilar other condition ( $M = 5.48$ ,  $SD = 1.63$ ) judged their partner as more likely to be an emulator than participants in both the agreement with self,  $p < .001$ , and agreement with similar other conditions,  $p < .001$  (see Figure 6).



*Figure 6.* Judgments of the other participant being an “emulator” (vs. “individualist”) when witnessing agreement to the self, agreement with another who shares the self’s preferences, and agreement with another who has opposite preferences to the self in Study 3.

Our measure of participants’ judgments of their partners’ leadership potential followed the same pattern. After identifying by way of a one-way ANOVA that agreement condition had a significant effect on judgments of leadership potential,  $F(2, 256) = 30.53$ ,  $p < .001$ , once again we found that participants in the agreement with self ( $M = 4.28$ ,  $SD = 1.58$ ) and agreement with similar other conditions ( $M = 3.84$ ,  $SD = 1.51$ ) did not significantly differ in their judgments of their partner’s leadership potential,  $p = .12$ , but participants in the agreement with dissimilar other condition ( $M = 2.58$ ,  $SD = 1.30$ ) rated their partners as having less leadership potential than

participants in either the agreement with self,  $p < .001$ , or agreement with similar other conditions,  $p = .001$ .

**Liking.** Our measure of liking followed the same pattern as the dispositional attributions made beforehand. After using a one-way ANOVA to test for whether our manipulation of agreement affected participant's judgments of liking for the other participant,  $F(2, 256) = 48.12$ ,  $p < .001$ , we used post-hoc (Tukey) comparisons to identify differences in liking across the specific conditions. In line with the attributions made about the other participant's likelihood of being an individualist vs. an emulator, participant's ratings of liking for the other participant in the agreement with self ( $M = 5.15$ ,  $SD = 1.42$ ) and agreement with similar other conditions ( $M = 4.77$ ,  $SD = 1.33$ ) did not differ significantly from each other,  $p = .16$ . On the other hand, participants in the agreement with dissimilar other condition displayed decreased liking for the other participant ( $M = 3.21$ ,  $SD = 1.34$ ) relative to those in the agreement with self,  $p < .001$ , and agreement with similar other conditions,  $p < .001$ .

## Discussion

Study 3 demonstrates that changing the preferences targeted by agreement predicts substantial changes in attributions made about participants' partners. Manipulating the person being targeted by agreement (i.e., self vs. other), on the other hand, does not result in different attributions. Across all of our dependent measures, we find that agreement to someone who shares the self's preferences produces the same attributions about objectivity and autonomy as for witnessing agreement to the self; agreement to someone who has the opposite preferences, however, once again produces attributions that the other person is less objective, is more of an

emulator, and is less of a leader. These findings, when combined with the results from Study 2, strongly support the claim that it is agreement or disagreement with one's view of reality, and not mere agreement with the self vs. another, that drives the self-other differences in attribution we have observed throughout all of our studies so far.

Despite the fact that we did not observe any significant differences between the agreement with self and agreement with similar other conditions for any of our dependent measures, it is worth mentioning that the  $p$ -values for these differences were still fairly low for our measures of leadership potential ( $p = .12$ ) and liking ( $p = .16$ ). This might not be enough evidence for a basic self-other difference in attribution alone, but these findings dovetail with the observed self-other differences in the random preferences condition in Study 2. While we argue that the differences in attribution in response to agreement vs. disagreement in our studies stems from a naïve realistic response to encountering those with a different perspective on reality, it is therefore also possible that similarity-attraction or another mechanism may contribute to at least some variance in the differences we have observed.

In previous studies, participants witnessed agreement with the self or another and not merely someone who agreed vs. disagreed with the self to control for possible validation effects. In this experiment, however, participants in the agreement with similar other witnessed two other people sharing the self's preferences (i.e., three in total, counting the self), while the other two conditions only had two people in agreement. Because we observed no differences across the agreement with self and agreement with similar other condition, the data tentatively suggest that additional people sharing the self's preferences past the first may not change the attributions made about the specific person enacting agreement. Whether or not witnessing additional people

agreeing with the self vs. another changes the attributions made about that agreement is an open question for future research.

The data from Study 3 suggest that attributions about others who have the same preferences of the self do not depend on whether they agree with the self specifically. Taken together, Studies 2 and 3 provide convergent evidence that it is the specific preferences, and not the person, targeted by agreement or disagreement that drive attributions about objectivity, individualism, and leadership potential. If negative attributions about others that disagree with the self are driven by whether or not they share our view of reality, then it's also possible that these attributions occur regardless of the specific circumstances in which one witnesses the agreement vs. disagreement. In other words, if those who disagree with the self are seen as less objective relative to those who agree, participants may make negative downstream dispositional attributions about their partner's individualism or leadership potential even if they don't witness any actual opportunity where their partners were potentially influenced by another person. Study 4 was designed to explore this hypothesis.

#### **Study 4**

So far, we have shown that people make negative attributions about others' objectivity, individualism, and leadership potential when they witness someone agreeing with someone who holds opposite preferences of the self relative to when they witness someone agreeing with the self. In all of our studies so far, participants were told that their partners were shown either the participant's own responses or the responses of another participant. If participants are making attributions of social influence or dispositional attributions about autonomy to explain why other people's preferences do not conform to what is objectively good and true (i.e., their own

preferences), one might argue that mere agreement without even the possibility of conformity or social influence may be sufficient to produce the effects observed in our previous studies. It is an unresolved question, then, whether this opportunity to have been influenced by someone else's responses is critical for creating negative attributions about one's objectivity, individualism, and leadership potential.

Intuitively, it might stand to reason that these specific attributions might depend on whether or not participants' partners could have been influenced by someone else's responses in the experiment. Because naïve realism is a fundamental part of (social) perception, however, we predicted that participants would make these attributions about anyone that disagreed with them even in the absence of any possibility of having been biased in the experiment. In other words, because people see their own viewpoint as objective, we believed that mere disagreement with participants' own preferences would be enough to prompt negative attributions related to bias and conformity. To test this hypothesis, participants again saw their partners agree with their own preferences or the preferences of another who held opposite preferences, but this time we manipulated whether participants were told that their partners had made their own responses on the task *before* or *after* having viewed another person's responses. We predicted, therefore, that we would replicate our effect of agreement on negative attributions even when it was impossible that their partner's responses were influenced by those of another.

## **Method**

Study 4 once again recruited subjects ( $N = 160$ ) through Mechanical Turk. As in Studies 1-3, Study 4 made use of the same aesthetic preference task where participants rated the eight different paintings as overrated or truly great and then were exposed to another participant's

responses that agreed with either the participant's own preferences or another alleged participant who had the exact opposite preferences. In these conditions, exactly as in previous studies, participants believed that their partner had seen another person's responses before making their own responses. To investigate whether this opportunity for their partner to have been influenced made a difference for participants' ratings of their partner's objectivity, individualism, and leadership potential, however, we also added two new conditions in Study 4 where participants instead were told that their partner only was shown another person's responses *after* having already indicated their own preferences for the paintings. Everything else about the paradigm and the dependent measures remained the same. With these new conditions added, Study 4 therefore had a 2 (Agreement: self, other) x 2 (Partner Response Order: before viewing, after viewing) design.

## Results

**Measures of naïve realism.** To investigate whether the opportunity for their partner's responses to have been influenced played a role in participants' judgments about their partner's objectivity, we conducted a 2x2 ANOVA on participants' judgments of whether their partner's responses reflected the true quality of the paintings. Our analyses revealed, as predicted, a significant main effect of agreement,  $F(1, 156) < .001$ ,  $\eta^2_p = .61$ , such that participants in the agreement to self conditions ( $M = 5.48$ ,  $SD = 1.54$ ) deemed their partner's responses more indicative of the true quality of the paintings than did participants in the agreement to other conditions ( $M = 2.15$ ,  $SD = 1.12$ ). Consistent with our hypothesis based on naïve realism, the effect for partner response order did not reach statistical significance,  $p = .42$ , nor did the interaction,  $p = .57$  (see Figure 7).



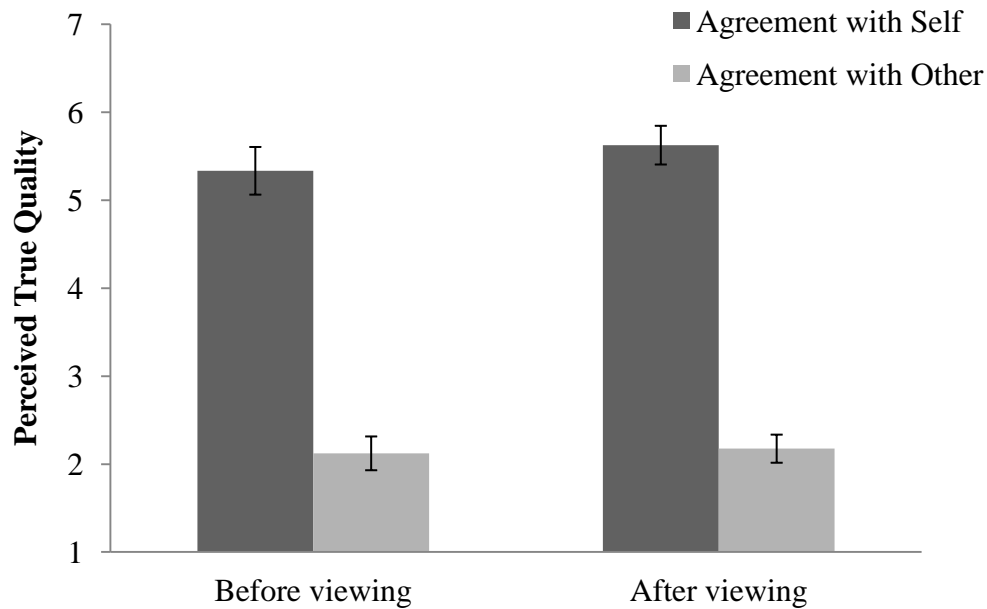
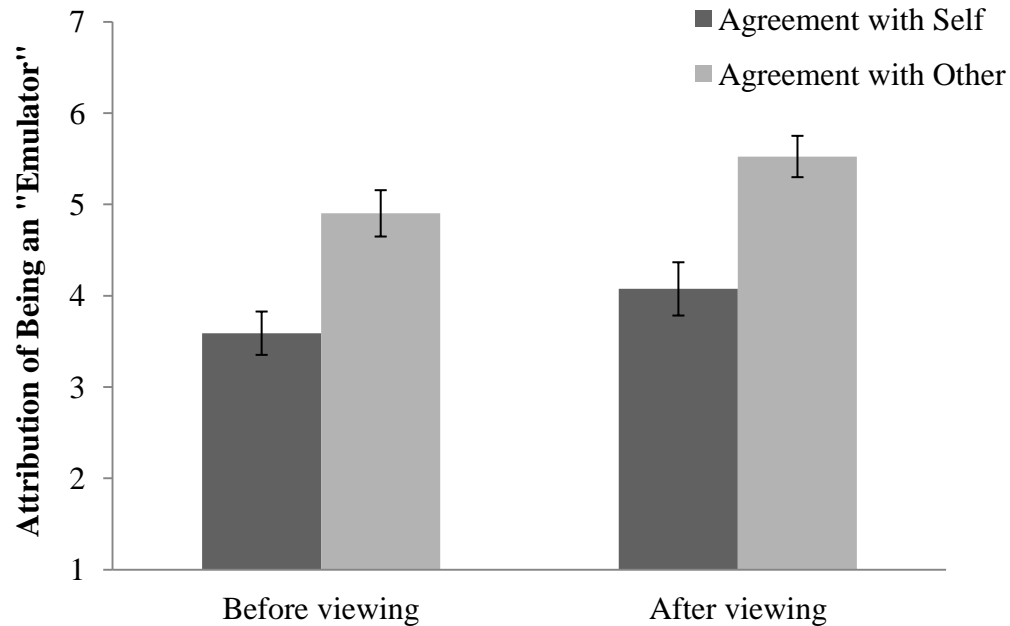


Figure 7. Attributions that the other participant's responses were reflective of the paintings' true quality based on whether that participant made their responses before or after viewing the self's responses or the responses of another in Study 4.

**Dispositional attributions.** We also conducted analyses on participants' dispositional attributions about their partner's likelihood of being an individualist vs. emulator and leadership potential. A 2x2 ANOVA revealed a significant main effect for agreement,  $F(1, 156) = 29.62, p < .001, \eta^2_p = .16$ , such that participants who witnessed agreement to the self judged their partner as being less of an emulator ( $M = 3.84, SD = 1.68$ ) than participants who witnessed agreement with another ( $M = 5.21, SD = 1.55$ ). In addition, participants who believed their partner had made their responses after having viewed someone else's responses ( $M = 4.80, SD = 1.80$ ) in general viewed their partner as more likely to be an emulator than did participants who believed their partner made their responses to the paintings without having seen another person's responses ( $M = 4.26, SD = 1.68$ ),  $F(1, 156) = 4.76, p = .03, \eta^2_p = .03$ . The interaction between the two variables was not significant,  $p = .79$  (see Figure 8).



*Figure 8.* Judgments of the other participant being an “emulator” (vs. “individualist”) based on whether that participant made their responses before or after viewing the self’s responses or the responses of another in Study 4.

As before, we observed the same pattern of results for our measure of leadership potential, such that participants’ partners who agreed with the self ( $M = 4.32$ ,  $SD = 1.59$ ) were judged as exhibiting more leadership potential than partners who agreed with another who held opposing preferences ( $M = 2.77$ ,  $SD = 1.26$ ),  $F(1, 156) = 47.34$ ,  $p < .001$ ,  $\eta^2_p = .23$ . The main effect for order did not reach statistical significance,  $p = .17$ , nor did the interaction,  $p = .43$ . In accordance with our hypotheses, participants made significantly more negative dispositional attributions about their partner’s individualism and leadership potential regardless of whether there was an opportunity for their partner’s preferences on the paintings to have been influenced by someone else’s responses.

**Liking.** In the same vein as the measures of dispositional attributions, a 2x2 ANOVA revealed a significant main effect of agreement,  $F(1, 156) = 96.79$ ,  $p < .001$ ,  $\eta^2_p = .38$ , such that participants liked partners who had the same preferences ( $M = 5.15$ ,  $SD = 1.35$ ) more than

partners who expressed the opposite preferences ( $M = 3.19$ ,  $SD = 1.17$ ). Participants' liking for their partners did not differ based on whether the partners were believed to have made their responses before or after seeing someone else's responses,  $p = .49$ , nor was there any interaction between the two variables,  $p = .28$ . Similar to our dispositional attribution measures, participants liked the partner less when that partner disagreed vs. agreed with the self's preferences regardless of whether that partner's preferences could have been influenced by another person.

## Discussion

Our results demonstrate that the possibility that participants' partners could have been influenced by another person does not play a role in the actual conformity-related dispositional attributions made about that person. In other words, regardless of whether participants' partners saw another person's responses before making their own, they were judged as less objective, more likely to be an emulator, less of a leader, and less likable when they agreed with someone else's dissimilar preferences relative to when they agreed with the participant's own preferences. Additionally, it also appears from our data that partners' mere exposure to the possibility of being biased by another person's responses may increase the likelihood that participants label them as an emulator. While we did not explicitly predict this latter finding, it parallels our hypothesized results in that participants easily make attributions about social influence in the absence of any concrete evidence of their partner having been influenced—this is especially true for the attributions made about the partner when he/she responded completely independently.

Although we predicted that participants would make negative attributions about their partners' objectivity and autonomy in response to witnessing disagreement regardless of whether their partners actually had the opportunity to be influenced by someone else, it is still somewhat

surprising that these differences in attribution were not exaggerated when participants believed that their partners could have been influenced. From a naïve realism perspective, however, what matters most is whether another person shares one's view of "objective" reality. If one witnesses someone disagree with one's own view of reality, then one often makes the attribution that they were biased in one way or another. Our data suggest that this attribution of bias is not predicated on whether they could have been influenced by biasing factors in the present situation, but rather a more general attribution that the partner is (dispositionally) biased in some way. We would predict that people first register whether others share their view of reality, next make attributions about whether the other is biased or objective, and then subsequently make situational and/or dispositional attributions based upon that information. The exact causal sequence of this process, however, is beyond the scope of the present data.

The results of Study 4 suggest the startling conclusion that attributions relating to social influence in response to agreement vs. disagreement—such as one's individualism and leadership potential—do not depend on whether another's opinions about a specific stimulus (in this case, a set of novel paintings) could have actually been influenced by another person. If negative attributions about the objectivity and autonomy of those that disagree with the self's preferences occur when social influence could not have been present, then it is possible that these attributions occur in situations involving completely different biases. Study 5, therefore, was designed to test the generalizability of the previous studies' findings through investigating differences in attribution in response to agreement given a different source of potential bias.

### Study 5

Study 5 attempted to preserve the soul of the previous studies (i.e., exploring how people make attributions about agreement vs. disagreement) while seeking to extend the findings to a new domain. So far, all of the studies in this program have investigated attributions related to conformity and social influence—in other words, judgments made about whether the partner was an emulator or had leadership potential. Study 5 was designed to see whether the asymmetries in attribution observed in previous studies would replicate for other forms of potential bias. In this case, instead of participants' partners being potentially biased by social influence, participants made judgments about whether or not their partners selected their responses because they accorded with their true preferences or because they sought an ambiguous financial incentive.

We hypothesized that we would replicate our previous effects of agreement for this new bias judgment. In addition, we predicted that participants would be more likely to think that their partner was influenced by the financial incentive offered to them when that partner disagreed vs. agreed with the self's preferences. Similarly, we also predicted that participants would believe that their partner had taken the financial incentive more often when they agreed vs. disagreed with the self's preferences. Finally, with the inclusion of a scale assessing participants' endorsement of naïve realistic beliefs, Study 5 let us assess the extent to which these beliefs differentially predict attributions of objectivity and autonomy about those that agree vs. disagree with the self's preferences.

### Method

The paradigm for Study 5, like the previous studies, utilized the aesthetic preference task but changed the form of potential bias influencing participants' supposed partners. Participants

( $N = 80$ ) were recruited through Mechanical Turk and informed that they have been paired with a partner who will also be rating the same paintings. Additionally, however, they were told that their partners were offered an unspecified amount of additional bonus money for answering in a suggested fashion for each painting, presumably as a quality-control comparison mechanism. Once participants rated the paintings themselves, they were then shown their own responses side-by-side with their partner's responses that either totally agreed or totally disagreed with their own. Note that in this study participants were *not* told that their partners had seen the participants' responses before making their own so no opportunity for social influence existed. In addition to our true quality and leadership potential measures from the previous studies, we also used a variant of our previous individualism measure that asked participants the extent to which they believed their partner was "principled" vs. "adaptable." Furthermore, we added measures assessing the extent to which participants believed their partners were influenced by the incentives offered them and participants' judgments about how many times their partner actually took the incentive offered.

We also sought to assess whether participants' naïve realistic beliefs change the asymmetries in attribution shown in the previous studies. To do this, we included an 11-item version of a naïve realism individual-difference Likert-type scale currently being developed by the laboratories of Emily Pronin, Thomas Gilovich, and Lee Ross. The scale ranged from 1 (strongly disagree) to 7 (strongly agree) with anchors at each number (e.g., moderately agree/disagree, mildly agree/disagree, neither agree nor disagree). Representative sample items from the scale are, "Rational people almost always agree with me," "Some music is objectively more pleasing to hear than other music," "It is easy to see the world as it truly is unless one is biased or misguided," and "Tastes vary, but some forms of art are simply better than others."

## Results

**Measures of naïve realism.** In line with naïve realism, we predicted that participants would attribute greater objectivity to the other's responses when they agreed vs. disagreed with the self's preferences. An independent-samples *t* test supported this prediction: participants in the agreement with self condition ( $M = 5.55, SD = 1.83$ ) indeed rated their partner's responses as more indicative of the true quality of the painting than those in the agreement with other condition ( $M = 2.18, SD = 1.03$ ),  $t(78) = -10.17, p < .001, \eta^2_p = .57$  (see Figure 9).

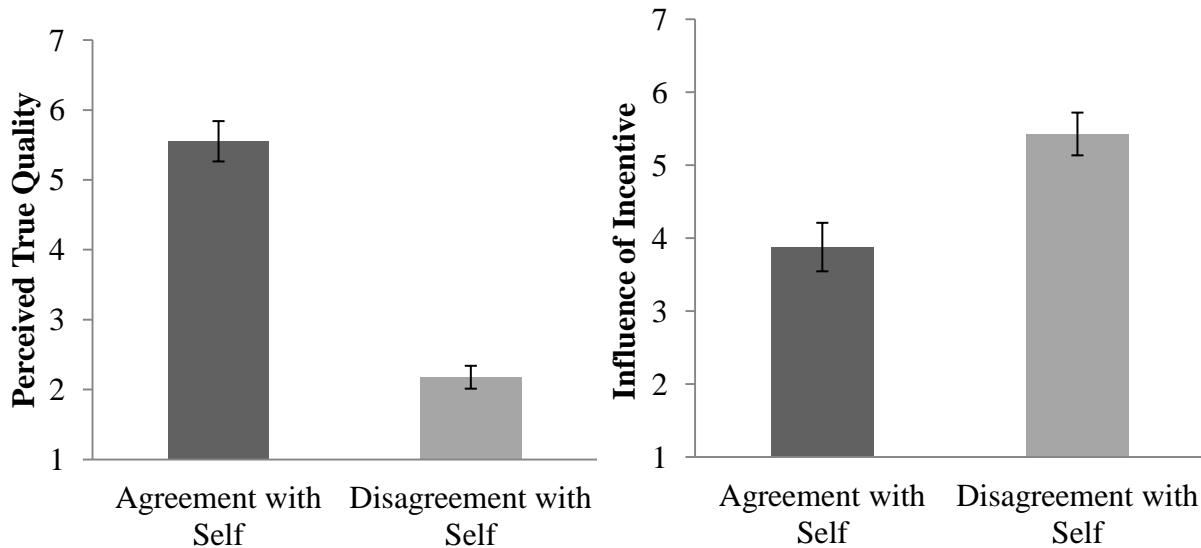


Figure 9. Attributions that the other participant's responses were reflective of the paintings' true quality (left) or the influence of a monetary incentive (right) when witnessing agreement or disagreement with the self's preferences in Study 5.

In this study, we also included an 11-item scale (Cronbach's  $\alpha = .80$ ) assessing individual differences in naïve realistic beliefs ( $M = 3.87, SD = 0.84$ ). In support of the conclusion that the scale tapped into individual differences in naïve realism, we did not observe any differences on this scale between participants who witnessed agreement ( $M = 3.98, SD = 0.85$ ) vs. disagreement ( $M = 3.76, SD = 0.82$ ) with the self,  $p = .23$ .

**Table 1**

*Hierarchical Regression Table for Variables Predicting Perceived True Quality in Study 5*

Model	Predictor	$\beta$	$t$	$p$	$R^2_{adj}$
1	Naïve Realism	.23	2.12	.04	.04
2	Naïve Realism	.13	1.82	.07	.58
	Agreement	.74	9.98	<.001	
3	Naïve Realism	-.11	-1.06	.29	.63
	Agreement	-.34	-1.04	.30	
	Interaction	1.16	3.35	.001	
(Slopes)	Agreement with Self	.26	3.72	<.001	
	Disagreement with Self	-.07	-1.06	.29	

The addition of our individual-difference scale of naïve realistic beliefs let us examine the relationship between the endorsement of naïve realistic beliefs and the attribution of objectivity to the partner’s responses. After conducting a linear regression analysis, we found that individual differences in naïve realism positively predicted attributions of true quality (see Table 1) such that participants with greater endorsement of naïve realistic beliefs were more likely to indicate that their partner’s responses were indicative of the true quality of the paintings. Hierarchically entering agreement and our naïve realism scale into a regression predicting attributions of true quality, however, revealed that whether one’s partner agreed or disagreed with the self significantly moderated this effect. Analysis of simple slopes indicated that whereas endorsement of naïve realistic beliefs significantly and positively predicted attributions about the partner’s objectivity when the partner agreed with the self’s preferences for the paintings, this relationship did not hold when the partner disagreed. In other words, the more participants saw themselves as objective, the more likely they were to think those that agree with them were also objective; on the other hand, participants’ (negative) attributions about their partner’s objectivity paradoxically did not depend on their own naïve realistic beliefs (see Figure 10).



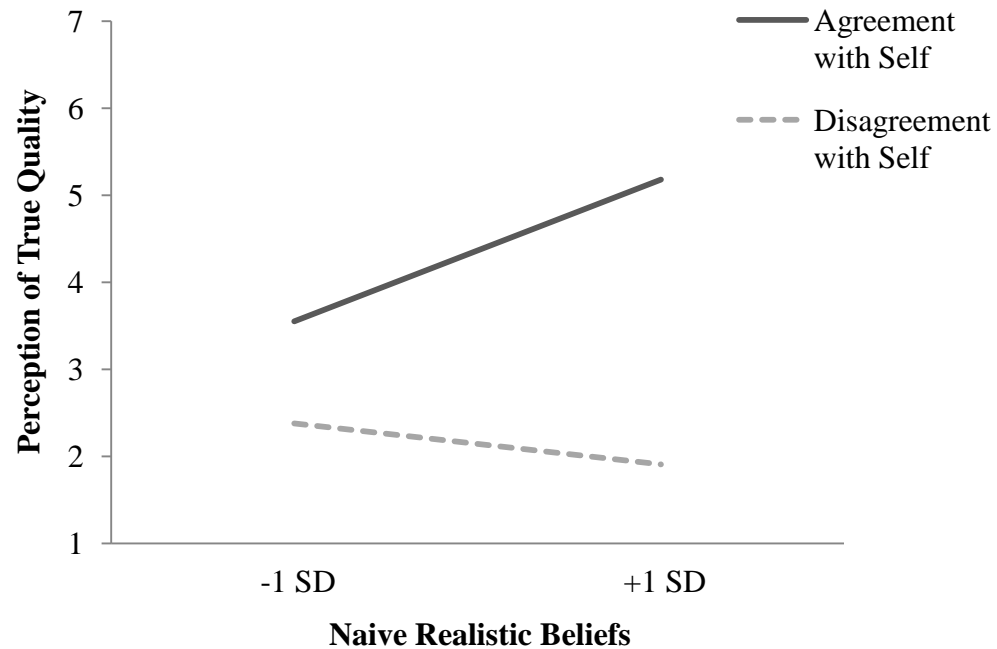


Figure 10. Individual differences in endorsement of naïve realistic beliefs predicting attributions that the partner’s responses were reflective of the paintings’ true quality as a function of whether the participant witnessed agreement or disagreement with their own preferences in Study 5.

**Attributions of bias.** We ran two independent-samples *t* tests on participants’ judgments of whether their partners were influenced by the incentives offered them and for how many paintings their partners actually took the incentive. In line with our predictions, participants who witnessed disagreement with their own preferences ( $M = 5.43$ ,  $SD = 1.85$ ) believed that their partner was more likely to have been influenced by the incentives offered than participants who witnessed agreement ( $M = 3.88$ ,  $SD = 2.10$ ),  $t(78) = 3.50$ ,  $p = .001$ ,  $\eta^2_p = .14$  (see Figure 9). Similarly, participants who witnessed disagreement ( $M = 6.80$ ,  $SD = 2.89$ ) believed that their partner took the incentive for more paintings than did participants who witnessed agreement ( $M = 4.97$ ,  $SD = 3.06$ ),  $t(78) = 2.73$ ,  $p = .01$ ,  $\eta^2_p = .09$ .

Additionally, we were curious whether our individual-difference measure of naïve realism related to both measures of participants’ perceptions of the incentive’s influence on the partner. In contrast to the results for our “true quality” measure of perceived objectivity,

individual differences in naïve realism did not predict attributions that the partner was influenced by the incentive,  $p = .86$ , nor judgments about how many times the partner took the incentive,  $p = .25$ . Furthermore, agreement did not moderate either the relationship between individual differences in naïve realism and judgments of extent,  $p = .10$ , or frequency,  $p = .38$ , of the incentive's influence on the partner.

**Dispositional attributions.** In accordance with previous findings for our individualism/emulator measure in the preceding studies, independent-samples  $t$  tests revealed that participants made different dispositional attributions about their partner as a function of agreement vs. disagreement. For whether their partner was “principled” vs. “adaptable,” participants who saw disagreement ( $M = 5.43$ ,  $SD = 1.28$ ) were more likely to rate their partner as more adaptable (and less principled) than participants who witnessed agreement ( $M = 4.18$ ,  $SD = 1.71$ ),  $t(78) = 3.71$ ,  $p < .001$ ,  $\eta^2_p = .15$ . Similarly, participants also attributed less leadership potential to their partner when that partner disagreed with them ( $M = 2.88$ ,  $SD = 1.22$ ) relative to when they agreed ( $M = 4.45$ ,  $SD = 1.57$ ),  $t(78) = -5.01$ ,  $p < .001$ ,  $\eta^2_p = .24$  (see Figure 11).

Once again, we sought to explore whether our individual-difference measure of naïve realism was related to dispositional attributions about the partner. Entering the naïve realism scale into a regression predicting our two dispositional attribution measures, we observed that individual differences in naïve realism did not predict judgments about whether the partner was “principled” vs. “adaptable,”  $p = .40$ , whereas it marginally and positively predicted judgments about the partner's leadership potential,  $p = .06$ . Entering our individual-difference measure of naïve realism and agreement into a hierarchical regression model predicting these two measures, however, revealed that agreement did not significantly moderate the relationship between

individual differences in naïve realism and either judgments about the partner being “principled,”  $p = .50$ , or judgments about their leadership potential,  $p = .12$ .

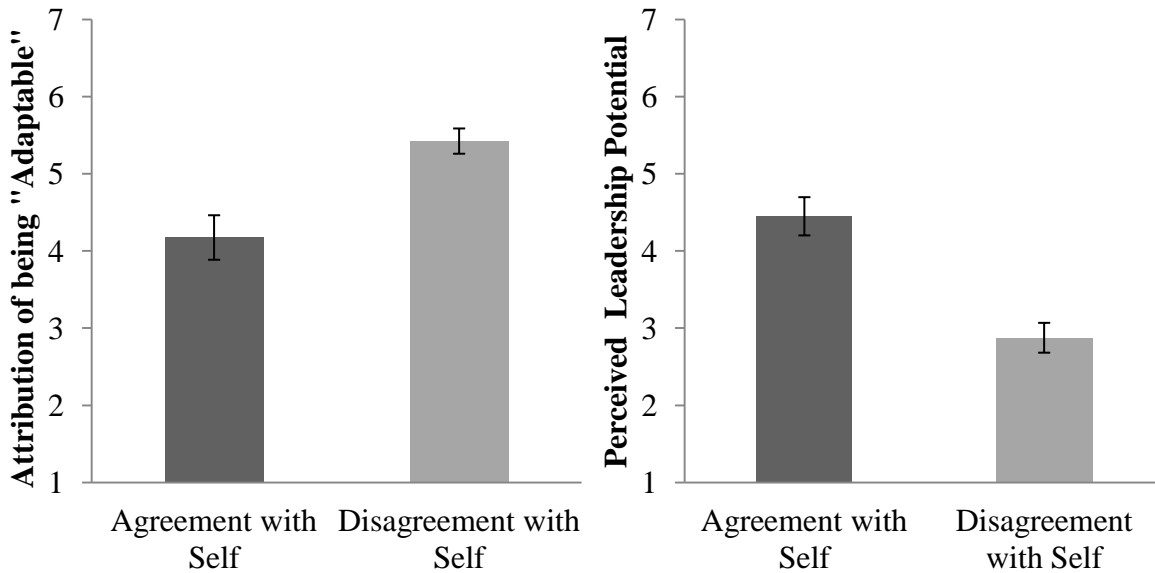


Figure 11. Judgments of the other participant being “adaptable” (vs. “principled”) and having leadership potential based on witnessing agreement vs. disagreement with the self’s preferences in Study 5.

**Liking.** Finally, as in our previous studies, participants’ levels of liking for their partner depended on whether that partner expressed similar or opposite views on the paintings. Specifically, an independent-samples  $t$  test confirmed that participants liked their partner more when their partner agreed with the participant’s own painting preferences ( $M = 4.83, SD = 1.48$ ) relative to when they disagreed with the participant’s preferences ( $M = 3.23, SD = 1.21$ ),  $t(78) = -5.29, p < .001, \eta^2_p = .26$ .

Unlike our measures of influence and dispositional attributions, individual differences in naïve realism significantly and positively predicted levels of liking for the partner (see Table 2). This relationship, however, was moderated by agreement when agreement and our naïve realism scale were entered together in a hierarchical regression predicting liking. In parallel with our

earlier results for the true quality measure, individual differences in naïve realism significantly and positively predicted liking when the partner agreed with the self’s preferences, but did not predict liking when the partner disagreed. In other words, participants who witnessed agreement with their own preferences liked their partners more to the extent that they endorsed naïve realistic beliefs; participants who encountered a partner who disagreed, however, disliked the other regardless of the level of their naïve realistic beliefs.

**Table 2**  
*Hierarchical Regression Table for Variables Predicting Liking in Study 5*

Model	Predictor	$\beta$	$t$	$p$	$R^2_{adj}$
1	Naïve Realism	.30	2.82	.01	.08
2	Naïve Realism	.24	2.53	.01	.30
	Agreement	.48	5.08	<.001	
3	Naïve Realism	.06	0.46	.64	.32
	Agreement	-.31	-0.71	.48	
	Interaction	.85	1.83	.07	
(Slopes)	Agreement with Self	.29	3.12	.003	
	Disagreement with Self	.04	0.46	.64	

**Discussion**

Study 5 supports the conclusion that the differences in attribution upon witnessing agreement and disagreement are not confined to the specific bias of social influence. Instead, we propose that these effects are domain-general. Together with Study 4, Study 5 suggests that as long as someone expresses opposite views from the self, they are judged as being less objective and more biased regardless of the actual biases that could be possible given the situation.

In addition to replicating our effects of agreement vs. disagreement on attribution in the context of a different bias, the inclusion of a scale assessing individual differences in naïve realism allowed us to explore how dispositional variation in naïve realistic beliefs related to

participants' subsequent attributions about objectivity and autonomy. Our analyses revealed that while individual differences in naïve realistic beliefs mattered for participants' judgments about the objectivity of (and liking for) those that agreed with them, participants' endorsement of naïve realistic beliefs did not seem to matter when they encountered those that disagreed. Furthermore, it is possible that with additional power, we might also observe this relationship for participants' judgments of the incentive's influence on their partner as well as their partner's leadership potential. These results accord with data from this and our previous studies suggesting that people make negative attributions about those that disagree with them regardless of their beliefs about the subjectivity of the domain of agreement or disagreement. Put another way, in conjunction with our previous findings, Study 5 suggests the somewhat pessimistic conclusion that one's allowances about subjectivity—regardless of whether one acknowledges one's own subjectivity or simply that of a specific domain—do not prevent negative attributions about the (lack of) objectivity of those that disagree with the self.

This novel conclusion comes with a puzzle: why do naïve realistic beliefs matter when witnessing agreement with the self's preferences for attributions of objectivity and liking, but not for attributions about biasing influence or dispositional attributions about the other person? While we are primarily concerned with the pervasive lack of relationship between these individual differences in naïve realism and the attributions made about those that disagree with the self, it is still odd that endorsement of naïve realistic beliefs would predict attributions towards those that agree for certain attributions but not others, especially when all of these attributions often show the same pattern in response to agreement vs. disagreement. Future research, therefore, is needed to help disambiguate the causal or temporal sequence of these interrelated attributions and clarify what factors influence some but not others.

### General Discussion

The attributions one makes about shared preferences, opinions, or beliefs are important factors in interpersonal perception, impression formation, interpersonal relations, and ultimately group cohesion and identification. In this program of research, we have shown that experiencing agreement with the self vs. agreement with another person produces differences in the attributions made about others' objectivity and autonomy. Across five studies, participants engaged in naïve realistic thinking in a simple aesthetic judgments task, judging preferences that agreed with their own as more indicative of objective reality than another person's dissimilar preferences. Witnessing others agreeing on dissimilar preferences, furthermore, prompted participants to not only attribute social influence to that agreement (Study 1), but also to make further dispositional attributions about the other person's individuality and leadership potential even if it was impossible for the other people to have influenced each others' preferences (Study 4). While the target of agreement may matter for judgments about the objectivity of the expressed preference as well as for downstream attributions relating to conformity or autonomy (Study 2), the largest and strongest differences in attribution observed in these studies are observed when comparing agreement vs. disagreement with one's preferences and not with oneself (Studies 2 and 3). Finally, these differences in attribution produced as a function of agreement vs. disagreement are generalizable to other types of potential bias and, paradoxically, do not depend on individual differences in naïve realism when made about those that disagree with the self's preferences (Study 5). In summary, our data suggest that people treat subjective domains as if they were objective for making attributions about objectivity and bias and that these attributions crucially depend on whether the specific preferences expressed by others are similar to those of the "objective" self.

One possible area of future investigation concerns quantifying these effects in the domain of estimation. If one perceives others that agree with one's own views as simply knowing what is objectively true and good whereas one perceives others' shared views as being a product of social influence, one may also interpret incoming information from these two sources differently. On the one hand, one may consider data coming from those who share one's beliefs as being independently determined, whereas one may treat data coming from those with dissimilar views as being dependently determined, i.e. a product of social influence or some other (biased) source besides objective reality. This may have drastic consequences for probability estimation, confidence estimation, or other numerical, quantifiable judgments in a broad range of judgment and decision-making scenarios. To lend credence to this claim, we have already seen how naïve realistic beliefs can hamper collaborative decision-making (e.g., Minson et al., 2011; Yaniv & Milyavsky, 2007). In general, we are interested in replicating these effects in the context of decision-making. It is reasonable for the negative attributions one makes when witnessing disagreement with the self's preferences to impact one's subsequent decisions involving that person—especially those about weighting, cooperation, or competition—even if the disagreement occurs in a subjective domain unrelated to those decisions. In this way, we seek to investigate the effect of witnessing agreement vs. disagreement on conflict escalation and resolution.

Another possibly productive avenue of future research concerns the elaboration of how the extent of agreement or disagreement predicts the various attributions studied in these experiments. In all of the experiments presented here, participants witnessed total agreement or disagreement to the self. It is still unanswered, therefore, whether the extent of disagreement predicts the severity of attributions about the person who is agreeing or disagreeing. Recall that

participants randomly generated their preferences in Study 2, and therefore most likely witnessed some (unknown) extent of agreement to their actual preferences in those conditions. Since we still produced (reduced) self-other asymmetries in attribution in those conditions, it is quite likely that the severity of attributions indeed tracks the extent of disagreement. Furthermore, one might ask whether witnessing more people agree or disagree changes our observed asymmetries in attribution: if one witnesses everyone in the entire world disagreeing with the self, would one still see them as less objective? If not, when does one start to doubt their own objectivity? So far, we have only studied instances in which two people agree or disagree, with the exception of one condition in Study 3, in which three people shared the self's preferences (albeit to no effect).

This research may also add to the literature on intergroup relations. The asymmetric judgments of decreased autonomy and increased susceptibility to social influence made for those that agree vs. disagree with one's own opinions may increase tensions between groups or between subsections of the same group while enhancing cohesion for groups or subgroups of similar others. If other groups' (or group members') behavior is attributed to social influence or some other factor instead of independent perception of objective reality, it may be easier to categorize or stereotype those others. These attribution processes may therefore be one way that people naturally and automatically group others on the basis of behavior or preferences instead of perceived traits or explicit group memberships. Since these judgments are made in response to witnessing disagreement in domains where it is supposedly acceptable to express disagreement, one might expect any negative consequences arising from the attributions made about that disagreement to be all the more insidious because of it. In terms of the consequences of these asymmetric attributions for inter- and intragroup relations, it's worth pointing out that the studies presented in this paper all showed participants making judgments about other ingroup members



(e.g., college students made judgments about students of the same university), even if group membership was not made salient. It is an open question, then, whether these asymmetries in attribution operate in the same way *across* group boundaries as they do *within* group boundaries, and whether they have different consequences for cooperation or conflict.

In the same vein as investigating the intergroup consequences of naïve realistic beliefs, it is also worth exploring whether the asymmetries in attribution observed in our studies change at different levels of perceived similarity. Just as the attributions one makes about objectivity and bias may differ depending on whether one shares a group membership with another, it is also possible that these attributions may change based on how similar or dissimilar one believes others to be. For example, one could possibly be more tolerant of others' disagreement with the self when one believes they share many other opinions in common, especially if those views are more important to the self and therefore more diagnostic about whether they perceive the world in the same way. One might similarly expect that agreement with one's own opinions by someone extremely different from the self might be so unexpected that it could prompt attributions of bias, e.g., because of ulterior motives. Our findings can perhaps shed a little light on these predictions. Since our data suggest that attributions of bias to disagreeing others doesn't depend on the subjectivity of the domain, one's beliefs about one's own subjectivity, or whether or not the person could have possibly been socially influenced, one might predict that similarity would influence the extent to which one feels positively about those that agree with the self but might not cause one to make more charitable attributions about those that disagree. This would likely depend on the source of the similarity, however: if the similarity stems from sharing the same general worldview, and not perceptions of the similarity driven by other factors (e.g. attractiveness), it is possible that similarity would play a much larger role. Future work is clearly

needed to rigorously test the role of similarity in attributions of objectivity and autonomy as well as precisely disambiguate which aspects of similarity are important for these judgments (if any).

Finally, it is worthwhile investigating whether the specific attributions of bias prompted by witnessing agreement vs. disagreement are moderated by other factors related to those biases. For social influence, for example, it would be interesting to see whether attributions about those who agree vs. disagree are driven by one's need for uniqueness, whether it be determined by individual differences (e.g., Tian, Bearden, & Hunter, 2001), culture (Kim & Markus, 1999), or SES (Stephens, Markus, & Townsend, 2007). While we might expect the same results for attributions of social influence and individualism as before, it is likely that these attributions would not be so tightly linked to liking and various other positive "halo" attributions when conformity is seen as socially desirable (e.g., in an interdependent culture). What would be most interesting, however, would be to see whether the basic naïve realistic perceptual bias—seeing others that disagree with the self as less objective—would replicate in interdependent cultures that emphasize subjectivity and context much more than the individualistic culture of the US. It would also be interesting to see whether beliefs about the perceived expertise of the self vs. other in subjective domains change the presence or magnitude in the asymmetries in attribution produced upon witnessing agreement vs. disagreement with the self.

In everyday life, people constantly encounter others who express similar preferences, whether they be visiting a museum, cheering at a concert, rooting for their favorite sports team, or attending a political rally. Each time one is confronted with two people who express the same preference, one is presented with an opportunity to make an attribution about the source of that shared preference. As we have attempted to demonstrate through these studies, whether or not one shares that preference may be an important determinant of the attributions that one makes

about its source. These preferences and attributions about these preferences matter: they may dictate one's perceptions of others (whether they be individuals or groups of people), how one interact with them, and possibly how one views the world. In the aesthetic domain, witnessing disagreement with one's own ostensibly subjective preferences may subtly bias the attributions one makes about others, possibly even extending to generalizations about them in other more consequential domains. In the political domain, shared preferences—and one's perceptions of them—may influence legislation that impacts all citizens in a country, regardless of whether they share that preference. Awareness of the ways in which one's own preferences may bias perceptions of both others' preferences and other people who share those preferences is a crucial first step to creating intergroup cooperation, a more bipartisan government, and ultimately a better society.

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Appendix: Paintings Stimuli

