

# Seeing the subjective as objective: People perceive the taste of those they disagree with as biased and wrong

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## Abstract

People think that they see things as they are in “objective reality,” and they impute bias and other negative qualities to those who disagree. Evidence for these tendencies initially emerged in the domain of politics, where people tend to assume that there are objectively correct beliefs and positions. The present research shows that people are confident in the correctness of their views, and they negatively judge those who disagree, even in the seemingly “subjective” domain of art. Across seven experiments, participants evaluated paintings and encountered others who agreed or disagreed with their evaluations. Participants saw others’ evaluations as less objective when they clashed with their own, and as more influenced by biasing factors like conformity or financial incentives. These aesthetic preferences felt as objective as political preferences. Reminding people of their belief that artistic preferences are “matters of opinion” reduced this thinking, but did not eliminate it. These findings suggest that people’s convictions of their own objectivity are so powerful as to extend to domains that are typically regarded as “subjective.”

## KEY WORDS

art, attribution, bias blind spot, bias projection, disagreement, naïve realism, objectivity convictions, social influence

## 1 | INTRODUCTION

Art and life are subjective. Not everybody's gonna dig what I dig, but I reserve the right to dig it. —Whoopi Goldberg, comedian

When someone disagrees with a film critic's review of a movie they happened to love, it seems the next step for many is to ... belittle that critic's opinion with the intensity of a thousand burning suns. —Doug Jamieson, film critic

Disagreement is a regular feature of everyday life. Though disagreements are often harmless, they can sometimes trigger arguments, anger, resentment, and even the dissolution of relationships or violence. Sometimes disagreements escalate because people are confronting serious and important topics like political issues or historical

events; other times, however, conflicts arise out of seemingly trivial disagreements. Fans of movies that are panned by film critics, for instance, sometimes insult and harass those critics on social media after seeing negative reviews (Jamieson, 2018). One almost unbelievable example of the escalation of trivial disagreements emerged in 2017, on the topic of pineapple pizza. The Prime Minister of New Zealand confessed that he liked pineapple on his pizza, leading citizens to begin “questioning his sanity,” while halfway around the world, the President of Iceland faced a mild uproar after declaring that he would ban pineapple on pizza nationwide were it not for laws limiting his presidential power (Fantozzi, 2017a,b).

What is striking about disagreements involving things like movies and food is that these are disagreements in domains that people would be quick to call “subjective,” that is, domains in which people generally refer to judgments as simply “a matter of taste,” rather than as reflecting any objective truth. But is this how people *actually* feel

when confronted with disagreements about so-called matters of taste? Or, is it possible that someone who likes pineapple on pizza is unable to escape the feeling that adding a sweet tang to pizza sauce really is better—and that those who feel otherwise are somehow wrong, possibly guided by ignorance, poor taste, or fear of going against the grain? In the present research, we hypothesize that, despite people's general claim that aesthetic preferences are subjective, people's attributions about those who disagree with their preferences will reveal a deeper conviction that their own preferences are the objectively correct ones.

## 2 | "OBJECTIVE" VS. "SUBJECTIVE" DOMAINS

Though philosophers have struggled for centuries to decide what, if anything, is truly objective, people have relatively well-developed folk theories about what domains are more objective or more subjective. For example, people report that whether Mars is the smallest planet in the solar system is a factual matter with only one objectively correct answer, but that whether chocolate ice cream is better than zucchini flavor is a subjective matter with either no correct answer or multiple correct answers (Goodwin & Darley, 2008, 2010). We refer to objective and subjective domains in a categorical sense for convenience, while recognizing that such judgments are likely along a continuum. Moreover, we use the terms "objective" and "subjective" to refer to domains that people *believe* are relatively objective or subjective, while making no normative claims. We define objective domains as those in which people generally believe that only one claim or perspective is correct, and subjective domains as those in which people generally believe that multiple perspectives are correct or that there is no correct perspective (Goodwin & Darley, 2008; Heiphetz & Young, 2017).

## 3 | DISAGREEMENT IN OBJECTIVE DOMAINS

A substantial literature on *naïve realism* reveals people's "unshakeable conviction" that they see the world objectively and that other rational and informed perceivers will therefore share their perceptions and reactions (Robinson, Keltner, Ward, & Ross, 1995, p. 405). When others fail to share those perceptions, the idea of *naïve realism* suggests that individuals will assume that the problem lies with others' judgments, whether they be rooted in ignorance, laziness, or bias (Ichheiser, 1949; Pronin, Gilovich, & Ross, 2004; Ross & Ward, 1996). Previous research supports this proposition of what could be called a *bias projection effect*—i.e., a tendency to impute bias to the views of others, especially others with whom one disagrees (e.g., Kennedy & Pronin, 2008; Reeder, Pryor, Wohl, & Griswell, 2005), and highlights a wide range of interpersonal consequences of *naïve realistic thinking* (e.g., Pronin, Lin, & Ross, 2002; Robinson et al., 1995).

Although previous research has been *deep* in the sense that a wide range of consequences of *naïve realism* have been investigated, it has also been relatively *narrow* in its focus—mostly on judgments, beliefs, and perceptions in the political domain. Importantly, when it comes to political beliefs, people generally agree that there are objectively more and less correct views and beliefs. For example, arguments about politics generally focus on establishing the "correct" answer to how to address contemporary problems (e.g., Cohen, 2003). Experiments that have delved outside of the political domain have nonetheless typically remained in objective domains such as perceptions of the quality of written tests (Pronin et al., 2002) or the answers to trivia questions (Minson, Liberman, & Ross, 2011).

In seemingly objective domains, there is some inherent logic to viewing one's own judgments as objective and those who disagree as biased. After all, one would change one's view if it seemed wrong, so it follows that the fault must lie with the judgments of disagreeing others. But what happens in more subjective domains, such as art? Are people's convictions that they see reality objectively so strong that they extend to aesthetic domains? If so, could this explain how disagreements about seemingly trivial subjective matters can induce genuine dislike and negative judgments about those who disagree?

## 4 | DISAGREEMENT IN SUBJECTIVE DOMAINS

In seemingly subjective domains, such as food or art, judgments are sometimes referred to as matters of "taste" or "personal preference." We hypothesize that this view evaporates in the face of actual disagreements. People may, in the abstract, claim that judgments of art, music, or food are a matter of taste and that everyone is entitled to their own preferences, but these same individuals are likely to make negative attributions about the source of others' judgments when disagreements arise.

Before conducting experiments to test whether people show convictions of objectivity in the subjective domain of art, we conducted a pilot study to test the basic idea that people view judgments about art as more subjective than judgments about politics. Forty participants on Amazon's Mechanical Turk (mTurk) were asked, separately with respect to the domains of art and politics, whether they thought there were "correct or incorrect views" in each domain, or whether it was "more a matter of opinion" (on a 1 to 7 scale for which higher responses indicated more endorsement of the latter option). They also were asked how likely it was that someone who disagreed with them was "objectively wrong" in politics and in art (1 = *very unlikely*, 7 = *very likely*). Participants rated views about art as more a "matter of opinion" ( $M = 6.15$ ,  $SD = 1.08$ ) than views about politics ( $M = 4.38$ ,  $SD = 1.82$ ),  $t(39) = 5.82$ ,  $p < 0.001$ ,  $d = 0.92$ . They also thought someone who disagreed with them was more likely to be objectively wrong in the case of politics ( $M = 4.43$ ,  $SD = 1.53$ ) than art ( $M = 2.68$ ,  $SD = 1.89$ ),  $t(39) = -4.87$ ,  $p < 0.001$ ,  $d = -0.77$ . People thus endorsed the idea that judgments of art are comparatively subjective rather than objective.

We suggest that judgments of abstract categories like "art" and "politics" may not tell the whole story. Although people may make claims about the subjectivity of artistic preferences, their behavior may suggest that they feel differently when confronted with the harsh reality of someone disagreeing with their love (or derision) of a particular Rembrandt, Renoir, or Rothko. In that situation, individuals will typically rely on introspection to seek evidence for their objectivity or bias (Cheek & Pronin, 2020; Pronin, 2009). Introspection will likely yield no evidence of the influence of bias on artistic preferences, though, because people generally have access to only the output of preference-formation processes—not the relatively implicit process of preference construction (e.g., Nisbett & Wilson, 1977). One knows one prefers the Rothko to the Renoir (or vice versa) but lacks access to the idiosyncratic sources of that preference. Thus, the result of introspection about one's artistic preferences may mirror that of introspection in more objective domains—namely, the conclusion that one's judgments arise from objective perceptions of reality. As a result, assumptions about one's own objectivity, and negative attributions about those who disagree, may emerge even in domains where people would claim there is little "objective truth."

Drawing on previous research (e.g., Kennedy & Pronin, 2008; Ross & Ward, 1996), we predict that disagreement about art will lead people to attribute bias to disagreeing others. That is, if the search for the source of disagreement in one's own preferences reveals no evidence of bias, then the source of disagreement will appear instead to be a flaw in the disagreeing other's judgment. Negative attributions about those who disagree may extend beyond conclusions that one's own judgments better reflect reality. Indeed, disagreement may further lead people to assume that disagreeing others are *dispositionally biased*—that one instance of disagreement appears to signal their more general dispositional tendency to be biased (Jones & Davis, 1965; Ross, 1977). If so, then seemingly "trivial" disagreement may in fact be non-trivial, because inferring that someone is generally biased may lead to a wider range of negative judgments about that person's character. In the present research, we test the possibility that disagreements about art, and the imputations of bias that ensue, will lead people to judge those who disagree with them (about art) as less likeable and to be less inclined to be their friend. Ascriptions of bias may also cause people to question disagreeing others' leadership abilities, perhaps even leading participants to report being less likely to vote those with whom they disagree about art into political office.

## 5 | THE PRESENT RESEARCH

Across seven experiments, we investigated people's responses when faced with disagreements about art. In Study 1, participants made judgments about an individual who disagreed with their artistic preferences while agreeing with those of an alleged "other participant." Participants attributed the disagreement to the individual's failure to perceive the "true quality" of the art (i.e., a series of eight paintings) and to the individual's being biased by social influence. Study 2 showed that this effect resulted not from an individual's

disagreement with oneself per se, but rather from disagreement with one's preferences, and that it elicited negative downstream judgments about the target individual's leadership potential. Study 3 examined whether these effects persisted when the biasing effect of social influence was rendered improbable, and Study 4 examined whether the effects persisted when financial incentives, rather than social influence, could be used to explain a target's judgments. In Study 5, we tested the hypothesis that disagreement about art leads to negative downstream judgments because of people's broader attributions about the dispositional bias of disagreeing others. Finally, Study 6 compared the magnitude of these tendencies in the objective domain of politics with the subjective domain of art, and Study 7 investigated whether priming participants' general view that art is subjective would reduce bias projection and its negative downstream consequences in the domain of art.

We report all manipulations and measures in the present research. Because bias projection in the face of disagreement is believed to be a fundamental feature of people's perceptual experiences, effects in this literature tend to be relatively large. Indeed, in the previous experiment most relevant to the current investigation, Kennedy and Pronin (2008, Study 1b) found a large effect size of  $d = 0.81$  when measuring the bias attributed by participants to those who disagreed versus agreed. Using the "pwr" package (Champely, 2018) for R (R Core Team, 2017), a power analysis revealed that a sample size of 25 participants per cell is needed to detect an effect of  $d = 0.81$  with an alpha level of 0.05 and 80% power. In all studies we achieve the sample size necessary for this level of power. For Study 1, we recruited as many participants as possible during the data collection period. For the subsequent studies conducted on mTurk, we aimed to collect large enough samples to detect moderate to large effect sizes within budgetary constraints. In all cases, data collection terminated before data analysis. Data for all studies are included in online supporting information and on the Open Science Framework (<https://osf.io/5cfbt/>).

## 6 | STUDY 1

For Study 1, we devised a novel paradigm in which participants were asked to judge the artistic merit of several paintings. They then received the responses of a fictional participant who either agreed with their judgments or who agreed with the judgments of an ostensible other participant with the opposite preferences. We predicted that participants encountering an individual who agreed with their own judgments would rate the judgments of that individual as more reflective of the objective quality of the paintings compared with participants encountering an individual who agreed with another's judgments (and disagreed with their own). Furthermore, we predicted that, when faced with disagreement rather than agreement, participants would be more likely to attribute bias to the disagreeing other, rating that other's judgments as more socially influenced (i.e., conforming to the responses they had ostensibly been shown). As a more general measure of negative interpersonal judgments

flowing from disagreement, we also measured how much participants liked the agreeing or disagreeing other.

## 6.1 | Method

### 6.1.1 | Participants

Ninety undergraduate students over age 18 were recruited at public locations on their campus. Because the paradigm necessitated deception, we excluded from analyses 16 participants who expressed suspicions of deception. An additional four participants were excluded due to experimenter error or failure to follow instructions/respond to questions, resulting in a sample of 70 participants. Including all participants in analyses generally yields the same pattern of results (see the supporting information).

### 6.1.2 | Procedure and materials

Participants received a booklet to review with high-quality images of eight paintings (each printed on an 8.5" × 11" page), reflecting a variety of artistic styles and time periods (see Appendix A). The paintings all belonged to major art museums but were not well-known works (and were unlikely to be familiar to participants).

On a response sheet, with smaller images of the eight paintings, participants were instructed to circle the ones they thought were "truly great" and place an X over the ones they thought were "overrated." Before doing so, participants were told by the experimenter (as part of our cover story) that they could view another participant's responses as a "sample" if they had any questions before beginning (none did). After completing the response sheet, participants were asked to wait a few minutes while the experimenter ran another participant, so that they could be available to respond to additional questions. A few minutes later, the experimenter returned and asked for the participant's help in judging another participant's responses. The experimenter explained that this "other participant" had chosen to see someone else's response sheet evaluating the paintings before providing their own. In such situations, the experimenter explained that his protocol was to seek another participants' input about whether seeing this information could have influenced the participant's responses.

In the *agreement-with-self* condition, the experimenter told participants that the fictional participant had seen the actual participant's own responses as the sample, whereas in the *agreement-with-disagreeing-other* condition, the experimenter told participants that the fictional participant had seen someone else's responses as the sample. In the agreement-with-self condition, the actual participant was then handed their own responses (with "SAMPLE" handwritten at the top), along with the fictional participant's responses. These fictional responses matched the participant's own (i.e., the fictional participant made the same evaluations as to which paintings were "truly great" and which were "overrated"). In the agreement-with-disagreeing-other condition, the actual participant was also handed a

fictional participant's responses but, in this case, those responses disagreed with the participant's own responses—and matched the "SAMPLE" that they had allegedly been shown (and that was now shown to the actual participant with "SAMPLE" handwritten at the top). Participants were then handed a sheet containing the dependent measures.

### 6.1.3 | Dependent measures

All dependent measures were presented in a 7-point Likert scale format with anchors of 1 (*not at all*), 4 (*somewhat*), and 7 (*very much*).

#### *Primary measures*

Participants first were asked, "Do you think the other participant's judgments directly reflect the true quality of each painting?" If participants perceive those who disagree with them as biased, they should rate the responses of a disagreeing other as less reflective of paintings' true quality compared with the responses of an agreeing other. Participants next assessed the extent to which the fictional participant's judgments were driven by social influence ("Do you think the other participants' judgments were directly influenced by the sample responses?").

#### *Additional measures*

As a general measure of negative interpersonal perceptions due to perceived bias, participants rated how much they liked the fictional participant.

Participants also rated how similar they were to the fictional participant, the fictional participant's typicality, the extent to which they thought the fictional participant's answers reflected their true preferences, and the extent to which they thought the fictional participant simply copied the responses from the sample set. Our theorizing predicts that participants will perceive a disagreeing other's responses as less *objectively correct* and more tainted by biasing social influences, but it is less clear whether it should predict seeing a disagreeing other's responses as less *authentic* (i.e., not reflecting true preferences or directly copied from another's responses). These final two measures were thus included for exploratory purposes.

## 6.2 | Results

Descriptive statistics for Study 1 are presented in Table 1.

Consistent with our predictions, participants in the agreement-with-other condition thought that the other participant's evaluations of the paintings were less impacted by the true quality of the paintings than did participants in the agreement-with-self condition,  $t(68) = 4.47, p < 0.001, d = 1.07, 95\% \text{ CI } [0.57, 1.57]$ . Participants in the agreement-with-other condition also attributed the other participant's preferences more to bias in the form of social influence,  $t(68) = -2.51, p = 0.015, d = -0.60, 95\% \text{ CI } [-1.08, -0.12]$ .

**TABLE 1** Descriptive statistics for Study 1

Measure	Agreement-with-self		Agreement-with-disagreeing-other	
	M	SD	M	SD
True quality	3.91	1.63	2.43	1.09
Social influence	4.66	1.47	5.57	1.58
Liking	4.59	1.21	3.57	1.24
Similarity	6.46	1.07	1.97	1.36
Authenticity	3.80	1.59	3.67	1.61
Copying	4.51	1.95	5.14	1.85
Typicality	4.43	0.98	4.29	0.99

Note. Measures of true quality, social influence, liking, and similarity differed significantly between conditions, all  $p < 0.02$ . Measures of authenticity, copying, and typicality did not differ between conditions.

Participants in the agreement-with-other condition also liked the other participant less,  $t(67) = 3.44$ ,  $p = 0.001$ ,  $d = 0.83$ , 95% CI [0.34, 1.32], and thought the other participant was less similar to them,  $t(68) = 15.35$ ,  $p < 0.001$ ,  $d = 3.67$ , 95% CI [2.90, 4.44]. However, consistent with bias projection rather than a broader dismissal of disagreeing responses, there was no difference between the conditions in judgments of the extent to which responses reflected true preferences,  $t(68) = 0.34$ ,  $p = 0.738$ ,  $d = 0.08$ , 95% CI [-0.39, 0.55]; judgments of the extent to which the other participant simply copied the sample,  $t(68) = -1.39$ ,  $p = 0.171$ ,  $d = -0.33$ , 95% CI [-0.80, 0.14]; and judgments of typicality,  $t(68) = 0.61$ ,  $p = 0.545$ ,  $d = 0.15$ , 95% CI [-0.32, 0.61].

### 6.3 | Discussion

The results of Study 1 suggest that although people may refer to artistic judgments as subjective in casual conversation (and in our pilot study, described in the Introduction), their reactions in the face of actual disagreement indicate that they believe otherwise. Indeed, participants judged disagreeing others' ratings of paintings to be less reflective of reality and more tainted by social influence than the ratings of agreeing others.

Our manipulation of disagreement is inherently also a manipulation of similarity. Past research on the similarity-attraction effect (Berscheid, 1985; Byrne, 1971; Heider, 1958) suggests that perceptions of similarity can lead to positive regard, and thus, it is worth considering whether mere dissimilarity led participants to dislike the disagreeing other and view them as more biased. If judgments of social influence and liking are due solely to perceived (dis)similarity, then similarity judgments should mediate the effect of (dis)agreement on such attributions. In mediation analyses (reported in supporting information), we found that similarity did not mediate the effect of condition on either measure of naïve realistic thinking. Moreover, each of our primary measures mediated the effect of condition on liking even when including similarity in mediation models (see supporting information). To further address this possibility, we also conducted a follow-up study that manipulated similarity while holding

agreement constant. Manipulating similarity alone resulted in smaller and often non-significant effects on our dependent measures, supporting our emphasis on reactions to *disagreement* specifically, rather than mere disparagement of dissimilarity (see the supporting information).

The results of Study 1 raise several questions about the extent of participants' objectivity convictions in subjective domains. In the next three experiments, we explored the generalizability of Study 1's findings to different contextual features, and examined additional downstream consequences of artistic disagreement, such as judgments about disagreeing others' dispositional conformity and leadership potential. Study 2 tested whether witnessing agreement with one's preferences (but not with oneself per se) is sufficient to drive these perceptions in the domain of art.

## 7 | STUDY 2

### 7.1 | Method

Two hundred fifty-nine participants on mTurk were randomly assigned to one of three experimental conditions. The *agreement-with-self* and *agreement-with-disagreeing-other* conditions both resembled those in Study 1. A new, third condition, the *agreement-with-agreeing-other* condition, resembled the other two conditions—except now the sample response sheet that had allegedly been shown to the fictional participant was attributed to another alleged participant whose responses were identical to those of the actual participant. Thus, actual participants in this condition witnessed someone who agreed with their judgments, but after seeing someone else's (rather than their own) responses.

Participants again completed our measures of perceptions of true quality and of liking. They also provided two more downstream interpersonal judgments, of dispositional conformity and leadership potential, by rating whether the fictional participant was more "an individualist" (1) or "an emulator" (7), and whether the fictional participant would make a "good leader" (1 = *not at all*, 7 = *very much*).

## 7.2 | Results

Participants' perceptions that the fictional participant's responses reflected the true quality of the paintings differed across conditions (see Table 2 for descriptive statistics, *p*-values, and effect sizes). Post-hoc analyses using Tukey's HSD revealed that participants thought that individuals who agreed with their evaluations of the paintings had been more objective (i.e., more influenced by the true quality of the art) compared with those who disagreed, regardless of whether participants thought those individuals had seen their own versus an alleged other participant's response sheet. Judgments of liking, attributions of conformity, and evaluations of leadership potential all followed the same pattern. These findings support the notion that it is agreement or disagreement with one's view of reality, and not mere agreement with the self versus another, that drives negative judgments about disagreeing others in the subjective domain of art. Our next study aimed to test whether these negative judgments would persist even when the possibility of social influence was largely diminished.

## 8 | STUDY 3

### 8.1 | Method

Study 3, involving 160 participants on mTurk, used the same general paradigm as in Studies 1–2. It included four conditions in a  $2 \times 2$  design. Participants were assigned to either the *agreement-with-self* or the *agreement-with-disagreeing-other* conditions. They were also told that the fictional participant saw the sample response sheet either *prior* to making their own evaluations (i.e., as in Studies 1–2) or *after* making those evaluations (i.e., at which point seeing the sample could not plausibly have affected their evaluations). Participants completed the same measures (true quality, liking, perceived conformity, and leadership potential) as in Study 2.

### 8.2 | Results

Descriptive statistics and analyses are shown in Tables 3 and 4, respectively.

As predicted, there was a significant main effect such that participants judged the fictional participant's evaluations as more reflective of the "true quality" of the paintings in the *agreement-with-self* condition than in the *agreement-with-disagreeing-other* condition. Participants in the *agreement-with-self* condition also liked the fictional participant more and thought the fictional participant was less conformist and possessed greater leadership potential. None of the effects of agreement condition were moderated by whether the fictional participant had allegedly viewed another participant's ratings *before* vs. *after* providing their own ratings. There was only one significant main effect of exposure: participants thought the fictional participant was more conformist in the prior-exposure condition.

The results of Study 3 again show that convictions of objectivity persist in the subjective domain of artistic judgments—and are strong enough to fuel dislike and skepticism about a target's leadership potential. Moreover, in Study 3, these convictions and negative attributions persisted even in the absence of any obvious source of potential biasing influence (i.e., when the possibility of social influence was removed). Our next study sought to examine whether these judgments regarding art would persist when the prospect of being biased by social influence was entirely removed and, instead, the prospect of the biasing effect of financial self-interest was introduced.

## 9 | STUDY 4

### 9.1 | Method

Eighty participants on mTurk completed the same response sheet evaluating the eight paintings as in Studies 1–3. They were told that they had been paired with a partner who would be rating the same paintings. They were further told that their partner was offered additional bonus money for providing evaluations of the paintings that complied with experimenter-provided suggestions (in terms of which paintings to rate as "truly great" and which to rate as "overrated"). Participants were not told the content of the suggestions, so they did not know what responses their fictional partner was allegedly told to provide. Participants were then shown their own responses side by side with their (fictional) partner's responses, and these responses either *agreed* or *disagreed* with their own evaluations (depending on experimental condition).

As in Studies 1–3, we measured participants' objectivity convictions by asking them whether the fictional participant's responses reflected the true quality of the paintings. As a measure of perceived bias in the form of financial incentives, participants rated the extent to which they believed that their partner was influenced by the bonus money (on a scale from 1 to 7, with higher numbers indicating more influence), and indicated the number of paintings (0–8) for which they thought their partner had accepted incentives. One participant did not complete this latter question. As a measure of how they viewed their partner's personality in light of the financial incentive manipulation, they rated their partner's personality on a continuum ranging from *principled* (1) to *adaptable* (7). Participants also completed the liking and leadership potential measures from previous studies.

### 9.2 | Results

Descriptive statistics and analyses are shown in Table 5.

As in previous studies, participants judged their partner's evaluations as more reflective of objective reality in the agreement condition than the disagreement condition. Extending previous results to the context of a new form of influence, participants viewed their partner as more biased by financial incentives, and likely to have accepted more of those incentives, when that partner disagreed rather than agreed with

**TABLE 2** Descriptive statistics and post-hoc comparisons for Study 2

Measure	Agreement-with-self	Agreement-with-agreeing-other	Agreement-with-disagreeing-other	Self vs. agreeing other <i>d</i>	Self vs. disagreeing other <i>d</i>	Agreeing other vs. disagreeing other <i>d</i>
True quality	4.87 (1.99)	4.95 (1.70)	2.21 (1.24)	-.04 [-0.34, 0.25]	1.60 [1.25, 1.94]	1.84 [1.48, 2.19]
Liking	5.15 (1.42)	4.77 (1.33)	3.21 (1.35)	0.27 [-0.02, 0.57]	1.40 [1.06, 1.73]	1.17 [0.84, 1.49]
Autonomy	4.06 (1.77)	4.31 (1.87)	5.48 (1.63)	-0.14 [-0.43, 0.16]	-0.83 [-1.14, -0.52]	-0.67 [-0.97, -0.36]
Leadership potential	4.28 (1.58)	3.84 (1.51)	2.58 (1.30)	0.28 [-0.02, 0.58]	1.17 [0.85, 1.49]	0.89 [0.58, 1.21]

Note. All differences between agreement-with-disagreeing-other and the other two conditions are significant (all  $p < 0.001$ ). None of the differences between the agreement-with-self and agreement-with-agreeing-other conditions are significant (all  $p > 0.124$ ).

**TABLE 3** Descriptive statistics for Study 3

Measures	Agreement-with-self	Agreement-with-disagreeing-other
True quality		
Participants (P's) shown sample	5.63 (1.39)	2.18 (1.01)
P's not shown sample	5.33 (1.69)	2.12 (1.23)
Liking		
P's shown sample	4.98 (1.54)	3.23 (1.14)
P's not shown sample	5.33 (1.11)	3.15 (1.22)
Autonomy		
Ps shown sample	4.08 (1.85)	5.53 (1.43)
Ps not shown sample	3.59 (1.48)	4.90 (1.62)
Leadership potential		
Ps shown sample	4.08 (1.70)	2.70 (1.30)
P's not shown sample	4.56 (1.45)	2.83 (1.22)

Note. All main effects of agreement condition are significant, all  $p < 0.001$ .

**TABLE 4** Analyses of the effects of agreement, and of being shown sample prior to judgment in Study 3

Measures	Main effect of disagreement	Main effect of seeing sample	Interaction
True quality	<b>F = 243.49,</b> $\eta_p^2 = 0.61$ , 90% CI [0.53, 0.67]	F = 0.65, $\eta_p^2 = 0.00$ , 90% CI [0.00, 0.04]	F = 0.31, $\eta_p^2 = 0.00$ , 90% CI [0.00, 0.03]
Liking	<b>F = 96.79,</b> $\eta_p^2 = 0.38$ , 90% CI [0.29, 0.46]	F = 0.49, $\eta_p^2 = 0.00$ , 90% CI [0.00, 0.03]	F = 1.19, $\eta_p^2 = 0.01$ , 90% CI [0.00, 0.05]
Autonomy	<b>F = 29.62,</b> $\eta_p^2 = 0.16$ , 90% CI [0.08, 0.24]	F = 4.76, $\eta_p^2 = 0.03$ , 90% CI [0.00, 0.09]	F = 0.07, $\eta_p^2 = 0.00$ , 90% CI [0.00, 0.02]
Leadership potential	<b>F = 47.34,</b> $\eta_p^2 = 0.23$ , 90% CI [0.14, 0.32]	F = 1.87, $\eta_p^2 = 0.01$ , 90% CI [.00, .05]	F = 0.63, $\eta_p^2 = 0.00$ , 90% CI [0.00, 0.04]

Note. For all F, degrees of freedom are 1 and 156. Brackets indicate the 90% confidence interval for partial eta-squared. Bolded F values are significant at  $p < 0.001$ ; all other  $p > 0.10$ .

them. Participants also judged a disagreeing partner as less principled, less likeable, and lower in leadership potential. Thus, in the face of disagreement about art, bias projection, and its negative downstream consequences, extended beyond the potentially biasing impact of social influence to the potentially biasing impact of financial self-interest.

## 10 | STUDY 5

Studies 1–4 showed that, even in the supposedly subjective domain of art, people view their preferences as objective and impute bias and negative interpersonal qualities to those who disagree vs. agree. Study 5 sought to identify a mechanism underlying these broader negative

interpersonal judgments, as well as explore a wider range of real-world downstream consequences of disagreement. We predicted that disagreement about art would be enough to lead participants to draw the broader inference that disagreeing others are more dispositionally biased than agreeing others (Jones & Davis, 1965; Ross, 1977). Perceptions that disagreeing others are generally more prone to bias may then lead to a wide range of negative downstream judgments, because being biased is a negative and consequential trait. Thus, in addition to measuring the extent to which participants thought a disagreeing vs. agreeing other's artistic judgments were influenced by bias, we also assessed their broader perceptions of dispositional bias, with the prediction that these broader perceptions would mediate the effect of agreement on downstream interpersonal judgments. Study 5 also explored new real-world consequences of disagreement, including friendship interest and voting preferences.

### 10.1 | Method

#### 10.1.1 | Participants

We recruited 375 participants through mTurk in exchange for \$1.00. To be included in analyses, participants had to pass two attentional checks (Oppenheimer, Mayvis, & Davidenko, 2009) and confirm that they did not respond randomly. In total, 258 participants met these criteria. An additional 36 participants expressed suspicion or disbelief about the manipulation and were excluded from analyses (inclusion of these participants does not change the pattern of results; see the supporting information).

#### 10.1.2 | Materials and procedure

Participants first rated whether they liked or disliked the eight paintings from previous studies. Participants then saw two response

**TABLE 5** Descriptive statistics for Study 4

Measures	Agreement-with-self condition		Agreement-with-disagreeing-other condition		t tests
	M	SD	M	SD	
True quality	5.55	1.83	2.18	1.03	$t(78) = 10.17, p < 0.001, d = 2.27, 95\% \text{ CI} [1.71, 2.84]$
Influenced by incentives	3.88	2.10	5.43	1.85	$t(78) = -3.50, p = 0.001, d = -0.78, 95\% \text{ CI} [-1.24, -0.33]$
Took incentives	4.97	3.06	6.80	2.89	$t(77) = -2.73, p = 0.008, d = -0.61, 95\% \text{ CI} [-1.07, -0.16]$
Principled	4.18	1.71	5.43	1.28	$t(78) = -3.71, p < 0.001, d = -0.83, 95\% \text{ CI} [-1.29, -0.37]$
Liking	4.83	1.48	3.23	1.21	$t(78) = 5.29, p < 0.001, d = 1.18, 95\% \text{ CI} [0.71, 1.66]$
Leadership potential	4.45	1.57	2.88	1.22	$t(78) = 5.01, p < 0.001, d = 1.12, 95\% \text{ CI} [0.65, 1.59]$

sheets: the responses made by the (fake) previous participant, and the responses that the previous participant had supposedly seen beforehand. In the *agreement-with-agreeing-other* condition, both of these response sheets shared the evaluations made by the participant. In the *agreement-with-disagreeing-other* condition, both of these response sheets displayed responses that were the opposite of those made by the participant.

### 10.1.3 | Dependent measures

As in previous studies, participants rated the extent to which the other participant's judgments reflected the true merit of the paintings<sup>1</sup> and the extent to which the other participant's judgments were influenced by the sample responses they were shown. Participants also rated the other participant's *dispositional* tendency to be biased on a two-item measure ("Do you think the other participant's view of the world is generally rational and objective?" and "Do you think the other participant is good at overcoming potential biases and viewing things in an objective way?"). Participants then rated how knowledgeable the other participant seemed, the extent to which the other participant was conformist, and how much they liked the other participant.

To further explore potential downstream consequences, participants rated how much they would want to be friends with the other participant, how likely they would be to include the other participant when composing a neighborhood group to make decisions about local culture (e.g., what musical groups to bring for local events), and how likely they would be to vote for the other participant in a city council election. All ratings were made on scales ranging from 1 to 7.

## 10.2 | Results

Descriptive statistics and analyses are shown in Table 6.

Replicating previous studies, participants in the agreement-with-agreeing-other conditions thought the other participant's judgments were more reflective of the true merit of the paintings and less biased by social influence than did participants in the agreement-with-disagreeing-other conditions. Participants in the agreement-with-agreeing-other conditions also thought that the other participant was less dispositionally biased and less of an emulator, though judgments of knowledge did not differ between conditions. Furthermore, participants who encountered an agreeing other liked the other participant more, wanted to be their friend more, and were more likely to want to invite them to join a neighborhood group and to vote for them in a local election.

To test whether perceptions of dispositional bias mediated the effect of agreement on the downstream judgments, we conducted a bootstrap mediation analysis with 5,000 samples for each downstream judgment using Hayes' (2013) PROCESS macro. As shown in Table 7, perceived dispositional bias was a significant mediator in all cases. These results are consistent with our hypothesis that disagreement leads to more negative downstream judgments because people infer that disagreeing others are more biased than agreeing others not only in the moment of judgment but also in their broader dispositional tendencies as well. Having provided evidence for the mechanism of dispositional inferences about bias, we turned in the next two studies to potential moderators of our observed effects.

## 11 | STUDY 6

In our pilot study (described in the Introduction), participants described art as more subjective than politics—i.e., they rated artistic judgments as more a matter of opinion than political judgments, and they reported that someone who disagreed with them about politics would be more likely to be objectively wrong than someone who disagreed with them about art. In Study 6, we sought to examine whether people would display comparable levels of objectivity convictions (and imputations of bias and negative attributions) for artistic and political judgments—or whether these effects would be weaker in the context of art.

<sup>1</sup>We changed "quality" to "merit" in Studies 5–7.

**TABLE 6** Descriptive statistics and analyses from Study 5

Measure	Agreement-with-agreeing-other	Agreement-with-disagreeing-other	t test
True merit	4.15 (1.66)	3.59 (1.62)	$t = 2.52, p = 0.013, d = .34, 95\% \text{ CI} [0.07, 0.61]$
Social influence	4.41 (1.77)	5.23 (1.55)	$t = -3.64, p < 0.001, d = -0.49, 95\% \text{ CI} [-0.76, -.22]$
Knowledgeable	4.17 (1.28)	3.89 (1.68)	$t = 1.40, p = 0.164, d = 0.18, 95\% \text{ CI} [-0.08, 0.45]$
Emulator	4.45 (1.53)	5.26 (1.35)	$t = -4.16, p < 0.001, d = -0.56, 95\% \text{ CI} [-0.83, -.29]$
Dispositional bias	4.58 (1.11)	4.04 (1.51)	$t = 3.01, p = 0.003, d = 0.39, 95\% \text{ CI} [.13, .66]$
Liking	4.86 (1.23)	3.95 (1.50)	$t = 4.84, p < 0.001, d = 0.65, 95\% \text{ CI} [0.37, 0.93]$
Want to be friends	4.34 (1.31)	3.92 (1.71)	$t = 2.09, p = 0.037, d = 0.27, 95\% \text{ CI} [0.01, 0.54]$
Neighborhood group	4.51 (1.42)	3.64 (1.74)	$t = 4.07, p < 0.001, d = 0.54, 95\% \text{ CI} [0.27, 0.81]$
Would vote for	4.00 (1.57)	3.40 (1.81)	$t = 2.61, p = 0.010, d = 0.35, 95\% \text{ CI} [0.09, 0.62]$

Note. SDs are given in parentheses.

**TABLE 7** Mediation analyses from Study 5

Outcome measure	Total effect of condition on outcome	Effect of perceived dispositional bias on outcome	Effect of condition on perceived dispositional bias	Direct effect of condition on outcome	Indirect effect of condition on outcome
Emulator	0.81 [0.42, 1.19]	-0.22 [-0.36, -0.09]	-0.53 [-0.89, -0.17]	0.69 [0.31, 1.07]	0.12 [0.03, 0.27]
Liking	-0.91 [-1.28, -0.54]	0.73 [0.63, 0.82]	-0.53 [-0.89, -0.17]	-0.52 [-0.79, -0.25]	-0.39 [-0.65, -0.14]
Want to be friends	-0.42 [-0.84, -0.01]	0.80 [0.69, 0.91]	-0.53 [-0.89, -0.17]	0.00 [-0.30, 0.30]	-0.42 [-0.72, -0.15]
Neighborhood group	-0.86 [-1.29, -0.44]	0.87 [0.77, 0.98]	-0.53 [-0.89, -0.17]	-0.40 [-0.70, -0.10]	-0.46 [-0.79, -0.16]
Would vote for	-0.60 [-1.06, -0.15]	0.89 [0.77, 1.01]	-0.53 [-0.89, -0.17]	-0.13 [-0.46, 0.20]	-0.47 [-0.78, -0.16]

Note. Condition is coded 0 = agreement-with-agreeing-other; 1 = agreement-with-disagreeing-other. The 95% confidence intervals are given in brackets.

## 11.1 | Method

### 11.1.1 | Participants

We recruited 501 participants through mTurk in exchange for \$1.00, of whom 462 met the inclusion criteria from Study 5. An additional 59 participants expressed suspicion or disbelief and were excluded from analyses (inclusion of these participants does not change the pattern of results; see the supporting information).

### 11.1.2 | Materials and procedure

Participants were randomly assigned to one of four conditions in a 2 (agreement-with-agreeing-other vs. agreement-with-disagreeing-other)  $\times$  2 (art vs. politics) design. In the art condition, participants rated whether they liked or disliked the same eight paintings as before, whereas in the politics condition, participants instead rated whether they liked or disliked eight political buttons displaying statements on contemporary issues (e.g., "Gay rights are human rights" and "Build the wall"; see

Appendix A). Participants in both conditions were then told they would see a previous participant's ratings, and that this participant had seen someone else's responses before providing their own.

In both the art and the politics conditions, participants then saw two response sheets: the responses made by the fictional previous participant and the responses that this fictional participant had supposedly seen beforehand. In the *agreement-with-agreeing-other* condition, both of these response sheets shared the evaluations made by the participant. In the *agreement-with-disagreeing-other* condition, both of these response sheets displayed responses that were the opposite of those made by the participant. Dependent measures were the same as in Study 5, except that participants also rated how impartial the other participants' judgment seemed and did not complete the two-item measure of perceived dispositional bias.<sup>2</sup>

<sup>2</sup>We also measured self-esteem to rule out the alternative explanation that participants defensively disparaged opposing viewpoints as a route to affirmation after ego threat (Vohs & Heatherton, 2004). Participants also rated the extent to which their own judgments reflected the true merit of the paintings or buttons. See the supporting information for analyses.

## 11.2 | Results

Descriptive statistics for Study 6 are presented in Table 8.

To compare responses in the domains of art and politics, we conducted a series of 2 (agreement vs. disagreement)  $\times$  2 (art vs. politics) analyses of variance (ANOVAs) on each dependent variable. As shown in Table 9, and as predicted, there was a main effect of agreement vs. disagreement, such that participants in the agreement conditions thought that the other participant's judgments were more reflective of the true merit of the paintings, or buttons, and less biased by social influence than participants in the disagreement conditions. There was no agreement  $\times$  domain interaction effect for either of these measures, suggesting that participants' objectivity convictions in the face of disagreement may be equally strong for art and politics.

For each of the other dependent measures, there was similarly a main effect of agreement. Relative to participants in the agreement conditions, participants in the disagreement condition thought that

the other participant was less knowledgeable, less impartial, and more of a conformist. Participants in the disagreement condition also liked the other participant less, wanted to be their friend less, and were less likely to want to invite them to join a neighborhood group or vote for them in a local election. However, for each of these six measures, the effect of agreement condition was qualified by a significant agreement  $\times$  domain interaction. Interactions emerged because relative to judgments regarding art, judgments regarding politics were both more positive in the agreement condition and more negative in the disagreement condition.

## 11.3 | Discussion

Study 6 provided two insights into the nature of objectivity convictions in subjective versus objective domains. First, objectivity convictions and bias projection emerged with equal strength for the more subjective and more objective contexts—i.e., for art and politics.

**TABLE 8** Descriptive statistics for Study 6

Measures	Agreement-with-agreeing-other	Agreement-with-disagreeing-other
True merit		
Art condition	4.29 (1.60)	3.11 (1.53)
Politics condition	5.13 (1.31)	3.88 (1.68)
Social influence		
Art condition	4.31 (1.76)	5.11 (1.61)
Politics condition	3.65 (1.86)	4.27 (1.86)
Impartial		
Art condition	4.21 (1.49)	3.48 (1.60)
Politics condition	4.42 (1.42)	2.87 (1.64)
Knowledgeable		
Art condition	4.16 (1.35)	3.18 (1.38)
Politics condition	5.24 (1.35)	2.83 (1.47)
Emulator		
Art condition	4.49 (1.48)	5.08 (1.72)
Politics condition	3.77 (1.81)	5.05 (1.76)
Liking		
Art condition	4.78 (1.37)	3.71 (1.31)
Politics condition	5.57 (1.16)	2.56 (1.55)
Want to be friends		
Art condition	4.48 (1.43)	3.46 (1.45)
Politics condition	4.98 (1.27)	2.27 (1.52)
Neighborhood group		
Art condition	4.50 (1.58)	3.27 (1.57)
Politics condition	5.33 (1.46)	2.35 (1.58)
Would vote for		
Art condition	4.04 (1.57)	2.97 (1.56)
Politics condition	5.16 (1.47)	1.78 (1.40)

Note. All ratings were made on a 1–7 scale.

**TABLE 9** Analyses of the effects of agreement and domain in Study 6

Measures	Main effect of disagreement			Effect of disagreement <i>d</i>	
	Main effect of disagreement	Main effect of domain	Interaction	Paintings	Politics
True merit	<b>F = 62.15***</b> $\eta_p^2 = 0.13$ [0.09, 0.19]	<b>F = 27.42***</b> $\eta_p^2 = 0.06$ [0.03, 0.11]	<b>F = 0.05</b> $\eta_p^2 = 0.00$ [0.00, 0.01]	0.75 [0.47, 1.04]	0.82 [0.53, 1.11]
Social influence	<b>F = 16.19***</b> $\eta_p^2 = 0.04$ [0.01, 0.07]	<b>F = 17.98***</b> $\eta_p^2 = 0.04$ [0.02, 0.08]	<b>F = 0.25</b> $\eta_p^2 = 0.00$ [0.00, 0.01]	-0.48 [-0.76, -0.20]	-0.33 [-0.61, -0.06]
Impartial	<b>F = 55.00***</b> $\eta_p^2 = 0.12$ [0.08, 0.17]	<b>F = 1.64</b> , $\eta_p^2 = 0.00$ [0.00, 0.02]	<b>F = 7.04**</b> $\eta_p^2 = 0.02$ [0.00, 0.04]	0.47 [0.19, 0.75]	1.01 [0.71, 1.30]
Knowledgeable	<b>F = 148.21***</b> $\eta_p^2 = 0.27$ [0.21, 0.33]	<b>F = 6.96**</b> $\eta_p^2 = 0.01$ [0.00, 0.04]	<b>F = 26.22***</b> $\eta_p^2 = 0.06$ [0.03, 0.10]	0.72 [0.43, 1.00]	1.70 [1.37, 2.02]
Emulator	<b>F = 30.46***</b> $\eta_p^2 = 0.07$ [0.04, 0.11]	<b>F = 4.84*</b> $\eta_p^2 = 0.01$ [0.00, 0.04]	<b>F = 4.02*</b> $\eta_p^2 = 0.01$ [0.00, 0.03]	-0.37 [-0.65, -0.09]	-0.71 [-1.00, -0.43]
Liking	<b>F = 224.45***</b> $\eta_p^2 = 0.36$ [0.30, 0.41]	<b>F = 1.76</b> $\eta_p^2 = 0.01$ [0.00, 0.02]	<b>F = 50.66***</b> $\eta_p^2 = 0.11$ [0.07, 0.16]	0.80 [0.51, 1.08]	2.17 [1.82, 2.52]
Want to be friend	<b>F = 172.24***</b> $\eta_p^2 = 0.30$ [0.24, 0.36]	<b>F = 5.79*</b> $\eta_p^2 = 0.02$ [0.00, 0.04]	<b>F = 35.37***</b> $\eta_p^2 = 0.08$ [0.04, 0.13]	0.71 [0.42, .99]	1.92 [1.59, 2.26]
Neighborhood group	<b>F = 184.89***</b> $\eta_p^2 = 0.32$ [0.26, 0.37]	<b>F = 0.06</b> , $\eta_p^2 = 0.00$ [0.00, 0.01]	<b>F = 32.10***</b> $\eta_p^2 = 0.07$ [0.04, 0.12]	0.78 [0.49, 1.06]	1.95 [1.62, 2.29]
Would vote for	<b>F = 221.77***</b> $\eta_p^2 = 0.36$ [0.30, 0.41]	<b>F = 0.06</b> , $\eta_p^2 = 0.00$ [0.00, 0.01]	<b>F = 59.90***</b> $\eta_p^2 = 0.13$ [0.08, 0.18]	0.68 [0.40, 0.97]	2.37 [2.00, 2.73]

Note. For all *F*, degrees of freedom are 1 and 399. Brackets indicate the 90% confidence interval for partial eta-squared and 95% confidence interval for Cohen's *d*. Bolded *F* values are significant at *p* < 0.05.

\*\*\**p* < 0.001.

\*\**p* < 0.01.

\**p* < 0.05.

Second, and somewhat in contrast, the downstream consequences of disagreement were significantly larger for politics than art. Although participants felt that their judgments reflected objective reality (and that disagreeing others were biased by social influence) to an equal extent in both the art and politics conditions, disagreement about politics resulted in more negative judgments, including a lower desire to be friends, and less inclination to vote for the disagreeing other. Thus, domain mattered more for the severity of downstream reactions to disagreement than for basic convictions of objectivity in the face of disagreement.

## 12 | STUDY 7

When confronted with someone who disagreed with their artistic preferences, participants in Studies 1–6 reacted in a way that revealed that they did not in fact view artistic preferences as subjective. In Study 7, we investigated whether making the subjective nature of art salient to participants would reduce this tendency. The subjective nature of art was made salient by having participants respond to questions regarding the subjective vs. objective nature of both art and politics prior to their completing our paradigm involving evaluation of paintings.

### 12.1 | Method

We recruited 501 participants through mTurk in exchange for \$1.00, of whom 435 met the inclusion criteria from Studies 5–6. An additional 56 participants expressed suspicion or disbelief and were excluded from analyses (their inclusion does not change the pattern of results; see the supporting information).

As in Study 6, participants evaluated eight paintings, after which they saw the ostensible evaluations of someone else who either agreed or disagreed with their evaluations. Before completing the rest of the study and thereby rating the fictional participant whose evaluations they saw, participants were randomly assigned either to complete or not to complete four questions concerning the subjective vs. objective natures of both art and politics. These questions, taken directly from our pilot study (see Section 1), asked participants (on four separate 7-point scales): "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?" The study design was a 2 (agreement-with-agreeing-other vs. agreement-with-disagreeing-other) × 2 (subjectivity reminder: present vs. absent). Dependent measures were the same as in Study 6.

**TABLE 10** Descriptive statistics for Study 7

Measures	Agreement-with-agreeing-other	Agreement-with-disagreeing-other
True quality		
Control	4.28 (1.65)	2.92 (1.51)
Subjectivity Reminder	3.99 (1.63)	3.36 (1.56)
Social influence		
Control	4.24 (1.84)	5.30 (1.71)
Subjectivity Reminder	4.22 (1.81)	5.01 (1.67)
Impartial		
Control	4.34 (1.64)	3.32 (1.58)
Subjectivity Reminder	3.99 (1.63)	3.88 (1.53)
Knowledgeable		
Control	4.23 (1.38)	3.16 (1.34)
Subjectivity Reminder	4.04 (1.22)	3.81 (1.41)
Emulator		
Control	4.38 (1.75)	5.14 (1.66)
Subjectivity Reminder	4.22 (1.80)	4.92 (1.76)
Liking		
Control	4.93 (1.25)	3.47 (1.49)
Subjectivity Reminder	4.78 (1.17)	3.67 (1.37)
Want to be friends		
Control	4.46 (1.32)	3.15 (1.30)
Subjectivity Reminder	4.27 (1.45)	3.67 (1.57)
Neighborhood group		
Control	4.43 (1.63)	3.20 (1.64)
Subjectivity Reminder	4.23 (1.56)	3.59 (1.64)
Would vote for		
Control	3.93 (1.44)	2.73 (1.60)
Subjectivity Reminder	3.76 (1.71)	3.16 (1.60)

All ratings were made on a 1–7 scale.

## 12.2 | Results

Descriptive statistics for Study 7 are presented in Table 10.

To compare the responses of participants who were primed vs. not primed to think about the subjectivity of art, we conducted a series of 2 (agreement condition)  $\times$  2 (subjectivity reminder condition) ANOVAs (see Table 11 for results). As in Studies 1–5, participants were convinced of the objectivity of their artistic preferences, projected bias onto those who disagreed, and generally made negative judgments about those whose preferences were different. That is, main effects of agreement emerged for all dependent measures. However, significant interactions indicated that these effects were attenuated in the face of reminders about the subjectivity of art for six of the nine dependent measures (see Table 11). For the other three measures (perceptions of social influence, conformity, and liking), the effects were not significantly reduced. In summary, after explicitly attesting to the subjectivity of art, participants still viewed their own evaluations of artwork as objectively correct and made

negative judgments about those who disagreed with their evaluations, but those judgments were attenuated for the majority of the measures.

## 13 | GENERAL DISCUSSION

If judgments in subjective domains are seen as simply a matter of taste, why do disagreements about seemingly trivial preferences about art, music, movies, and food lead to problems such as online harassment of film critics and public outcry over the dietary preferences of politicians? We have suggested that people may say that judgments in subjective domains are just a matter of taste, but when confronted with those who do not share their opinions, their reactions may sometimes belie those claims of subjectivity.

Across seven studies, we found evidence of this effect: participants consistently judged the artistic preferences of those who agreed with them to better reflect reality than those of others who disagreed

**TABLE 11** Analyses of the effects of agreement and subjectivity reminder in Study 7

Measures	Main effect of disagreement	Main effect of reminder	Interaction	Effect of disagreement <i>d</i>	
				Control	Reminder
True quality	<b>F = 37.52***</b> $\eta_p^2 = 0.09$ [0.05, 0.14]	<b>F = 0.20</b> $\eta_p^2 = 0.00$ [0.00, 0.01]	<b>F = 5.06*</b> $\eta_p^2 = 0.01$ [0.00, 0.04]	0.86 [0.57, 1.16]	0.40 [0.11, 0.68]
Social influence	<b>F = 26.36***</b> $\eta_p^2 = 0.07$ [0.03, 0.11]	<b>F = 0.74</b> $\eta_p^2 = 0.00$ [0.00, 0.02]	<b>F = 0.55</b> $\eta_p^2 = 0.00$ [0.00, 0.01]	-0.60 [-0.89, -0.31]	-0.46 [-0.74, -0.17]
Impartial	<b>F = 11.84**</b> $\eta_p^2 = 0.03$ [0.01, 0.06]	<b>F = 0.41</b> $\eta_p^2 = 0.00$ [0.00, 0.01]	<b>F = 7.62**</b> $\eta_p^2 = 0.02$ [0.00, 0.05]	0.63 [0.34, 0.92]	0.07 [-0.21, 0.36]
Knowledgeable	<b>F = 22.25***</b> $\eta_p^2 = 0.06$ [0.02, 0.10]	<b>F = 2.74</b> $\eta_p^2 = 0.01$ [0.00, 0.03]	<b>F = 8.97**</b> $\eta_p^2 = 0.02$ [0.00, 0.05]	0.78 [0.49, 1.08]	0.18 [-0.11, 0.46]
Emulator	<b>F = 16.76***</b> $\eta_p^2 = 0.04$ [0.02, 0.08]	<b>F = 1.18</b> $\eta_p^2 = 0.00$ [0.00, 0.02]	<b>F = 0.03</b> $\eta_p^2 = 0.00$ [0.00, 0.01]	-0.45 [-0.74, -0.16]	-0.39 [-0.68, -0.11]
Liking	<b>F = 88.66***</b> $\eta_p^2 = 0.19$ [0.14, 0.25]	<b>F = 0.03</b> $\eta_p^2 = 0.00$ [0.00, 0.01]	<b>F = 1.66</b> $\eta_p^2 = 0.00$ [0.00, 0.02]	1.06 [0.75, 1.36]	0.87 [0.57, 1.17]
Want to be friend	<b>F = 42.65***</b> $\eta_p^2 = 0.10$ [0.06, 0.15]	<b>F = 1.32</b> $\eta_p^2 = 0.00$ [0.00, 0.02]	<b>F = 5.85*</b> $\eta_p^2 = 0.02$ [0.00, 0.04]	0.99 [0.69, 1.30]	0.40 [0.11, 0.68]
Neighborhood group	<b>F = 31.79***</b> $\eta_p^2 = 0.08$ [0.04, 0.12]	<b>F = 0.32</b> $\eta_p^2 = 0.00$ [0.00, 0.01]	<b>F = 3.28*</b> $\eta_p^2 = 0.01$ [0.00, 0.03]	0.76 [0.46, 1.05]	0.40 [0.11, 0.68]
Would vote for	<b>F = 30.23***</b> $\eta_p^2 = 0.08$ [0.04, 0.12]	<b>F = 0.62</b> $\eta_p^2 = 0.00$ [0.00, 0.02]	<b>F = 3.43*</b> $\eta_p^2 = 0.01$ [0.00, 0.03]	0.79 [0.49, 1.09]	0.36 [0.07, 0.65]

Note. For all *F*, degrees of freedom are 1 and 375. Brackets indicate the 90% confidence interval for partial eta-squared and 95% confidence interval for Cohen's *d*. Bolded *F* values indicate *p* < 0.07.

\*\*\**p* < 0.001.

\*\**p* < 0.01.

\**p* < 0.07.

with them. Our pilot study suggested that people hold lay theories that artistic judgments are subjective. Nonetheless, participants who had formed specific artistic preferences felt that their views were more correct than those of disagreeing others and that those who failed to share their views were more likely to have been influenced by the biasing effects of social influence (Studies 1–3, 5–7) or financial incentives (Study 4). Indeed, artistic preferences felt as objective as political preferences, and disagreeing others' preferences were perceived to be as biased by social influence when about art as when about politics (Study 6). Finally, although prompting people to think about the relative subjectivity of art sometimes reduced this effect, it did not eliminate it (Study 7).

In all seven studies, participants' objectivity convictions led to negative attributions about disagreeing others. These negative attributions took the form of accusations of bias, decreased liking, disparaging inferences about autonomy, leadership potential, and integrity, and even judgments about friendship, neighborhood cultural groups, and voting. In Study 5, we found that negative downstream judgments were mediated by dispositional inferences of bias that participants drew in the face of disagreement. Taken together, the present studies suggest that—counter to lay theories of subjectivity but in line with scientific theories of naïve realism and convictions of personal objectivity—people's impression of their own objectivity is so powerful that it shapes judgments even in domains that people refer to as more "a matter of opinion" than as involving "correct" or "incorrect" views.

Our findings also speak more broadly to the experience of disagreement. Because participants made dispositional inferences in the face of differing opinions about art, it seems that potentially trivial disagreements are not so trivial after all. Rather, when people encounter someone who disagrees with them, they interpret that disagreement as a broader signal about the other's objectivity, leading to dislike and disparagement. This explains how citizens make the leap from, for example, a preference for pineapple pizza to lack of fitness for political office, and reveals why disagreements can so easily escalate to more serious interpersonal conflicts.

Future research could examine how people react to disagreeing others who have relevant expertise in subjective domains. For instance, do people make equally strong negative attributions in the face of disagreement when they disagree with a professional chef about how much salt should be added to their meal, or with a professional curator about which painting deserves the best display in a museum? Consideration of disagreements in the context of different perceived levels of expertise could expand research on convictions of objectivity and bias in both relatively objective and relatively subjective domains. After all, attributions about those who disagree can have profound consequences, driving negative judgments, dislike, and conflictual behavior. Understanding the nature of these harsh attributions and of how to mitigate them is critical, as social discord and its conflictual consequences contribute to so much human suffering.

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## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

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## APPENDIX A.

The paintings and political buttons used in the present research are shown below.

## Paintings stimuli



## Political button stimuli

