

The Preference for Belief Consonance

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The great pleasure of conversation, and indeed of society, arises from a certain correspondence of sentiments and opinions, from a certain harmony of minds, which like so many musical instruments coincide and keep time with one another.

—Adam Smith, *The Theory of Moral Sentiments*, 1759

Why are people who hold one set of beliefs so affronted by alternative sets of beliefs—and by the people who hold them? Why don't people take a live-and-let-live attitude toward beliefs that are, after all, invisibly encoded in other people's minds? In this paper, we present evidence that people care fundamentally about what other people believe, and we discuss explanations for why people are made so uncomfortable by the awareness that the beliefs of others differ from their own. This preference for belief consonance (or equivalently, distaste for belief dissonance) has far-ranging implications for economic behavior. It affects who people choose to interact with, what they choose to exchange information about, what media they expose themselves to, and where they choose to live

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† For supplementary materials such as appendices, datasets, and author disclosure statements, see the article page at

<http://dx.doi.org/10.1257/jep.30.3.165>

doi=10.1257/jep.30.3.165

and work. Moreover, when people are aware that their beliefs conflict with those of others, they often try to change other people's beliefs (proselytizing). If unsuccessful in doing so, they sometimes modify their own beliefs to bring them into conformity with those around them. A preference for belief consonance even plays an important role in interpersonal and intergroup conflict, including the deadliest varieties: Much of the conflict in the world is over beliefs—especially of the religious variety—rather than property (Svensson 2013).

Despite its importance for a wide range of economic and noneconomic outcomes, the preference for belief consonance has received relatively little attention from economists. Perhaps the most closely related research in economics examines the importance of identity (for example, Akerlof and Kranton 2000; Bénabou and Tirole 2011). Although it is typically taken for granted that groups will seek uniformity in the beliefs of their members, here we argue that the preference for belief consonance, and the motivational mechanisms that underlie it, provide a plausible explanation for why groups are so threatened by misalignment in the beliefs of their members.

We review the literatures in economics and allied disciplines dealing with the preference for belief consonance and related constructs. Perhaps most strikingly, we review evidence, and discuss possible explanations, for the curious fact that many of the most vicious disputes occur between individuals or groups who share a broad set of beliefs (consider Shiites and Sunnis or Catholics and Protestants) and revolve around differences in beliefs that can seem minor from the perspective of outsiders to the conflict.

Belief Consonance and Allied Concepts

In economics, the concept most closely related to the preference for belief consonance dates back to Adam Smith's (1759) discussion of "fellow-feeling" in the *Theory of Moral Sentiments*. As explicated by Robert Sugden (2002, 2005a), fellow-feeling is a positive sensation that arises when two people's emotional reactions to a common stimulus are aligned and there is common knowledge of the correspondence. As a striking example of fellow-feeling, Sugden (2005a) relates how soldiers who lived through the grim reality of trench warfare in World War I frequently wrote about the intensity of positive feelings of comradeship with their fellow-soldiers, which they believed would have been unlikely to arise in peacetime.

Although belief consonance is similar to fellow-feeling, it is not the same. At the most basic level, fellow-feeling has to do with feelings whereas belief consonance involves beliefs. Thus, if two people who are aware that each is from the opposite political party were to watch a debate together, and each reacted gleefully to the perceived triumph of their own candidate, fellow-feeling interpreted literally would predict that being together would *enhance* the experience of both (as they are both enjoying the debate). A preference for belief consonance would in contrast imply that the experience would be especially *unpleasant* to the extent that they were both

aware that the confluence of feeling arose from divergent beliefs and interpretations of the event.

Much of the 20th century research most closely related to the preference for belief consonance was done by sociologists and psychologists. Sociologists coined the term “homophily”—literally, “love of the same”—to refer to people’s propensity to associate with and form friendships with similar others. In their classic study of friendship in two urban neighborhoods, Lazarsfeld and Merton (1954) drew a distinction between *status homophily*, which captures the observed tendency of people to associate with other people possessing similar characteristics (such as race, gender, and religion), and *value homophily*, which reflects people’s tendency to affiliate with those holding similar values.¹ Lazarsfeld and Merton discuss a range of possible interactions between status and value homophily. For example, people who associate with one another due to status homophily (say, because they belong to the same ethnic group), but who find that they hold different values, may either cease to associate, attempt to hide their differences when they interact, or change their values to bring them into closer conformity with one another. Value homophily is closely related to belief consonance in that differences in values are often closely related to differences in beliefs. Among economists, for example, differences in attitudes toward raising the minimum wage are closely related to differences in beliefs about the consequences of doing so, with causality almost certainly running in both directions.²

In psychology, Heider’s (1946, 1958) pioneering Balance Theory posits that in human relationships there is a tendency towards balanced states in which the relations between individuals are harmonized. To illustrate, imbalance would arise if persons *A* and *B* liked one another, but *A* liked and *B* disliked person *C*. Heider discussed a range of behavioral reactions people might have in response to the perception of imbalance: for example, 1) avoiding discussion of imbalance-related topics, 2) distancing oneself from the other person either geographically or in terms of the closeness of the relationship, 3) attempting to change the other person’s attitudes and/or beliefs, and 4) changing one’s own attitudes and/or beliefs.

The idea that conflicting beliefs are important, albeit within an individual rather than across individuals, is also embedded in the once-influential theory of “cognitive dissonance” proposed by the social psychologist Leon Festinger (1957). Cognitive dissonance theory posits that individuals experience discomfort when they become aware that different beliefs they hold are in conflict. Akerlof and Dickens

¹Psychologists drew a similar distinction in research on groups, distinguishing between diversity in *surface-level* characteristics like race, gender, and ethnicity and diversity in *deep-level* characteristics, such as experiences, preferences, and values (for example, Phillips and Loyd 2006).

²Although papers dating back more than a half-century featured value homophily prominently, more recent papers in sociology, as well as papers by economists who have picked up on the concept of homophily (for example, Currarini, Jackson, and Pin 2009, 2010), have mostly focused on status homophily, addressing the propensity, and consequences of, people’s tendency to geographically sort and associate on the basis of objective characteristics like race/ethnicity or income. Indicative of this narrow focus, one influential review of the literature on homophily in the *Annual Review of Sociology* devoted only a single paragraph of its 30 pages to value homophily (McPherson, Smith-Lovin, and Cook 2001).

(1982) brought cognitive dissonance theory to economics, formalizing the theory as three propositions: 1) individuals have preferences not only over states of the world, but also over their beliefs about them; 2) individuals have some control over their beliefs; and 3) beliefs, once chosen, persist over time. Akerlof and Dickens apply their model to safety regulation, innovation, advertising, crime, and Social Security legislation. It is only a small extension of cognitive dissonance theory to assume that individuals attempt to maintain the same kind of balance between their own beliefs and the beliefs of those around them as they do between their own different beliefs.

Explaining the Preference for Belief Consonance

Why do people care about what others believe, and why do they prefer for others to believe what they themselves believe? A point of agreement among various explanations in the literature is that belief consonance strengthens a shared identity, whereas conflicting beliefs threaten one's identity, but different scholars have proposed different conceptions of identity leading to different reasons why protecting one's identity is so important.³

The first and most prevalent conception of identity is associated with *group membership*. People join, and identify with, groups because of the material, and possibly psychological, benefits that group membership confers. The preference for belief consonance then stems, according to the group membership perspective, from a desire to enhance one's connection to the group. Kahan and colleagues' "cultural cognition" project (for example, Kahan 2010) provides wide-ranging support for the idea that people bring their beliefs into conformity with those around them for (often rational) reasons connected to social identity. The theory of cultural cognition posits that individuals tend to conform their beliefs about disputed matters of fact to group values that define their members' cultural identities. A Republican, for example, might lose friends by expressing a belief that climate change exists or is caused by human activity, a personal cost that would dwarf the benefits they would personally obtain from articulating, and potentially acting on, opposing beliefs. According to this perspective, people want to hold beliefs similar to those of people with whom they want to associate, specifically for the purpose of strengthening their association to those people.

Beliefs formed through motivated reasoning will not necessarily be internally consistent, but the theory of cultural cognition further posits that individuals are motivated to develop some degree of internal consistency. For example, people tend to believe that behaviors they find moral are also socially beneficial (or at least benign) and that behaviors they find immoral are socially harmful. Kahan, Hoffman, and Braman (2009) illustrate this linkage by showing, for example, that conservatives not only condemn homosexuality, drug use, abortion, and, often,

³Akerlof and Kranton (2000, 2002, 2005, 2008) introduced the concept of identity to economic analysis, showing its usefulness across a broad spectrum of applications.

pre- or extramarital sex, but also tend to hold strong beliefs about the negative consequences of these behaviors. Whereas logical reasoning should ideally lead from evidence to conclusions (and perhaps to consensus), cultural cognition suggests that people first form their conclusions (in consensus with their in-group) and then interpret existing evidence in a way that bolsters these conclusions.

A second reason why people might want others to have similar views (or, equivalently, to have similar beliefs to others) is because they want to hold certain beliefs, and the presence of other people with different beliefs poses a threat to their own beliefs. In what follows, we will refer to this as the *protected beliefs* account.

Bénabou and Tirole (2011) propose by far the most developed perspective of this type. In their theory, individuals care about their own “deep values” such as moral standards, concern for others, strength of faith, and so on, but are also to some extent uncertain about, and hence are motivated to convince themselves of, their ability to live according to these ideals. Bénabou and Tirole assume that people have imperfect memory, but better memory for their own past behavior than for their own motives. Knowledge of this asymmetric retention leads people to engage in behaviors that are consistent with the self-identity that they want to maintain. In their model, people make investments based on their beliefs in order to remind themselves of what kind of person they are. Such investments might range from free expressions of belief to costly expenditures of time, money, and effort, which demonstrate commitment to a religious, national, cultural, or professional identity. Investments, including behaviors and beliefs, become “protected assets,” much as individuals might protect property they own.⁴ Encountering another person who behaves differently or who simply expresses discrepant beliefs diminishes the value of these investments and threatens one’s view of oneself.

An interesting implication of Bénabou and Tirole’s (2011) model is that identity-linked behaviors will be especially prominent when objective information about deep preferences is scarce, as illustrated by the often commented-upon zeal of new converts (for example, religious or political) whose loyalty to a cause has not yet been established, the exaggerated nationalism of the recent immigrant, and the notorious homophobia of people who have doubts about their own heterosexuality (Adams, Wright, and Lohr 1996).

Their model also predicts that when “deviant” behavior by peers (for example, violating norms and taboos) threatens a strong group identity, it may trigger a forceful reaction. Further, a norm violator’s behavior has greater impact, the more similar to the group that person was previously thought to be—that is, the more correlated the violator’s values had been to the group. Excommunication and apostasy are canonical examples of the harshest moral condemnations and punishments for insiders who threaten a group’s valued beliefs.

Bénabou and Tirole (2011) assume that people desire a particular identity because it can be a source of willpower to sustain personal motivation or a source

⁴For a previous but less-developed account of beliefs as assets, see Abelson’s (2007) paper aptly titled “Beliefs Are Like Possessions.”

of positive anticipatory utility, but in the context of the preference for belief consonance it does not really matter why people want to protect their identity. A somewhat different “protected beliefs” account that we view as plausible in many circumstances is that people simply want to protect belief-related investments of time or money or other sacrifices that they have already made. If a Catholic had for many years been engaging in communion, praying to the Holy Trinity, and contributing money to the church, for example, it could be devastating to discover that a trusted priest had lost faith and converted to another faith. Although the invested resources cannot be recovered, and so by economic logic should be ignored, the preference for belief consonance reflects the fact that although costs are “sunk,” it is natural that people would be reluctant to believe that their investments might have been a mistake (for example, Tykocinski, Pittman, and Tuttle 1995). Bénabou and Tirole’s anticipatory account would predict that the preference for belief consonance is strongest early in life, when there is ample time to enjoy a desired identity or to make use of identity as a motivational tool. If, on the other hand, an individual is attached to her beliefs because she has made investments based on them, concern about belief consonance should be strongest later in life (when greater belief-based investments have accumulated).

Whether motivated by a desire to protect one’s identity, or by the distaste for writing off a belief-based investment, the protected beliefs perspective leads to predictions about who will care about belief consonance, and in what specific situations. It predicts, for example, that people with intermediate levels of confidence in their beliefs, who are likely to be the most insecure about their identity, should have the strongest preference for belief consonance. People who are very confident or very unconfident in their beliefs should be less disturbed by discrepancies in beliefs; the former because their beliefs are unshakable (Babad, Ariav, Rosen, and Salomon 1987; Visser, Krosnick, and Simmons 2003) and the latter because they are already doubting their beliefs (and unlikely to have invested heavily based on such weak beliefs).

Another determinant of the preference for belief consonance is the *credibility* of the person holding the conflicting beliefs. Awareness that an expert has different beliefs from oneself should evoke stronger feelings of discomfort than the same beliefs held by a person whose opinion one doesn’t respect. By the same token, people who held the same beliefs in the past but changed them are especially threatening, because the person’s new views cannot be attributed to closed-mindedness.

The *reason* the other person has different beliefs from oneself should also matter. If other people believe something different because they do not have access to the same information, it is easier to assume that they would believe the same as oneself if they had access to one’s own information. If they have come to different beliefs from the same information, this poses a much greater challenge to one’s own interpretation of reality.

Sophistication about the preference for belief consonance can, perhaps paradoxically, actually make it easier to write off differences of opinion. Recognizing that other people do not like to consider opposing viewpoints allows a person to

rationalize disagreement over beliefs as the result of the other person's stubborn denial of opposing arguments, without a need to reevaluate one's own view.

The frequency of encounters and the *visibility* of discrepant beliefs should matter, too. For someone with a preference for belief consonance, frequent contact with a person holding discrepant beliefs, or frequent exposure to the beliefs themselves (say, through the media), should tend to lower utility.

The protected beliefs perspective sheds light on a missing link in the group membership perspective. The group membership perspective does not explain *why* group membership imposes pressure to hold similar beliefs, except in situations in which group membership is *defined* on the basis of belief. If group membership is defined based on a social criterion, such as one's attendance at a particular school or one's ethnic group, then group identity provides no explanation for why people in the group would care about holding similar beliefs. The protected beliefs perspective, in contrast, provides an explanation for why it is so important for people in groups to hold similar beliefs: because the presence of other group members with discrepant beliefs forces a reevaluation of one's own core beliefs, and because other group members tend to have many of the properties just discussed—for example, they have access to similar information and one encounters them frequently.

Still, the group membership perspective can help to make sense of phenomena that the protected beliefs account fails to predict. It is, for example, hard to explain solely on the basis of an the protected beliefs perspective the common finding that people (and especially people with more extreme partisan attitudes) tend to overestimate the extremity of "out-group" views on issues such as affirmative action. Indeed, if anything, the protected beliefs perspective predicts the opposite, since considering the existence of large differences in beliefs should lead to questioning one's own beliefs. The group membership perspective, on the other hand, naturally implies that people will caricature out-group members and their beliefs as a way of defining the boundaries of one's own group and distinguishing in-group members from others.

Chambers, Baron, and Inman (2006) conducted two studies focusing on the contentious issues of abortion and politics. Both studies found that partisans tend to exaggerate differences of opinion with their adversaries, especially with regard to value issues they see as central to their own position. Van Boven, Judd, and Sherman (2012) observed similar effects in three studies, one with a nationally representative sample that evaluated candidates Obama and McCain before the 2008 Presidential election and two with samples of university students. Their results provide evidence of "polarization projection," by which they mean that individuals with more extreme partisan attitudes perceive greater polarization than do individuals with more moderate attitudes. Westfall, Van Boven, Chambers, and Judd (2015), drawing on over 30 years of national survey data from the American National Election Study, likewise found that individuals in the United States consistently overestimate polarization between the attitudes of Democrats and Republicans (see also Sherman, Nelson, and Ross 2003).

The protected beliefs and group membership perspectives offer complementary insights into the preference for belief consonance, and there is no real conflict between them. People want to achieve belief consonance both because it cements their connection to groups, because it protects core values and beliefs about the self, and likely because they don't want to write off investments that they made on the basis of their beliefs. Group membership confers independent benefits, and, because belief dissonance threatens cherished beliefs, groups tend to consist of like-minded individuals, so people often adapt their beliefs to fit into their social groups. At the same time, belief consonance reinforces people's cherished beliefs, which motivates people to associate with groups consisting of like-minded individuals and to ostracize those with discrepant beliefs.⁵

Consequences of the Preference for Belief Consonance

How do people respond to the threat or reality of belief dissonance? An economic perspective on the problem might argue that people should follow a cost-benefit approach. If the costs of any possible response exceed the expected benefit, then people should accept the discomfort of belief dissonance. If there are responses for which benefits exceed costs, however, the individual should be motivated to take the most advantageous approach to reducing the disutility of belief dissonance.

Motivated Belief Formation

When people are disturbed by others' discrepant beliefs, one option is to change their own beliefs to conform. This outcome should be especially likely when an individual regularly confronts multiple people who share common beliefs discrepant with his or her own beliefs, and especially when these individuals are relevant to the focal individual (for example, they are in the same social group). Such belief-conformity effects were demonstrated most famously in Asch's (1951) conformity experiments in which an experimental subject was embedded in a group of people who were all asked a basic question (specifically, which one of several lines shown on a screen was longest). Other than the "focal" subject, other group members were confederates who were instructed to give specific answers. When all of the confederates gave a patently wrong answer, many subjects conformed and gave wrong answers themselves. However, all it took was a single other dissenter for most subjects to provide the correct answer.

⁵Bénabou's (2008) analysis of ideology brings together both perspectives on identity. Ideology, according to Bénabou, "designates a system of beliefs that some group collectively upholds and maintains rigidly, even though it involves a substantial degree of reality denial or 'false consciousness'" (p. 322). Bénabou develops a model of ideologies as collectively sustained (and individually rational) distortions in beliefs, and shows how individuals' "subjective mental constructs" interact across agents and with institutions to generate biased perceptions of reality that persist over time and distort public policy.

Wood, Pool, Leck, and Purvis (1996) conducted studies with a group of students who were informed that a majority group of students at their university held a position on an attitude topic that differed from their own position (Study 1), or that a disliked minority group (such as the Ku Klux Klan) had expressed a position consistent with the participant's own positions (Study 2). In Study 1, participants who rated alignment with the majority group as more relevant to their personal identity were more likely to shift their attitudes to agree with the group's. In Study 2, participants who rated differentiation from the derogated minority group as more relevant to their personal identity were more likely to shift their attitudes to disagree with this group. In a follow-up study, Pool, Wood, and Leck (1998) found that participants who wanted to align themselves with a particular group reported lower self-esteem when they discovered that they disagreed with the group, and that individuals who wanted to differentiate themselves from a group reported lower self-esteem when they found that they agreed with the views of the group. Beyond showing these effects on self-esteem, they again found that whenever a source group was rated as highly self-relevant, participants changed their interpretations of questions either to align themselves with the majority group position or to distance themselves from the minority group position. Moreover, when participants were able to adjust their attitudes in the desired direction, they did not report this reduction in self-esteem.

Cohen (2003) conducted four experimental studies with groups of partisan college students aimed at testing the effects of group influence on attitude change. In the absence of information about the position of their own party on an issue, participants based their attitude on policy content and on their own ideological beliefs: Students characterized as liberals, for example, supported a generous welfare policy, while conservatives supported a stringent one. When information about the position of their party was available, however, participants supported the position endorsed by their party (regardless, in the case of welfare policy, of whether the policy was generous or stringent). Interestingly, participants denied having been influenced by the party positions to which they were exposed and claimed that their beliefs were driven purely by policy content. Participants figured out ways to interpret the policies, and their own values, so as to bring them into conformity, and were not aware that they were doing so.

A challenge in studying motivated belief formation is that beliefs are not directly observable, and it can be difficult to distinguish actual motivated belief formation from motivated *reporting* of agreement. That is, subjects could be motivated to say whatever is necessary to fit in, without actually believing it. A few cleverly designed studies, however, provide evidence that motivated belief formation is real and persistent (for a review, see Wood 2000). For example, Higgins and McCann (1984) had 159 subjects reveal their own beliefs to an audience whose beliefs had already been made public, and found that subjects' own impressions and attitudes were not only distorted toward conformity with those of the audience, but were still biased by this interaction two weeks later, when the audience was no longer present.

An important (and perhaps inadequately appreciated) feature of motivated belief formation, including that which is motivated by the desire for belief

consonance, is that people do not, in general, simply arrive at the beliefs they are motivated to hold. Rather, they shift toward beliefs they want to hold through a process of sifting through evidence in a selective fashion (for an early investigation see Darley and Gross 1983; for further evidence, see Babcock, Loewenstein, Issacharoff, and Camerer 1995; for a theoretical model of motivated belief formation based on biased interpretation of evidence, see Rabin and Shrag 1999). As a consequence of such biased information processing, groups with opposing values which are presented with identical evidence often end up becoming more polarized in their beliefs: Lord, Ross, and Lepper (1979) provide an experimental demonstration of this phenomenon. Moreover, although one might expect people with greater scientific expertise to process information in an unbiased fashion, research by Kahan (2015) finds, quite to the contrary, that those who measure higher in scientific knowledge/expertise are most likely to hold polarized beliefs which reflect their political and cultural affinities, as if they use their expertise not to reach reasoned judgments, but rather to rationalize their biased processing of evidence.

Proselytizing

Instead of conforming their own beliefs to those around them, individuals might choose the alternative strategy of attempting to change the beliefs of others to conform to their own. People will be more likely to take this course when they believe the prospects for doing so, relative to the investment required, are favorable. This has the natural implication that individuals holding a minority viewpoint in a large group should be less likely to proselytize and more likely to change their own views than those confronting a smaller number of individuals with discrepant beliefs, since changing the views of large numbers of people is likely to be challenging.

Proselytizing can be a risky strategy, however. If one's attempts to persuade others are unsuccessful, a natural inference is that one's own position is inherently unpersuasive and possibly false. A sophisticated individual should take this risk into account before embarking on an attempt to do so. On the other hand, successful proselytizing can provide a powerful "shot in the arm" for those who care deeply about particular beliefs but feel that their beliefs are threatened.

Based on these considerations, we should expect that proselytizing will be especially common both for those who feel confident about their views (and as a result, presumably confident about their prospects of converting others), and for people who care deeply about their beliefs but perceive that they are threatened, to the point where they are willing to embark on a high-risk strategy to bolster them. The empirical literature provides support for both of these predictions.

Supporting the first prediction, Visser, Krosnick, and Simmons (2003) found that individuals who were especially confident of their attitude towards global warming or air pollution (and attached high importance to the issue) were very likely to attend discussions related to that issue and to exert active efforts to persuade others to adopt their views. Supporting the second, three experiments conducted by Gal and Rucker (2010) showed that *shaken* confidence in beliefs tends to increase people's propensity to persuade others. Across three studies, subjects

who were made to feel less confident exerted more effort in advocating their beliefs, and were more likely to attempt to persuade others of their beliefs. As the authors note, proselytizing seemed to function as a means for helping less-confident individuals to bolster their views and to resolve their own doubts. In one experiment, they also found that the effect of shaken confidence on advocacy was affected by other people's receptivity to the advocated message: advocacy was more likely when individuals believed that there was a possibility of changing the opinion of another person.

Selective Information-Seeking and Conversational Minefields

While some disagreements are inevitable, people do have some ability to influence the set of views to which they are exposed (Akerlof and Dickens 1982). For example, although one might think that people would want to expose themselves to news sources that would expand their knowledge and insight, research on media bias finds that people prefer to receive information from media sources that are unlikely to challenge their existing beliefs (Gentzkow and Shapiro 2008, 2010). A Pew Research Center (2014) report on political polarization in the American public reveals, perhaps not surprisingly, that there is a strong correlation between the outlets that people name as their main sources of information about news and politics, and their own political views. Forty-seven percent of "consistent conservatives" named Fox News as their main news source about government and politics, and 88 percent reported that they trust Fox News, whereas 50 percent of "consistent liberals" named either NPR, the *New York Times*, CNN, or MSNBC as their main news source (Mitchell, Gottfried, Kiley, and Matsa 2014). People's distaste for having their beliefs challenged creates powerful incentives for media sources not to "rock the boat"—that is provide belief-challenging perspectives—for fear of losing faithful customers who might bail if exposed to unwelcome viewpoints. Indeed, research on ideological slant in news coverage finds that US daily newspapers tend to slant their coverage of stories in a fashion that retains and consolidates their audiences (Gentzkow and Shapiro 2010).

In his insightful treatise *Republic.com 2.0*, Sunstein (2007) hypothesizes that, although the greater diversity of information available online makes it possible in theory to expose oneself to a wide range of diverse perspectives, the actual result is to enable people to expose themselves more selectively to perspectives that accord with, and rarely challenge, their existing views. Sunstein warns against "the risks posed by any situation in which thousands or perhaps millions or even tens of millions of people are mainly listening to louder echoes of their own voices." Consistent with Sunstein's argument, Gentzkow and Shapiro (2011) find that online news consumption is more ideologically segregated than offline news consumption.

Bénabou (2008) argues that the tendency of citizens to engage in ideological denial provides a new rationale for why societies set up (and should set up) commitment devices such as constitutional rights to free speech and independence of the press, which make it more likely that bad news will surface sooner or later, thus decreasing the expected return of investing in denial. Bénabou and Tirole's (2011)

identity-based account of the preference for belief consonance predicts that people will be more willing to expose themselves to belief-contradicting media in the short run if they believe that such exposure is inevitable in the long-run.

As discussed earlier, the protected beliefs account of the preference for belief consonance predicts that people should be especially averse to hearing dissonant beliefs espoused by people or news sources that they might otherwise respect. A natural coping mechanism is to lose respect for news outlets or people with whom one disagrees. Thus, it is common to hear conservatives disparage the sources of news that are popular among liberals, like the *New York Times* or NPR, and it is common to hear liberals disparage Fox News.

People don't only get information from the media, however. They also exchange information about their beliefs with friends, acquaintances, and coworkers. In such interactions, the preference for belief consonance creates a dynamic of interpersonal interaction in which people avoid topics they might disagree about, as described by Sugden (2005b, p. 67):

Different topics are gradually introduced into the conversation, exploiting connections with what has already been said, with the general aim of finding a topic on which the two partners have common opinions or beliefs. If a topic begins to provoke disagreement, it is dropped. Issues on which people are liable to have strong and opposed private feelings are avoided as *conversational minefields*: recall the familiar saying that religion, sex and politics (some people say religion, sex and money) should never be introduced into a conversation [italics ours].

In *Hearing the Other Side*, Mutz (2006) provides evidence that Americans are generally reluctant to discuss political issues, but especially with people who disagree with them. Her research relies on three data sources: the 1992 and 2000 National Election Survey components of the Comparative National Election Project and a 1996 survey funded by the Spencer Foundation. It shows that people appear mainly reluctant to be exposed to oppositional viewpoints in intimate social networks (as compared with loosely connected social networks), as well as when they hold extreme positions (compared to moderates and independents), which would follow naturally from people's distaste for discussing politics with others who disagree with them. Mutz also finds that there is more exposure to disagreement in networks that are nonwhite, low in socioeconomic status, and populated by people low in knowledgeability about politics.

The reluctance to share discrepant beliefs with others can lead to a phenomenon discussed by psychologists and sociologists termed *pluralistic ignorance*, which arises when everyone believes *X*, but everyone believes that everyone besides themselves believes not-*X*. For example, research on campus alcohol consumption finds that college students often mistakenly believe that they are more uncomfortable with campus alcohol practices than the average student (Prentice and Miller 1993). Similarly, Van Boven (2000) finds that many university students publicly espoused

what they view as “politically correct” attitudes—for example, supporting affirmative action—that they questioned in private. We would expect pluralistic ignorance to be most likely to occur in cohesive, homogeneous groups, the members of which should be reluctant to “stick their necks out” and share views that they assume are discrepant with those of the majority.

Belief-Driven Clustering

One straightforward implication of the preference for belief consonance is that people should choose to associate with—that is, become friends with, work with, and even have romantic relationships with—others who share their beliefs. In their original paper on homophily, Lazarsfeld, and Merton (1954) provided evidence for such clustering based on an investigation of two small towns, in which liberals disproportionately selected other liberals as close friends, and conservatives did the same. The Pew Research Center (2014) report mentioned earlier found that online clustering in social media space follows a similar pattern: 52 percent of consistent liberals and 66 percent of “consistent conservatives” on Facebook declared that most of their close friends share their own political views. Forty-four percent of “consistent liberals” say they have blocked or defriended someone due to disagreement about politics (Mitchell et al. 2014).

There is considerable evidence that the desire for belief consonance affects who people choose to date and marry. Alford et al. (2011), for example, offer evidence from almost 8,000 US spouses that, while physical and personality attributes fail to show a significant positive correlation across spouses, political attitudes display extremely strong interspousal correlations. The authors examine 28 individual items and find particularly high correlations regarding school prayer, abortion, gay rights, and party affiliation. Liberal wives are much more likely to have liberal husbands, and conservative wives are much more likely to have conservative husbands. The researchers find, further, that the political similarity of spouses derives to a large extent from assortative mating rather than from spousal assimilation or social homogamy (marriage based on characteristics such as socioeconomic status, class, or religion). If the above correlations were the result of assimilation of beliefs, we should expect to observe that similarity increases over the life of the relationship. Instead, the correlations seem to be more or less constant over time: specifically, adding five years to the length of the marriage raises the correlations by .01—a very modest increase compared to the typical levels of correlations in the data (around .60). Huber and Malhotra (2013), using a novel dataset from a national online dating community, conducted an experiment to investigate the influence of (pre-match) political predispositions on people’s initial formation of romantic relationships. The two studies show that when choosing from among potential relationship partners, individuals prefer those who have similar political views and levels of political engagement. Their experimental results show that it is political orientations specifically, rather than correlated attributes, that underlies the apparent preference for politically similar dating partners.

The preference for belief consonance can also affect where people choose to locate geographically. In *The Big Sort*, Bishop (2008) provides diverse evidence to

document, since the 1970s, a general trend for Americans to sort geographically based on (mainly political) beliefs. For both cultural and policy-related reasons, the United States is unusual among developed countries in terms of the ease with which people relocate geographically (Molloy, Smith, and Wozniak 2011). Combining that with the increasing polarization of politics, the United States has features that contribute to making it a prime location for belief-driven segregation.

The preference for belief consonance also affects the economic associations that workers enter into, and the consequences of these associations. Complete worker ownership is an interesting case. Bhuyan (2007) finds it is often inspired by commonly held values like equality, self-responsibility, and democracy at the workplace. Sharing the same beliefs in such enterprises can be a great advantage, making other collective goals easier to achieve. “When workers share similar values,” Craig, Pencavel, Farber, and Krueger (1995, p. 160) conclude, based on their empirical studies of cooperatives in the US plywood industry, “disputes within the producing unit are less likely to occur, monitoring costs tend to be lower, and social sanctions are probably more effective in deterring malfeasance.” Other research shows that workers are willing to pay a substantial premium (in the sense of working for lower effective wages) to work in cooperative enterprises (Craig and Pencavel 1992).

Belief-Driven Favoritism and Conflict

A substantial body of research, much from psychology but some from economics, documents the prevalence of intra-group favoritism and outgroup hostility, and, most importantly from the perspective of this paper, the important role played by beliefs in these phenomena. The general pattern of these studies is to divide the subjects into groups by some criteria, which in different studies can be gender, race, or field of study, or just about anything from sports-team loyalty and music preferences to political affiliations. The different groups then perform an exercise designed to measure levels of cooperation or trust both within and between groups. Taken together, these experimental studies support the idea that, with respect to intra-group and inter-group relationships, people care about shared beliefs, and especially beliefs about politics and religion, and that they generally care more about these beliefs than about other potential dimensions of identity.

In one such study, Kranton, Pease, Sanders, and Huettel (2013) divided undergraduate student subjects into groups which (in two conditions) were based either on preferences for poetry and art or on political affiliation. Subjects then allocated resources between themselves and others who were either part or not part of their own group. Subjects were more likely to behave selfishly, and even to destroy resources to deprive others of money, when dealing with a different group, and group membership based on political affiliation produced stronger effects than that based on artistic/poetry preferences.

Iyengar and Westwood (2015) investigate “partisan affective polarization,” by which they refer to the tendency of people identifying as Republicans or Democrats to view opposing partisans negatively, and copartisans positively. They conducted a study in which the beliefs of 2,000 adults were measured with an “implicit

association test” designed to measure attitudes that people have but are not consciously aware of holding. Positive views of in-group members and negative views of out-group members were evident not only in explicit, but also implicit measures of attitudes. Further, using classic experimental (trust and dictator) games, they found that players acted more pro-socially towards members of their own political party than toward members of the opposing political party. In contrast, they did not observe such a discrepancy in behavior for those in the same or different ethnic groups.

In an experiment that compared the impact of a broad range of group differences, Ben-Ner, McCall, Stephane, and Wang (2009) assigned undergraduate participants to groups based on different criteria. In the first study, they found that, all of the belief-based membership categories (political views, sports-team loyalty, religion, and music preferences) led to greater cooperation than any nonbelief-based categories (such as birth order, dress type, body type, socioeconomic status, and gender) with the sole exception of family ties, which led to greatest cooperation. A follow-up study found that generosity in a dictator game was greatest between those who shared political views, followed by those who shared religious affiliation, nationality, or body type.

Although the most relevant research on the inter- and intra-group consequences of belief consonance and dissonance focuses on relatively mild outcomes, such as allocation of small amounts of money, belief dissonance between groups can have more momentous consequences. When members of groups with conflicting beliefs interact with outgroup members, neither changing one’s own beliefs nor proselytizing are likely to be viable strategies for an individual, because the former would produce belief dissonance with their own group, and the latter would fail because those in the other group are, by the same token, unlikely to be persuadable. If the groups cannot move away from one-another, and the constant reminder of the conflicting beliefs is sufficiently threatening, groups may resort to violent conflict to try to limit exposure to the threatening beliefs by seeking to silence the other group, or in some cases even by eliminating their members.

Indeed, much of the conflict in the world is over beliefs, rather than land or property, and especially over religious beliefs. Of all recorded armed conflicts in the world in the period 1975–2010, according to statistics assembled by Svensson (2013), 28 percent had a “religious dimension in the incompatibility.” In regions that are more conflict-prone than average, the percent of conflicts revolving around religious incompatibilities is especially high. For instance, in the Middle East and North Africa region, there were 430 conflicts during the 1975–2010 period, and 38 percent of these appeared, at least on the surface, to involve religious incompatibilities (Svensson 2013, table 1).

The Surprising Potency of Small Differences

Some of the most vociferous disagreements occur between people who—at least from an outsider’s perspective—would seem to have very similar beliefs. In the studies just cited examining the source of armed conflicts in the world, for example,

almost half of these conflicts were between different sects of groups within the same broad religious tradition.

Drawing attention to the nastiness of disputes between people holding nearly identical views, Sigmund Freud referred in *The Taboo of Virginity* (1917 [1991]) to the “narcissism of small differences,” commenting that “it is precisely the differences in people who are otherwise alike that form the basis of hostility between them.” The sociologist Pierre Bourdieu made a similar point in his treatise *La Distinction* (1979, English translation in 1984, p. 479), observing that “social identity lies in difference, and difference is asserted against what is closest, which represents the greatest threat.”

Empirical research from social psychology and anthropology has documented the surprising potency of small differences. In a 1982 overview article in social psychology, Tajfel summarizes the results of three experimental studies that all find evidence for the importance of small differences for intergroup hostility (Turner 1978; Turner, Brown, and Tajfel 1979; Brown, as reported in Brown and Turner 1981). The studies find that groups with similar values display more intergroup discrimination in competitive situations than groups with dissimilar values. They also show that group members are more ready to sacrifice self-interest for the collective benefit of the in-group when they are dealing with outgroups that are more similar to the in-group.

Further evidence of the potency of small differences comes from research by psychologists on “horizontal hostility.” In a series of surveys, White and Langer (1999) and White, Schmitt, and Langer (2006) find that members of minority groups express more unfavorable attitudes about members of other minority groups than about members of majority groups. In particular, people express more hostility toward other minority groups when the other minority groups are more mainstream than their own group. The pattern of horizontal hostility is also evident from a study of members of political parties in Greece by White, Schmitt, and Langer (2006). The authors asked eight party members from each of the four main parties to give a 10-point rating for the social traits of honesty, intelligence, fiscal responsibility, and attractiveness of hypothetical candidates from different parties. Again they find strongly negative evaluations of potential members of similar, but more-mainstream, parties.

In real conflicts, the most comprehensive and systematic investigation of the importance of small differences was undertaken by the Dutch anthropologist Anton Blok (1998, 2001), who drew on existing datasets and empirical findings on the basis of which he concluded that “the fiercest battles often take place between people who have a lot in common” (Blok 1998). In the civil wars in the former Yugoslavia, for example, the most severe fighting took place in the regions that had the smallest differences in ethnic and religious composition between groups and the highest incidences of mixed groups and intermarriages (Blok 2001; Hayden 1996). The differences that divide the fighting parties in many other conflicts are also minor: for example, between the Uzbek minority and the Kyrgyz majority in the conflict in Kyrgyzstan; between Indians and Pakistanis in the conflict in Punjab; between

the Greeks and the Turks in the conflict in Cyprus; and between Tutsis and Hutus in Rwanda. The historian Gerard Punier (1995) argues, in his book *The Rwanda Crisis*, that the genocide in 1994 happened after a period in which economic and social differences between Hutus and Tutsis had narrowed. He discusses how the two groups had long lived side by side, had been involved in intermarriages, and how they neither have had separate homelands, languages, or religions. In all these conflicts, subtle differences in beliefs are often the major distinguishing feature, and in some cases the only difference, between the fighting parties. Hatred and suspicion based on these belief differences seem to increase in intensity the more similar the groups are on other dimensions.

The protected beliefs perspective helps to explain the surprising potency of small differences. Bénabou and Tirole (2011) conclude on the basis of their model that “discordant actions are threatening to a person’s self-concept when the individuals involved are similar to him.” The reason is that people recognize the alignment of another person’s beliefs with their own as an informative signal about the other person’s credibility. If I am confident about my own beliefs, then the observation that another person holds similar beliefs should lead me to perceive the other person as generally credible. This credibility caused by the general confluence of our beliefs is what renders especially threatening any remaining differences in our beliefs.

Conclusion

In this paper, we have sought to accomplish three goals. First, we have drawn attention to the importance of the preference for belief consonance, as well as connections to related topics discussed in economics and allied disciplines. Despite extensive discussion of homophily in economics and other social and behavioral science disciplines, there has been a striking neglect, in these literatures, of phenomena specifically related to belief consonance.

Second, we have reviewed alternative accounts of why people value belief consonance. One account (for example, Kahan 2015) views the preference for belief consonance as derivative of the desire to conform to the beliefs of a group one is, or would like to be, a member of. An alternative protected beliefs account, articulated in greatest detail by Bénabou and Tirole, views the preference for belief consonance as derivative of the desire to protect core values and beliefs about oneself. Although the protected beliefs account generates more, and more-nuanced, predictions about what types of people and situations will result in stronger or weaker preferences for belief consonance, we have noted that each account helps to explain different stylized facts, and we argue that the two explanations should be viewed as complementary rather than as competing.

Third, we have identified and discussed evidence for a wide range of social and economic consequences of the preference for belief consonance, including motivated belief formation, proselytizing, selective information exposure, belief-driven

clustering, and belief-driven favoritism and conflict. With the additional assumption that people judge the validity of others' beliefs based on how many other beliefs they share, moreover, it is possible to explain a phenomenon that, to the best of our knowledge, has not been previously explained: why small differences in beliefs cause such great discomfort and so often lead to violent conflict. Although the evidence we review runs the gamut, from laboratory to field and from observational to experimental, none of the experimental evidence comes from field experiments. Given the importance of the phenomenon of the preference for belief consonance, we believe that this should be an important priority for future research.

Although our focus in this paper has been on the emotional and behavioral consequences of differences in *beliefs* between individuals and groups, very similar analysis could apply to differences in values or attitudes. In practice, beliefs, values, and attitudes tend to be very closely aligned. Just as people like to maintain consistency between the different beliefs they hold, people also seek to maintain consonance between their attitudes and beliefs—to hold beliefs that reinforce their attitudes, and attitudes that reinforce their beliefs (Kahan, Hoffman, and Braman 2009).

The economics profession is, of course, not immune from the polarizing effects of the preference for belief consonance. In his famous essay on the “Methodology of Positive Economics,” Milton Friedman (1953) optimistically argued that most disputes that seem to be over values are actually over beliefs, which implied to him that “differences in principle can be eliminated by the progress of positive economics.” Friedman illustrated his point with the example of minimum-wage legislation, arguing:

[U]nderneath the welter of arguments offered for and against such legislation there is an underlying consensus on the objective of achieving a ‘living wage’ for all, to use the ambiguous phrase so common in such discussions. The difference of opinion is largely grounded on an implicit or explicit difference in predictions about the efficacy of this particular means in furthering the agreed-on end.

However, more than 20 years after the influential paper by Card and Krueger (1994) which found that raising the minimum wage in New Jersey increased rather than decreased youth employment in the fast food industry, there has been little convergence in scientific perspective between the sides of the minimum wage debate despite decades of follow-up research. Instead, both sides seem able to rationalize the existing evidence so that it supports their pre-existing beliefs, often in a way that keeps their beliefs consonant with their political allegiances.

Many philosophers and political scientists have commented on the value of openness to a wide range of viewpoints. Himelboim, McCreery, and Smith (2013) point out three examples: “Habermas (1989) assumed that exposure to dissimilar views will benefit the inhabitants of a public sphere by encouraging greater interpersonal deliberation and intrapersonal reflection.” Arendt (1968) claimed

that exposure to conflicting political views plays an integral role in encouraging “enlarged mentality.” In the 19th century, John Stuart Mill (1859 [1956], p. 21) wrote about the lack of contact with opposing viewpoints in this way:

If the opinion is right, they are deprived of the opportunity of exchanging error for truth; if wrong, they lose what is almost as great a benefit, the clearer perception and livelier impression of truth produced by its collision with error.

The preference for belief consonance undermines these desirable properties of free intellectual exchange. It leads people to interact with other people, and media, who share, and hence tend to reinforce, their existing views.

The political climate in the United States at the time this paper is going to press underlines the importance, and hence the value of studying and understanding the causes and consequences of the preference for belief consonance. Analyzing trends with ten questions designed to measure partisanship,⁶ the already cited study by the Pew Research Center (2014) found that the share of Americans with consistently conservative or consistently liberal views increased from 10 percent in 1994 to 21 percent in 2014. In 1994, 40 percent of Republicans were more liberal than the median Democrat and 30 percent of Democrats were more conservative than the median Republican. By 2014, these numbers had shrunk dramatically, to 8 percent and 6 percent.

The Pew report documents not only increasing polarization of views, segregation by views, and selective exposure to media, but also increasing animosity between people holding differing views. In each party, the share of highly negative views of those in the opposing party more than doubled from 1994 to 2014. The consequences of polarization go beyond friendship and politics, and reach areas like labor market discrimination. In one study reported earlier, Iyengar and Westwood (2015) asked 1,021 individuals drawn from the Survey Sampling International Panel to select one of two graduating high school seniors for a scholarship. They were told that an anonymous donor had contributed \$30,000 to a scholarship fund, that the selection committee had deadlocked over two finalists, and that they had commissioned a survey to decide the winner. The two candidates differed in academic achievement, and also, depending on experimental condition, one of two characteristics: political affiliation (cued through membership in a partisan extracurricular group) or a racial identity (cued through a stereotypical African American/European American name and membership in an extracurricular group). Approximately 80 percent of Republican and Democrat respondents proposed to award the scholarship to the student who shared their own politics. This difference was much larger than the tendency for European

⁶All ten questions asked respondents to report which of two statements—for example, “Blacks who can’t get ahead in this country are mostly responsible for their own condition” versus “Racial discrimination is the main reason why many black people can’t get ahead these days”—came closer to their own views.

Americans and African Americans to award the scholarship to members of their own ethnic group.

Belief consonance is not without upsides. For example, it can lead to greater trust and solidarity within organizations and groups, which can be good for solving collective action problems. When people share beliefs and values, there are many things they can do together that would otherwise be impossible. Sharing the same beliefs can enhance collective rationality and democracy together with social and economic equality at the relevant local level. Both participation in governance and equal sharing of the benefits seem to enhance productivity.

At the national level, all this was evident when the small open economies in Scandinavia initiated their process of wage compression and welfare expansion in the 1930s with a shared belief that economic openness was important. With the perception that the entire economy was dependent on foreign demand, it was easier to accept that wages throughout the economy needed to be set at a level that exporting industries could tolerate, and that social insurance was needed to mitigate the consequences of fluctuations in the world market (Barth, Moene, and Willumsen 2014). Sharing the belief that economic openness was decisive, the Scandinavian countries could implement protection without protectionism, which resulted in half of the US wage inequality and twice the US welfare state generosity. These beliefs, and their consequences, still remain. The share of the population that wants protective measures against foreign competition is only 29 percent in Sweden, 35 percent in Denmark and Norway, in contrast to 61 percent in the United States (Melgar, Milgram-Baleix, and Rossi 2013).

At the firm level, in most countries, there are differences across companies in beliefs and values, in part because workers select companies and companies select workers with similar values to their own (Lazear 1995; Van den Steen 2010; Besley and Ghatak 2005). These shared beliefs constitute the culture of the enterprise. The resulting homogeneity within firms reduces differences in objectives, mitigating agency problems and extending the scope for delegation. Thus, there are clear gains of homogeneity of beliefs, although the literature also warns against a possible overinvestment in homogeneity (Van den Steen 2010).

While the preference for belief consonance may make perfect sense for a utility-maximizing individual, and may confer benefits in limited situations, we believe that the larger literature on belief consonance suggests that it is a largely negative force for society as a whole, through its contribution to diverse social ills including intolerance, political polarization and deadlock, and intergroup conflict. Greater tolerance of disagreement might make the world a more productive and hospitable place in which to coexist.

■ *The authors thank Roland Bénabou for comments on an earlier draft of this paper, seminar participants at the Toulouse School of Economics and Institute for Advanced Study, Cass Business School, and the Harvard University Economics and Psychology Departments. We are also grateful for financial support from the Einaudi Institute for Economics and Finance (EIEF).*

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