Ideological asymmetries in conformity, desire for shared reality, and the spread of misinformation
John T Jost¹, Sander van der Linden², Costas Panagopoulos³ and Curtis D Hardin⁴

Ideological belief systems arise from epistemic, existential, and relational motives to reduce uncertainty, threat, and social discord. According to system justification theory, however, some ideologies — such as those that are conservative, religious, and legitimizing of the status quo — are especially appealing to people whose epistemic, existential, and relational motives are chronically or temporarily heightened. In this article, we focus on relational motivation, describing evidence that conservatives are more likely than liberals to: prioritize values of conformity and tradition; possess a strong desire to share reality with like-minded others; perceive within-group consensus when making political and non-political judgments; be influenced by implicit relational cues and sources who are perceived as similar to them; and maintain homogenous social networks and favor an ‘echo chamber’ environment that is conducive to the spread of misinformation.

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Current Opinion in Psychology 2018, 23:77–83
This review comes from a themed issue on Shared reality
Edited by Gerald Echterhoff and Tony Higgins

https://doi.org/10.1016/j.copsyc.2018.01.003
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In an influential sociological treatise entitled The Social Construction of Reality, Peter Berger and Thomas Luckmann [1] analyzed the social and psychological processes whereby aspects of the societal status quo come to be experienced as natural, inevitable, and legitimate, that is, ‘taken-for-granted’ as ‘real.’ Although they did not explicitly use the language of ‘epistemic,’ ‘existential,’ and ‘relational’ motivation, these are the terms that contemporary psychologists would attach to their descriptions [2].

Berger and Luckmann [1] argued, for instance, that institutions ‘hang together’ (subjectively) because of a ‘built-in ‘need’ for cohesion in the psycho-physiological constitution of man’ (pp. 63–64). Long before the emergence of terror management theory, they proposed that ‘the institutional order represents a shield against terror’ and that ideological worldviews shelter ‘the individual from ultimate terror’ by ‘bestowing ultimate legitimation upon the protective structures of the institutional order’ (p. 102). Finally, they stressed that ‘the reality of everyday life is ongoingly reaffirmed in the individual’s interaction with others’ (p. 149) — an assumption that is fundamental to shared reality theory [3,4].

If this analysis is correct, there is an important sense in which every belief system, perhaps every instance of meaning-making, results from epistemic, existential, and relational motives — conscious and nonconscious human strivings to reduce uncertainty and chaos; to manage fear, anxiety, and threat; and to connect with other people [5–7,8*]. According to system justification theory, however, some belief systems — such as those that are politically conservative, religious, and otherwise legitimizing (as opposed to delegitimizing) of the ‘way things are’ — are especially attractive to people who are either chronically or temporarily high in epistemic, existential, and relational motivation [9,10]. This is because the preservation of tradition and the veneration of existing hierarchies promises more certainty, security, and solidarity than the open-ended pursuit of social change in the name of social progress, equality, and diversity.

For example, individuals strongly motivated to reduce uncertainty and threat tend to adopt conservative or rightist (as opposed to liberal or leftist) beliefs, opinions, and values [11]. Meta-analytic reviews based on dozens of studies and over a hundred thousand participants reveal that conservatives tend to score higher than liberals on measures of dogmatism, cognitive and perceptual rigidity, and personal needs for order, structure, and cognitive closure. Conversely, liberals score higher than conservatives on measures of ambiguity tolerance, integrative complexity, need for cognition, and cognitive reflection [12,13†]. With respect to existential motivation, conservatives perceive the social environment as more threatening than liberals do, and exposure to threatening circumstances — such as
terrorist attacks, governmental warnings, and shifts in racial demography — precipitate ‘conservative shifts’ in public opinion [12,14].

Jost et al. [15] suggested three reasons why there might be a positive association between relational motivation and the adoption of conservative, system-justifying (over liberal, system-challenging) ideas. First, conservative rhetoric and ideology tends to be relatively simple, consistent, and unambiguous, which may facilitate achieving common ground about it. Second, relational motivation to foster a shared sense of reality with others serves epistemic needs to reduce uncertainty and existential needs to reduce insecurity [4,16]. Third, if most people in ‘mainstream’ society, including friends and family members, hold system-justifying beliefs, then shared reality motivation would lead disproportionately to system-justifying attitudes.

A decade later, we are now in a much better position to review evidence bearing on the notion that there are meaningful ideological differences in relational motivation [15]. More specifically, we review recent evidence that conservatives are more likely than liberals to first, prioritize values of conformity and tradition; second, possess a strong desire to share reality with like-minded others; third, perceive within-group consensus when making political and non-political judgments; fourth, be persuaded by others who are perceived as similar to them; and fifth, maintain relatively homogenous social networks and favor an informational environment that resembles an ‘echo chamber.’

Value priorities: conformity and tradition

One of the most consistent findings in political psychology is that conservatives and religious people place significantly greater emphasis on conformity, loyalty, and tradition, in comparison with liberals and non-religious people [17,18]. Several studies conducted in Italy and the U.S., for instance, have made use of the Schwarz Values Survey, which measures the extent to which people think ‘it is important’ to follow rules, customs, and traditions and to ‘do what they’re told’ and ‘to do things the way [they] learned from [their] family’ [18–20]. Results, which are summarized in Table 1, show that rightists are more likely than leftists to prioritize conformity and tradition. The most systematic investigation to date revealed that in 15 of 16 Western nations, right-wing self-placement was positively and significantly associated with the endorsement of conformity and tradition ([21], see Table 2).

Desire to share reality with like-minded others

Fans of the right-wing radio personality Rush Limbaugh have long referred to themselves as ‘ditto heads’ to emphasize the fact that they enthusiastically share the same perceptions, judgments, and opinions. It is hard to think of a liberal counterpart who has courted the same sort of ideological conformity on the left. And, indeed, studies suggest that conservatives and high system-justifiers possess a stronger desire to share reality with like-minded others, in comparison with liberals and low system-justifiers. Major findings are summarized in Table 3. For instance, Stern et al. [22] observed in two studies that people who believed it was more important to ‘see the world in a similar way as people who generally share your beliefs do’ described themselves as more conservative (or less liberal).

Hennes et al. [9] asked online survey respondents how strongly they agreed or disagreed with three items that were adapted from research by Pines et al. [23], namely: ‘I prefer to have my own unique understanding of the world,’ ‘I don’t like viewing the world in the same way as everyone around me does,’ and ‘I do not find it necessary to agree about how the world works with others who generally have similar beliefs as me.’ Responses to these items were reverse-scored, so that people who disagreed with them were classified as possessing a

<p>| Correlations between political conservatism and the personal valuation of conformity and tradition. |</p>
<table>
<thead>
<tr>
<th>Study followed by ideological variables</th>
<th>Conformity</th>
<th>Tradition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caprara, Schwartz, Capanna, Vecchione, &amp; Barbaraneli (2006), N = 2849 Italian adults</td>
<td>0.10***a</td>
<td>0.07***a</td>
</tr>
<tr>
<td>Voting preferences (center-right over center-left)</td>
<td>0.12***a</td>
<td>0.17***a</td>
</tr>
<tr>
<td>Schwartz, Caprara, &amp; Vecchione (2010), N = 1030 Italian adults</td>
<td>0.13***b</td>
<td>0.17***b</td>
</tr>
<tr>
<td>Voting preferences (center-right over center-left)</td>
<td>0.12***b</td>
<td>0.15***b</td>
</tr>
<tr>
<td>Vecchione, Caprara, Dentale, &amp; Schwartz (2013), N = 889 Italian adults</td>
<td>0.31***</td>
<td>0.40***</td>
</tr>
<tr>
<td>Self-reported voting behavior (center-right over center-left)</td>
<td>0.12***b</td>
<td>0.15***b</td>
</tr>
<tr>
<td>Self-reported voting behavior (center-right over center-left)</td>
<td>0.10***a</td>
<td>0.07***a</td>
</tr>
<tr>
<td>Jost, Basevich, Dickson, &amp; Noorbaloochi (2016), N = 259 University of Texas students</td>
<td>0.31***</td>
<td>0.40***</td>
</tr>
<tr>
<td>Ideological self-placement (conservative orientation)</td>
<td>0.12***b</td>
<td>0.15***b</td>
</tr>
</tbody>
</table>

Note: Numerical entries are zero-order (bivariate) correlation coefficients unless otherwise indicated.

a For Caprara et al. (2006) and Schwartz et al. (2010) the numerical entries are point-serial correlations (adjusting for demographic variables).

b For Vecchione et al. (2013) there are two correlations for each value because values were measured twice (once before a major election and once afterward). Self-reported voting behavior was measured after the election.

***p < .001 (two-tailed).
stronger desire to share reality with like-minded others. Results revealed that people who possessed a stronger desire to share reality tended to identify themselves as more politically conservative and to score higher on measures of general and economic system justification. They also held more conservative (or less liberal) attitudes on a number of social and economic issues, such as belief in global warming, health care policy, the Occupy Wall Street movement, and plans to build a Mosque in New York City near the site of the 9/11 terrorist attacks [9].

A follow-up study in Argentina produced similar results to those obtained in the U.S. [24]. University students in Buenos Aires who scored higher on the desire to share reality with like-minded others identified themselves as more right-wing (or less left-wing). They were also more likely to endorse economic system justification and the ‘belief in a just world,’ an individual difference variable tapping into the motivated assumption that ‘people get what they deserve and deserve what they get’ [25].

Exaggerated perceptions of group consensus
Could it be that the desire to share reality with like-minded others would lead conservatives to exaggerate the degree of consensus that exists within their group? This possibility was explored by Stern et al. [22]. Research participants were presented with photos of young men and instructed to make binary judgments of sexual orientation (gay or straight) or birth month (November or December). Participants also estimated the percentage of others sharing their political views who made judgments that were the same as their own. Across the board, conservatives perceived more within-group consensus than liberals perceived, whether they actually exhibited more consensus or not. This ideological difference was conceptually replicated in a follow-up using a different type of judgment (food preferences). Importantly, individuals who perceived greater within-group consensus judged their political party to possess more collective efficacy, and they expressed more determination to vote in the next election [22]. Thus, motivated

Table 2
Covariances between political conservatism and the personal valuation of conformity and tradition in 16 Western countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Conformity</th>
<th>Tradition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>.47</td>
<td>.19</td>
</tr>
<tr>
<td>Belgium</td>
<td>.22</td>
<td>ns</td>
</tr>
<tr>
<td>Denmark</td>
<td>.33</td>
<td>.11</td>
</tr>
<tr>
<td>Finland</td>
<td>.29</td>
<td>.15</td>
</tr>
<tr>
<td>France</td>
<td>.44</td>
<td>.22</td>
</tr>
<tr>
<td>Germany</td>
<td>.17</td>
<td>.14</td>
</tr>
<tr>
<td>Greece</td>
<td>.19</td>
<td>.11</td>
</tr>
<tr>
<td>Ireland</td>
<td>.32</td>
<td>.10</td>
</tr>
<tr>
<td>Israel (Jewish respondents only)</td>
<td>.59</td>
<td>.56</td>
</tr>
<tr>
<td>Netherlands</td>
<td>.34</td>
<td>.14</td>
</tr>
<tr>
<td>Norway</td>
<td>ns</td>
<td>.05</td>
</tr>
<tr>
<td>Portugal</td>
<td>.31</td>
<td>.13</td>
</tr>
<tr>
<td>Spain</td>
<td>.33</td>
<td>.13</td>
</tr>
<tr>
<td>Sweden</td>
<td>.31</td>
<td>.07</td>
</tr>
<tr>
<td>Switzerland</td>
<td>.36</td>
<td>.15</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>.32</td>
<td>.13</td>
</tr>
</tbody>
</table>

Note: Data are taken from Piurko, Schwartz, and Davidov (2011). Political conservatism is measured in terms of self-placement (from left to right). All covariances in this table are statistically significant at $p < .05$.

Table 3
Correlations between political conservatism and the desire to share reality with like-minded others.

<table>
<thead>
<tr>
<th>Study followed by ideological variables</th>
<th>Desire to share reality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stern, West, Jost, and Rule (2014), Study 1, $N = 107$ U.S. adults</strong></td>
<td>.27***a</td>
</tr>
<tr>
<td>Ideological self-placement (conservative orientation)</td>
<td></td>
</tr>
<tr>
<td><strong>Stern, West, Jost, and Rule (2014), Study 2, $N = 150$ U.S. adults</strong></td>
<td>.25**</td>
</tr>
<tr>
<td>Ideological self-placement (conservative orientation)</td>
<td></td>
</tr>
<tr>
<td><strong>Hennes, Nam, Stern, and Jost (2012), $N = 182$ U.S. adults</strong></td>
<td>.13b</td>
</tr>
<tr>
<td>Ideological self-placement (conservative orientation)</td>
<td></td>
</tr>
<tr>
<td>General (or diffuse) system justification</td>
<td>.19***</td>
</tr>
<tr>
<td>Economic system justification</td>
<td>.22**</td>
</tr>
<tr>
<td><strong>Jost, Langer, Badaan, Azevedo, Etchehezar, et al. (2017), $N = 373$ university students in Argentina</strong></td>
<td>.19***</td>
</tr>
<tr>
<td>Ideological self-placement (right-wing orientation)</td>
<td></td>
</tr>
<tr>
<td>Economic system justification</td>
<td>.24***</td>
</tr>
<tr>
<td>Belief in a just world</td>
<td>.26***</td>
</tr>
</tbody>
</table>

Note: Numerical entries are zero-order (bivariate) correlation coefficients unless otherwise indicated. In the study by Hennes et al. (2012) there was no reliable correlation between the desire to share reality and two ideological outcomes, namely attitudes toward strict immigration policies and support for the Tea Party.

a For Stern et al. (2014, Study 1) the numerical entry is a semi-partial correlation (adjusting for a number of other variables included in a multivariate model).

b $p < .10$; $p < .05$; $**p < .01$; $***p < .001$ (two-tailed).
perceptions of consensus may give conservatives an advantage over liberals when it comes to accomplishing shared goals.

Whereas conservatives often exhibit a ‘truly false consensus effect’ — estimating that like-minded others share their opinions more than they actually do — liberals tend to exhibit an ‘illusion of uniqueness’ — perceiving that like-minded others share their opinions less than they actually do [26,27]. When liberals and conservatives were asked about harms and benefits associated with childhood vaccination (and the beliefs of other liberals and conservatives), conservatives accurately perceived a high degree of similarity between their own attitudes and those of the general population — but they overestimated the extent to which other conservatives shared their attitudes and underestimated the extent to which liberals shared their attitudes [27]. Liberals consistently underestimated the extent to which others shared their attitudes about vaccination. That is, they assumed that the beliefs of the general public, other liberals, and conservatives were more divergent from their own attitudes than was actually the case.5

Susceptibility to social influence
Experiments by Hess and Ledgerwood [28] demonstrate that relational needs to affiliate with others can lead to increased system justification. Research participants who were made to experience social exclusion endorsed meritocratic beliefs — such as the assumption that hard work leads invariably to success in America — more enthusiastically than those who were not. Other work suggests that being rejected by someone holding system-justifying attitudes leads people to embrace more system-justifying attitudes themselves — but only if the rejecting partner is seen as similar to the self [29].

In other research, thinking or writing about experiences of social ostracism was found to increase religious feelings among Christians [30]. Subliminal exposure to threatening statements such as ‘God has forsaken me’ or ‘Mother is gone’ led some Christians (those who exhibited secure attachment styles) to increase their religious commitment ([31], see also [32]). These findings are consistent with the notion that religious ideology, like other system-justifying beliefs, serves relational needs to maintain a shared sense of reality with like-minded others [9,10,15,24].

If high (versus low) system-justifiers are more strongly motivated by desires for conformity and shared reality, they should be especially influenced by the kind of ‘social proof’ provided by descriptive social norms. There is indeed experimental evidence in the persuasion literature suggesting that whereas liberals are more attentive to argument quality, conservatives are more influenced by social cues [33] and sources who are perceived as similar to the self [34].

Two large field experiments conducted by Panagopoulos and van der Linden [35] revealed that conservatives were swayed by implicit relational cues, such as images of watchful eyes, whereas liberals were not. Postcards were mailed to approximately 13,000 registered voters in Key West, Florida, and 70,000 registered voters in Lexington, Kentucky. In both experiments, the text on the postcards — which implored citizens to ‘Do your civic duty and vote!’ — was identical across conditions, but in one of three conditions there was also an image of two eyes seemingly looking at the addressee. This ‘watchful eyes’ paradigm has been used extensively in other research programs to prime the desire for conformity and social approval. Panagopoulos and van der Linden discovered that in both cities Republican turnout was significantly higher in those areas that received the eyespot images, compared to those that received other types of postcards. Voter turnout among Democrats and Independents was unaffected by the presence of implicit relational cues [35].

Conservatives and religious people are also more likely than liberals and non-religious people to value obedience and conformity to authority (e.g., [36]). Experiments conducted in Australia and the U.S. reveal that conservatives and high-system justifiers (e.g., free-market ideologists) are especially responsive to normative cues concerning expert consensus [37,38,39].

Social network structure and ideological ‘echo chambers’
It is often suggested that liberals and conservatives are equally likely to avoid contradictory points of view by engaging in selective information exposure and maintaining ideological ‘echo chambers.’ However, research on social media usage contradicts this claim. For example, Bourtline and Willer [40] analyzed data based on more than 260,000 Twitter users and observed that more conservative users, such as followers of the Cato Institute, had significantly more homogenous online networks than liberal users, such as followers of Amnesty International.

Barberá et al. [41] used a follower-based method to estimate the ideological preferences of 3.8 million Twitter users and compared the ‘re-tweet’ networks of liberals and conservatives. Although liberals were indeed more likely to forward messages written by liberals than conservatives and vice versa, results revealed that — for 11 out of 12 issues investigated — liberals were more likely to
retweet messages written by conservatives than conservatives were to retweet messages written by liberals. Of course, this does not mean that users agreed with the messages they passed on, but it does appear that liberals were more likely than conservatives to expose themselves to (and actually read) messages written by ideological adversaries.

A number of other studies suggest that the online social networks of conservatives are more likely than those of liberals to spread ‘fake news,’ rumors, and other types of false or misleading information [42,43]. In the U.S. at least, conservatives are also more likely than liberals to engage in motivated science denial [44]. Although it is often assumed that liberals and conservatives are equally likely to espouse conspiracy theories, conspiratorial worldviews serve epistemic, existential, and relational needs that align especially well with conservative ideology [45,46,47]. Accordingly, conservatives and rightists endorse conspiracies more than liberals and leftists [47,48,49]. In short, ideological asymmetries in the propensity to share misinformation and in the structure and function of social networks may have profound societal consequences when it comes to political judgment and behavior.

Concluding remarks
Ideologies reflect motivational processes that help people to maintain a sense of shared reality with like-minded others. In this article, we have recounted evidence that there is, nevertheless, an ideological asymmetry in relational motivation. Specifically, we find that conservatives are more likely than liberals to prioritize conformity and tradition, exaggerate within-group consensus when making political and non-political judgments, and to maintain homogenous social networks that contribute to the spread of misinformation. Liberals, on the other hand, exhibit an ‘illusion of uniqueness’ and underestimate the extent to which they share consensus with others. These psychological differences may help to explain ‘asymmetric polarization’ [50] and other anomalies in political science.

Conflict of interest statement
Nothing declared.

References and recommended reading
Papers of particular interest, published within the period of review, have been highlighted as:

* of special interest
** of outstanding interest

9. Advances the argument that the relational and epistemic functions of shared reality render the individual’s life story meaningful, worthwhile, and morally right. This results not only in the strengthening of ingroup relationships and attitudes but also the tendency to dismiss, demean, and reject outgroups and incompatible attitudes as morally wrong.
14. A meta-analysis of research involving 181 distinct samples and 133,796 participants revealed that the endorsement of conservative ideology is positively associated with uncertainty avoidance, intolerance of ambiguity, perceptual and cognitive rigidity, dogmatism, intuitive thinking, and personal needs for order, structure, and cognitive closure. It is also negatively associated with need for cognition.
16. A meta-analysis of research involving 134 different samples and 369,525 participants from 16 countries revealed that mortality salience primes are associated with conservative ideological outcomes, that there is a significant association between subjective perceptions of threat and conservatism, and that exposure to objectively threatening circumstances, such as terrorist attacks, was associated with a ‘conservative shift’ at individual and aggregate levels of analysis.

A Facebook study compared the effects of online social cues and source credibility on selective exposure to online news content. For Republicans (but not Democrats), the impact of ideologically congenial source cues (e.g., Fox News) was attenuated in the absence of social cues (i.e., ‘likers’ or recommendations).


In two large randomized field experiments on voting behavior in local U.S. elections, implicit social cues (images of watchful human eyes) significantly increased voter turn-out for Republicans but not Democrats.


In a large, nationally representative experiment, some U.S. respondents were presented with a (true) descriptive group norm about expert agreement (‘97% of climate scientists have concluded that human-caused climate change is happening’), whereas others were not. Political conservatives were more likely than liberals to update their beliefs in response to the norm presented.


An online study of more than 260,000 Twitter users revealed that those who followed more conservative sources (such as the Cato Institute) had more ideologically homogeneous online social networks than those who followed liberal sources (such as Amnesty International).

41. Barberá P, Jost JT, Nagler J, Tucker JA, Bonneau R: Tweeting from left to right: is online political communication more than an echo chamber? Psychol Sci 2015, 26:1531-1542.


Three nationally representative studies involving more than 2000 participants demonstrate that belief in conspiracy theories and empirical falsehoods is predicted by individual difference measures of faith in one’s intuition to discern fact from fiction, indifference to inconsistencies between empirical evidence and beliefs, and the assumption that ‘facts’ are a matter of politics rather than reality.
