Investigating whether group status modulates the relationship between individual differences in epistemic motivation and political conservatism

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A B S T R A C T

Previous research has found that individual differences in epistemic motivation predict political conservatism. However, meta-analyses indicate substantial heterogeneity in this association and such variation remains underexamined. Using a large, pre-existing dataset, we investigated whether group status—a group's social value—modulates this relationship. We used several assessments of epistemic motivation (need for structure, need for cognition) and group status (race, gender, social class). We found that the epistemic motivation-ideology relationship was stronger for women (versus men) and for members of lower (versus higher) social class groups, although the relationship strength differences were relatively small. The relationship did not consistently vary across racial group status. Group status appears to be a small, but not consistent, moderator of the epistemic motivation-ideology relationship.

1. Introduction

The number of people attending college in the United States continues to increase (Fry, 2017), suggesting that many people are seeking to sharpen and grow their intellectual skills. However, a plethora of evidence suggests that racial minority students have vastly different college experiences compared to White students. Specifically, racial minority students are more likely than White students to face both blatant (e.g., police brutality) and subtle (e.g., nonverbal slights) forms of discrimination on college campuses (Svokos, 2017). These experiences often distract racial minority students from focusing on academic goals (Campbell, Carter-Sowell, & Battle, 2019). This work suggests that the social status of a group might impact the extent to which “epistemic” goals related to deliberation and effortful thought become more active and accessible in people's mind than other important goals. This example also raises the question of whether group status could shape the factors that most strongly predict people's beliefs.

In the present research, we examined whether differences in group status hold implications for understanding the extent to which individual differences in epistemic motivation predict political ideology.

1.1. Political ideology and epistemic motivation

For nearly a century, researchers have debated the psychological origins of political beliefs systems. Early approaches focused on using psychodynamic explanations to understand why people might be more drawn to the left or right of the political spectrum, such as unwanted sexual desires becoming manifest in political attitudes (Adorno, Frenkel-Bunswick, Levinson, & Sanford, 1950). Although these explanations were subsequently rejected in most psychological theories, they spurred interest in determining the antecedents of liberal-conservative ideology. More recently, scholars have examined whether individual differences in psychological motivation could determine whether a person finds political liberalism (support for novel change and equality) or conservatism (opposition to novel change and equality) more appealing. One well-known example of such work comes from Jost, Glaser, Kruglanski, and Sulloway (2003), who conducted a meta-analysis examining the relationship between various psychological motivations and political conservatism. Political belief systems, in general, help people to make sense of complex and often ambiguous issues (Lane, 1962). However, Jost et al. (2003) reasoned that politically conservative (relative to liberal) ideas might be simpler and more structured in their content, and as a result would assist in satisfying basic social cognitive goals for stability and predictability in everyday life. Consistent with their reasoning, results found that there was a modest average relationship ($r = 0.26$) between individual differences in “epistemic” motivations to achieve a sense...
of order, structure, and closure with political ideology, such that stronger epistemic motivation was associated with greater political conservatism.

In a more recent meta-analysis, Jost, Sterling, and Stern (2018) examined the relationship between various epistemic motivations and conservatism across 181 samples. This more updated analysis similarly found that political conservatism was associated with greater needs for order, structure, and closure, as well as greater intolerance of ambiguity, lower tolerance for uncertainty, and lower need for cognition. Importantly, however, there was considerable heterogeneity in the effect sizes for each relationship ($Q_s \geq 57.44, ps \leq .001, I^2 s \geq 0.72$), indicating that there is significant variation in the magnitude to which individual differences in epistemic motivation explain variation in political conservatism. To date, the large degree of variation in these relationships remains relatively unaddressed. In the present research, we sought to provide insight into one potential factor that contributes to this variation in the epistemic motivation-political ideology relationship.

1.2. Variation in the epistemic motivation-political ideology relationship

Recently, some scholars have begun to examine sources of variation in the epistemic motivation-ideology relationship. These sources of variation have focused on factors that directly include political content. For example, the relationship between epistemic motivation and political ideology is stronger among people who view their political beliefs as being central to the self-concept (Federico & Ekstrom, 2018) or who are knowledgeable and engaged with political issues (Malka, Soto, Inzlicht, & Lelkes, 2014). The size and direction of relationships have also been observed to vary depending on cultural context (Federico & Malka, 2018). For example, the relationship between epistemic motivation and conservatism tends to be strongest in more “ideologically constrained” nations where political elites package certain sets of political attitudes together (Malka et al., 2014). Here, we advance beyond past research and examine one factor—the social status of a group—that could meaningfully explain variation in the epistemic motivation-political ideology relationship. Social status varies among groups across multiple dimensions (e.g., race and gender), but is not an inherently political variable. In other words, unlike political identity or ideological constraint, social status does not by definition include political content. As a result, this work has the potential to shed light on an integral and previously unexplored factor that impacts the relationship between epistemic motivation and political ideology.

1.3. Group status and goal hierarchies

All people possess a variety of different goals that they wish to achieve. However, people also possess limited time and resources, and so not all goals can be simultaneously pursued. In turn, they develop a hierarchy of goals (Fishbach, Friedman, & Kruglanski, 2003; Kruglanski, Shah, Fishbach, Friedman, & Chun, 2002). This hierarchy in part reflects the necessity or ability that the goal can be pursued in the context of the person’s environment (Kenrick, Griskevicius, Neuberg, & Schaller, 2010; Maslow, 1943). Importantly, a goal’s place in the hierarchy does not necessarily reflect the strength of the goal, but instead the extent to which it is accessible and active in the person’s mind (Croomazano, James, & Citera, 1993; Koltko-Rivera, 2006; Kruglanski et al., 2002). A person might strongly value a goal (e.g., engaging in deliberative thought about a personally important topic), but that goal might not be accessible in a person’s mind to the extent that equally important goals are required to be active and pursued in that moment (e.g., finding employment after graduating college).

Chronic exposure to certain types of situations can shift the goals that are active and accessible in people’s minds. For example, living in a country involved in war can lead safety goals to become more accessible relative to living in peaceful situations (Bar-Tal, 2001, 2007; Tang & Ibrahim, 1998; Tang, Ibrahim, & West, 2002). The goals that are active in people’s mind most readily shape the judgments, beliefs, and attitudes that they form (Eitam & Higgins, 2010). For example, concerns about energy become accessible when the media focus on energy issues, and these motivations to address energy issues in turn guide people’s evaluations of politicians (Iyengar, Kinder, Peters, & Krosnick, 1984). Similarly, thinking that one’s government is unstable renders accessible the goal to defend one’s country, and this goal in turn most strongly predicts judgments about potential political leaders (Stern, Balcells, Cole, West, & Caruso, 2016).

Epistemic goals to deliberate about information and make decisions are a focal and important part of everyday life. People make sense of their environment and engage with the world through a process of gathering information and integrating it into a coherent and structured perspective (Kruglanski, 1989). Thus, epistemic goals tend to be highly accessible for people (Higgins, 2019), though people vary in the strength of their epistemic goals, with some people being highly motivated to deliberate and others instead desiring to make quick and efficient decisions (Cacioppo & Petty, 1982; Neuberg & Newsom, 1993). Regardless of the strength of a person’s epistemic goals, however, these goals are less likely to be accessible and in turn to guide judgments when people experience a sense of instability and lack of safety in their everyday lives, as other goals (e.g., protecting oneself and one’s group) become more accessible (Compton & Hoffman, 2013; Keyes, & Haidt, 2003; Pinker, 2012).

We argue that the social status of a group influences the extent to which epistemic goals are accessible for members of the group and in turn guide their beliefs and behaviors. Group status concerns the extent to which social value is attached to one’s group (Magee & Galinsky, 2008). Importantly, there is a strong degree of consensus among members of different groups concerning which groups are viewed as higher and lower status (Axt, Moran, & Bar-Anan, 2018; Kahn, Ho, Sidanius, & Pratto, 2009; Levin, 2004).

Structural factors (e.g., laws) and personal experiences (e.g., everyday interactions) lead different goals to become chronically accessible for members of lower status groups (e.g., racial minorities, women, lower SES groups) and higher status groups (e.g., Whites, men, higher SES groups). In general, members of lower status groups live in contexts where there are structural forms of oppression against their group, and in which they face interpersonal experiences of stigma and discrimination (Costa-Lopes, Dovidio, Pereira, & Jost, 2013; Sidanius & Pratto, 2001). The existence of structural and interpersonal stigma in turn leads the goal of enhancing one’s group to become more chronically activated and accessible for members of lower status groups (Ellemers, Wilke, & Van Knippenberg, 1993; Tajfel & Turner, 1979). Importantly, even if members of lower status groups do not personally experience blatant discrimination on a frequent basis, they are aware that members of their group do (Axt et al., 2018), and this knowledge can also lead the group-enhancement goal to be accessible (Sidanius & Pratto, 2001). The accessible group-enhancement goal subsequently shapes attitudes and behaviors in a variety of ways, including favorably evaluating one’s own group (Turner, Brown, & Tajfel, 1979) and voting for members of one’s group (Stern et al., 2016). This goal also shapes preferences in everyday interactions. For example, African-Americans are more likely than Whites to prefer being seen as competent (an attribute needed to pursue and achieve collective goals) during interracial interactions (Bergsieker, Shelton, & Richeson, 2010).
Overall, the structure of society and personal experiences of members of lower (versus higher) status groups create conditions under which the goal to enhance one’s group is highly accessible, which should render epistemic goals related to structure seeking and deliberation less accessible. Thus, we hypothesized that epistemic motivation will play a stronger role in predicting political ideology among members of higher status groups than among members of lower status groups.

2. The present research

In the present research, we examined whether epistemic motivation predicted political conservatism more strongly among members of higher status groups than among members of lower status groups. To test this question, we examined relationships using two different assessments of epistemic motivation (need for structure, need for cognition) and three different forms of group status (race, gender, and social class). In doing so, we ensured that any observed relationships were not constrained to a specific measure of epistemic motivation or group status. Specifically, we used a large, pre-existing dataset (Hussey, Hughes, Lai, Ebersole, Axt, & Nosek, 2018) with a diverse participant sample. These large samples ensured that both positive and negative outcomes would be informative. If the results showed no role of group status in moderating the relationship between epistemic motivation and political ideology, any effects that may exist in actuality were likely to be very small and of little substantive impact. Finally, to restrict potential flexibility in data analysis, we pre-registered our analysis plan to ensure the most accurate and unbiased estimates of effects. The preregistration plan can be found here: https://osf.io/tcv32.

3. Method

3.1. Participants

Data came from the Attitudes, Identities, and Individual Differences (AIID; Hussey et al., 2018) study. The AIID dataset had a planned missingsness design and assessed a variety of implicit and explicit attitudes as well as individual differences. The data were collected on Project Implicit between 2004 and 2007 (portions of the data were used for analysis in Nosek & Hansen, 2008). In total, over 200,000 participants provided data. This dataset was in the process of being publicly released when the present analyses were conducted, with the specific goal of having researchers use the data for registered reports (see https://osf.io/atymr/ for more information about the project, including details on how the data were preprocessed). The full data set was only made available to authors once Stage 1 of a registered report had been accepted at a journal, and this full dataset was eventually publicly accessible to all interested researchers.

In the study, participants completed one of 20 individual difference measures, a demographics questionnaire, one of 95 Implicit Association Tests (IAT; Greenwald, McGhee, & Schwartz, 1998), as well as a parallel self-report measure of attitudes or perceptions. The 20 individual difference measures included two measures related to epistemic motivation—need for cognition and personal need for structure. Our analyses were limited to participants who provided relevant demographic data and completed either of the two measures of epistemic motivation. The only data restriction is that analyses were limited to participants who reported being a United States citizen or resident, due to possible cultural specificity of our effects.

Researchers interested in the AIID dataset received an exploratory data file that had a random subset of approximately 15% of the full data. We used these exploratory data to obtain estimates of sample sizes in the full data set, through extrapolating from the number of participants in the exploratory dataset to the full sample. As a result, we anticipated a minimum of 3100 participants would be included in each of our key analyses.

3.2. Procedure and materials

Participants completed the individual difference measure, demographics questionnaire, self-report measure, and IAT in a random order. Below, we provide more detail on the specific measures we used in our analyses.

3.2.1. Demographics

Participants completed a 14-item demographic questionnaire. We analyzed only the items related to race, gender, education, income, age, citizenship, residence, and political ideology. The age variable was used for descriptive statistics when reporting demographics, while the citizenship and residence questions was used to identify eligible participants. The remaining demographic variables were used to form analysis groups that differ on social status.

3.2.2. Political ideology

Participants were asked, “What is your political identity?”, and responded on a seven-point scale (1 = Strongly Liberal, 4 = Neutral (Moderate), 7 = Strongly Conservative). Similar items have been used in previous research (Graham, Haidt, & Nosek, 2009; Jost, 2006; Nosek, Banaji, & Jost, 2009; Stern & Axt, 2019) to assess political orientation.

3.2.3. Race/ethnicity

To maximize sample size and statistical power, we divided participants into ‘Majority’ (i.e., White) and ‘Minority’ racial groups. Collapsing across racial minority identity allowed us to achieve sufficient statistical power for our planned analyses. Additionally, previous research suggests that group status could impact how people form political attitudes (Craig & Richeson, 2016). Given that racial minorities are viewed as holding lower status than Whites, and there is agreement among racial groups in these perceptions (Axt et al., 2018; Kahn et al., 2009), the psychological processes that shape political attitudes might be similar among members of racial minority groups. Some research provides support for this idea. For example, outgroup threat increases political conservatism to a comparable degree among various racial minority groups (Craig & Richeson, 2018), and political conservatism is associated with attitudes toward African-Americans to a more similar degree among racial minorities (Craig & Richeson, 2018) than Whites and racial minorities (Craig & Richeson, 2018). Thus, we did not have a strong theoretical reason to expect that there would be meaningful variation in the size of the epistemic motivation-ideology relationship across racial minority groups. Instead, we believed that comparing the size of the relationship between racial majority and minority groups was best suited for...
capturing meaningful variation. We further address this point in the general discussion.

The Minority racial group consisted of participants who reported being either Black, Asian or Pacific Islander, American Indian or Alaskan Native, Hispanic, and “More than one race – Other”. This latter category differed from the available response of “More than one race – Black/White”. Given ambiguity in categorizing the majority versus minority status of Black-White biracial participants, they were excluded from analysis.

3.2.4. Gender
We divided participants into male versus female respondents (these were the only two response options available).

3.2.5. Social class
A combination of education and income has been used in prior work as a reliable predictor of social class (e.g., Cohen, Shin, Liu, Ondish, & Kraus, 2017). To this end, we created a proxy social class variable through combining the demographic items of education and income. The education variable had 5 response options (1 = Not a high school graduate, 2 = High school graduate, 3 = Some college or associate’s degree, 4 = Bachelor’s degree, 5 = Graduate degree or graduate education). The annual income variable also had 5 response options (1 = Less than $25,000, 2 = $25,000-$49,999, 3 = $50,000-$74,999, 4 = $75,000-$149,999, 5 = Greater than $150,000). To make an aggregate social class variable, we standardized and averaged the two items.

Determining cutoffs for ‘higher class’ versus ‘lower class’ participants involved a tradeoff between maximizing statistical power and maximizing social class differences between groups. In our analysis, we decided to use 1.35 standard deviations difference between the two groups as cutoffs for higher- and lower-class participants. Given the skewed nature of the input variables, these cutoffs translated into the ‘higher-class’ participants representing the bottom 34% of the sample, and the ‘lower-class’ participants representing the bottom 34% of the sample. The size of the comparison differences in our sample was either comparable to or larger than social class differences in samples used in previous research (e.g., Dietze & Knowles, 2016; Piff, Kraus, Côté, Cheng, & Keltner, 2010).

3.2.6. Personal need for structure
Participants completed the 12-item Personal Need for Structure (PNS) scale (Neuberg & Newsom, 1993; Thompson, Naccarato, Parker, & Moskowitz, 2001), responding on a six-point (1 = Strongly disagree, 6 = Strongly agree) scale (α = .87). A sample item included “I find that a consistent routine allows me to enjoy life more”. To score the PNS measure, we took an average of all responses. Higher scores reflected a greater motivation to be in structured situations that allow for quick and efficient judgments.

3.2.7. Need for cognition
Participants completed the 18-item Need for Cognition scale (NFC; Cacioppo, Petty, & Feng Kao, 1984), responding on a six-point (1 = Strongly disagree, 6 = Strongly agree) scale (α = .89). A sample item included “I would prefer complex to simple problems”. To score the NFC measure, we took an average of all responses. Higher scores reflected a greater motivation to engage in deliberative thought.

4. Results
Analyses focused on comparing high- and low-status groups on their correlations between (1) political ideology and need for cognition and (2) political ideology and personal need for structure. Given this design, our primary analysis was a series of Fisher’s Z tests for comparing independent correlations, with the effect size being a Cohen’s q (Cohen, 1988). It is challenging to draw a precise effect size of the epistemic motivation-ideology relation from previous research given the large degree of heterogeneity observed in previous meta-analyses (Jost et al., 2018). Nevertheless, even when using the smallest subgroup sample size for a primary analysis reported below (an n of 1032), this sample size provided 99% power to detect the average effect size observed in Jost, Sterling, and Stern (2018) for PNS (r = 0.18) and 83% power for NFC (r = −0.09).

Importantly, however, previous research has not compared the size of correlations across status groups. As such, we assumed a small effect size in correlation differences. Though estimates of effect size benchmarks vary, a Cohen’s q of ≈0.10 has been considered a “small” effect (e.g., Lakens & Evers, 2014). To this end, we developed our primary analyses to ensure that we would possess at least 90% power to detect an effect size at least as small as a Cohen’s q of 0.12, and considered any effect size smaller to be trivial. Our final sample sizes for the primary analyses provided at least 90% power to detect an effect size at least as small as a Cohen’s q of 0.125. Thus, we possessed sufficient power to detect correlations within subgroups and the size of the correlations between subgroups. SPSS analysis syntax that we used on the full dataset can be accessed at https://osf.io/tcv32.

4.1. Relationship comparisons across groups
We anticipated that participants from higher-status social groups (White people, males, people with higher social class) would have stronger positive correlations between the political ideology variable (scored such that higher values mean greater conservatism) and personal need for structure than participants from lower-status social groups (racial minorities, females, people with lower social class). Additionally, we anticipated that participants from higher-status social groups would have stronger negative correlations between the political ideology variable and need for cognition than participants from lower-status social groups.

4.1.1. Race analyses
Among eligible participants, 3932 racial majority and 1032 racial minority participants completed the PNS measure, and 3837 racial majority and 1041 racial minority participants completed the NFC measure. These sample sizes provided at least 90% power for detecting a Cohen’s q as small as 0.11. Greater conservatism was associated with higher need for structure among members of both racial majority, r(3921) = 0.182, p < .001, and racial minority groups, r(1030) = 0.068, p = .03. The strength of the relationship was significantly stronger for members of racial majority (versus minority) groups, z = 3.31, p < .001, q = 12. Greater conservatism was also associated with lower need for cognition among members of both racial majority, r(3835) = −0.201, p < .001, and racial minority groups r(1039) = −0.182, p < .001. The strength of the relationship did not significantly differ between the groups, z = 0.56, p = .58, q = 0.02.

4.1.2. Gender analyses
Among eligible participants, 1759 men and 3400 women completed the PNS measure, and 1678 men and 3425 women completed the NFC measure. These sample sizes provided at least 90% power for detecting a Cohen’s q as small as 0.10. Greater conservatism was associated with higher need for structure among both men, r(1757) = 0.126, p < .001, and women, r(3398) = 0.193, p < .001. Counter to our predictions, the strength of the relationship was significantly stronger for women than for men, z = −2.34, p = .02, q = 0.07. Greater conservatism was also associated with lower need for cognition among both men, r(1676) = −0.117,
types, the strength of the relationship was significantly stronger for members of lower (versus higher) social class groups, \( r = -2.28, p = .02, q = .09 \). Greater conservatism was also associated with lower need for cognition among members of both higher class, \( r(1374) = -0.118, p < .001 \), and lower class groups, \( r(1327) = -0.223, p < .001 \). Again, the strength of the relationship was significantly stronger for members of lower (versus higher) social class groups, \( z = -2.81, p = .005, q = .11 \).

To examine the robustness of any possible differences, we repeated this social class analysis excluding students (16% of the sample), considering that reported income may not have been an accurate representation of social class among students. With students excluded, 1204 higher social class and 1018 lower social class participants completed the PNS measure, and 1205 higher social class and 1000 lower social class participants completed the NFC measure. These sample sizes provided 80% power for detecting an effect as small as Cohen’s \( q \) as small as 0.12. Greater conservatism was associated with higher need for structure among members of both higher social class, \( r(1202) = 0.130, p < .001 \), and lower social class groups, \( r(1016) = 0.209, p < .001 \). This analysis was directionally consistent with the analysis including students, such that the strength of the relationship was marginally stronger for members of lower (versus higher) social class groups, \( z = 1.91, p = .056, q = .08 \). Greater conservatism was also associated with lower need for cognition among members of both higher class, \( r(1207) = -0.103, p < .001 \), and lower class groups, \( r(9 9 8) = -0.208, p < .001 \). Replicating the effect found in the sample that included students, the strength of the relationship was significantly stronger for members of lower (versus higher) social class groups, \( z = -2.52, p = .01, q = .11 \). Overall, the epistemic motivation-ideology relationships were stronger for members of lower (versus higher) social class groups regardless of whether or not students were included in analyses.

4.1.3. Social class analyses

Among eligible participants, 1363 higher social class and 1357 lower social class participants completed the PNS measure, and 1376 higher social class and 1329 lower social class participants completed the NFC measure. These sample sizes provided 90% power for detecting a Cohen’s \( q \) as small as 0.125. Greater conservatism was associated with higher need for structure among members of both higher social class, \( r(1361) = 0.123, p < .001 \), and lower social class groups, \( r(1355) = 0.208, p < .001 \). Contrary to predictions, the strength of the relationship was significantly stronger for members of lower (versus higher) social class groups, \( z = -4.41, p < .001, q = 0.13 \).

4.2. Comparison of standard deviations and internal reliabilities

We conducted additional analyses to determine whether any observed differences in correlation strength (or lack thereof) could be attributed to statistical artifacts between subgroups (see online supplement for full description of each analysis). Specifically, differences in correlation strength could have been impacted by two purely statistical influences. First, differences in variance between subgroups on conservatism, PNS, or NFC could create restriction of range and suppress correlation strength among groups with lower standard deviations (Goodwin & Leech, 2006). To address this potential issue, we investigated whether groups differed on variance in relevant study measures (e.g., whether one subgroup had high PNS variability and the other subgroup very low variability).

Second, differences in internal reliability between subgroups on PNS or NFC could attenuate possible correlation values among groups with lower internal reliability (Fan, 2003). To investigate this issue, we tested whether subgroups differed in internal reliability on PNS and NFC. When we found group differences in internal reliability, we further investigated whether such differences were large enough to substantively impact study conclusions. We describe the analyses and general conclusions below.

The online supplement contains detailed information for each analysis and describes resources on the OSF page that are relevant for verifying or recreating the calculations.

For the primary analyses reported above, some differences in internal reliability or variance emerged (see online supplement for specific analyses). Although there were occasional differences in variance and internal reliability between groups, the more important question was whether such differences were large enough to account for any of our conclusions. We believe that this was not the case. Differences in variance and internal reliability tended to be relatively small and sometimes in a direction opposite than what would produce the observed results through statistical artifact alone (e.g., female participants had a stronger conservatism-PNS correlation than male participants but a lower conservatism standard deviation). Further, analyses concerning reliability indicate that conclusions would have only been impacted by much larger reliability differences than those that we observed here.

To illustrate the impact of group-level differences in measurement error, we investigated how observed differences in internal reliability would have impacted correlation strength. We used a formula provided by Parsons, Kruijt, & Fox (2019) to estimate what the NFC-conservatism or PNS-conservatism correlation would be if all measures had perfect internal reliability. Since conservatism was only a single-item measure and internal reliability could not be estimated, for these analyses we assumed that the internal reliability of the conservatism measure was equal to that of the PNS or NFC measure. For each subgroup analysis, we estimated the correlation without measurement error for the group with the stronger association. We then used that value to calculate the correlation that would exist for the other subgroup if differences were solely derived from measurement error. Through doing so, we examined the degree to which differences in correlation strength between groups stemmed solely from issues concerning internal reliability.

For instance, the largest difference in internal reliabilities was between racial majority and minority groups on PNS (Racial Majority \( \alpha = 0.871 \), Racial Minority \( \alpha = 0.845 \)). Using these values, the estimated correlation without measurement error for the conservatism-PNS association among racial majority participants was \( r = 0.209 \). If the conservatism-PNS correlation for racial minority participants was also \( r = 0.209 \), then the impact of having lower internal reliability would have produced an observed value of \( r = 0.177 \). This correlation was not significantly different from the observed correlation for the racial majority group, suggesting that the actual reported differences between groups were unlikely to be attributable to measurement error alone. In fact, recreating differences in the conservatism-PNS correlation between racial majority and minority groups solely through measurement error would require much more drastic discrepancies in internal reliability (Racial Majority \( \alpha = 0.871 \), Racial Minority \( \alpha = 0.550 \)). Thus, although there were differences in internal reliability of measures between some groups, these differences were not large enough to meaningfully impact study conclusions.

We report these follow-up analyses in the online supplement to contextualize the impact of observed differences in variance and internal reliability on study conclusions. However, it is worth noting that results should not be interpreted as reporting the "true" correlation strength or conclusively diagnosing the presence or absence of restriction of range. Rather, these analyses are simply used to illustrate that differences between subgroups on variance or internal reliability were likely not large enough to solely explain observed results.
4.3. Exploratory analyses

As we note above, the exploratory data that we used to estimate sample sizes and conduct power analyses was a subset of the full dataset that we used in our primary analyses. To ensure that the inclusion of the exploratory data did not inadvertently bias any analyses or conclusions, we reconducted our primary analyses while excluding this portion of the data. All results and conclusions remain the same. A full description of these analyses and results can be found in the online supplement.

5. General discussion

We examined whether the social status of a group modulated the extent to which individual differences in epistemic motivation were associated with the endorsement of politically conservative beliefs. This relationship has served as a core theoretical aspect to understanding the psychological roots of political ideology (e.g., Jost et al., 2003; Jost, Federico, & Napier, 2009). However, to date, there has been a paucity of research addressing the factors that might contribute to understanding heterogeneity in the relationship that has been observed in previous meta-analyses. We predicted that epistemic motivation would be associated with political conservatism to a greater extent among members of higher (versus lower) status groups. The dataset that we used to examine this question allowed us to rigorously test whether the social status of a group modulated the epistemic motivation-ideology relationship. Specifically, the available dataset included multiple assessments of epistemic motivation and group status, which allowed us to determine whether predicted outcomes were constrained to particular types of status or motivation.

Overall, results varied across subgroups and did not support our predictions. Consistent results emerged within race and social class subgroups: conservatism was more strongly associated with personal need for structure and need for cognition among lower (versus higher) status gender and social class groups. The relationship between epistemic motivation and ideology did not consistently vary across racial group status: conservatism was more strongly associated with personal need for structure among racial majority (versus minority) groups, but the relationship between conservatism and need for cognition did not differ between racial majority and minority groups. Further, when any significant differences did emerge across status subgroups, the size of the difference tended to be relatively small in magnitude. Specifically, the size of the difference either did not reach the threshold for what we considered to be a meaningful effect (Cohen's $q = 0.12$) or did reach the threshold but still constituted a relatively small difference (Lakens & Evers, 2014).

We view there as being three primary conclusions from this research. First, these results suggest that group status is unlikely to help explain a large degree of heterogeneity in the epistemic motivation-ideology relationship. We want to highlight, however, that both assessments of epistemic motivation were consistently associated with conservatism across all subgroups. These associations replicate the findings of previous meta-analyses (Jost et al., 2003, 2018) and also indicate that the lack of strong heterogeneity in correlation strength across group status is not simply attributable to a lack of any existing relationships.

Second, the lack of large differences in the epistemic motivation-ideology relationship across group status suggests that examining individual-level (e.g., political knowledge) and system-level (e.g., ideological constraint of a nation) factors might be a more productive route for pinpointing sources of heterogeneity in the relationship. A lack of strong differences across group status also suggests that the relationship between epistemic motivation and political conservatism possesses some degree of generality, which is informative for the growing body of research examining how political ideology is associated with outcomes across group memberships (e.g., Hoffarth & Jost, 2017; Pinsof & Haselton, 2017; Stern & Axt, 2019).

Third, although we found that some assessments of group status explained relatively small degrees of heterogeneity in the epistemic motivation-ideology relationship, we do not view these results as indicating that groups status is an unproductive construct for understanding variability in this relationship. Rather, we interpret the results as suggesting that the epistemic motivation-ideology relationship could be slightly stronger among members of some lower (versus higher) status groups. We elaborate on this point below.

5.1. Revising the potential modulating role of group status

At the current time, we do not have a direct explanation for why the relationship between epistemic motivation and political ideology might be stronger for members of some lower (versus higher) status groups. As such, we speculate about several possible interpretations and outline open directions that future research could consider.

First, we initially proposed that the goal of enhancing one's group would lead epistemic goals to be less accessible for members of lower (versus higher) status groups. However, some theoretical perspectives have argued that members of lower status groups are required to engage in epistemic endeavors as a means of enhancing the status of their group (Berenstain, 2016; Norris, 2019). In other words, for members of some lower status groups, epistemic processes might operate in the service of enhancing the group. For example, women more so than men are continually required to engage in deliberation and discussion about how the structures of society and norms of interpersonal interactions can perpetuate gender inequality (Academies, 2018; MacKinnon, 2019). Members of lower status groups have also worked to create academic programs (e.g., gender and women's studies) and theories across various disciplines (e.g., Social Dominance Theory in psychology; Sidanius & Pratto, 2011) with the goal of generating knowledge about oppression against lower status groups and in turn using that knowledge to enhance the status of those groups.

Goals become more relevant to individuals when they are incorporated into the social constructed content of their identity (e.g., what it means culturally to identify as a man or a woman; Lewis & Oyserman, 2016; Oyserman & Destin, 2010). To the extent that members of lower status groups might engage in greater deliberative endeavors as a means of promoting the societal enhancement of their group, deliberation and effortful thought might become goals that are incorporated into their identity and sense of self. In turn, epistemic goals might become more relevant and accessible for members of lower (versus higher) status groups, resulting in stronger epistemic motivation-political ideology associations.

Second, differences between members of higher and lower status groups might be more contextualized and specific than we assessed in the present research. We examined relationships using domain general measures of epistemic motivation. In other words, the measures assessed a desire to achieve structure and deliberate in general, rather than inquiring about these goals in specific domains. Some recent research suggests that when epistemic motivation is assessed in a highly specific domain (e.g., evaluating specific political candidates), the degree to which epistemic motivation corresponds to political ideology might vary depending on how relevant that domain is to individuals (Washburn, 2018). Specifically, epistemic goals are likely to become more accessible when a domain is highly relevant (Kruglanski, 1989). Integrating this idea into the present research, group status differences in
the accessibility of epistemic goals might vary depending on how relevant a specific domain is for each group. For example, when a specific context is more relevant for members of lower (versus higher) status groups (e.g., discussions about inequality or competence; Bergsieker et al., 2010; Dovidio, Gaertner, & Saguy, 2009) the epistemic motivation-conservatism relationship might be stronger for members of lower status groups.

Third, it is possible that there are important moderators that play a role in whether group status differences emerge. Members of lower status groups differ in a variety of ways, including the extent to which they perceive negative treatment as being derived from group-based discrimination and the extent to which they identify with their social groups (Major, Quinton, & Schmader, 2003). These constructs are also linked, such that experiencing discrimination can amplify group identification among members of lower status groups (Branscombe, Schmitt, & Harvey, 1999; Jetten, Branscombe, Schmitt, & Spears, 2001). To the extent that some members of lower status groups might incorporate epistemic goals into their sense of identity (either in a domain general or highly contextualized manner), experiencing higher levels of discrimination or being strongly identified with one's group might change the accessibility of epistemic motivation and in turn shape differences in the epistemic motivation-ideology relationship across group status. Specifically, relationships might be largest among members of lower status groups who perceive greater discrimination and identify more strongly with their social group. Overall, examining whether group and individual factors interactively determine the strength of the epistemic motivation-ideology relationship could be an informative direction for future research.

5.2. Further complexities concerning group status

In the present research, we collapsed across racial minority groups when comparing high and low status racial groups. We in part made this decision based on previous research in which individuals perceived racial minorities as having lower status than Whites (Axt et al., 2018; Kahn et al., 2009) and some evidence suggesting that there are comparable patterns among racial minority groups in terms of constructs that cause or are associated with political conservatism (Craig & Richeson, 2018; Stern & Axt, 2019). Nevertheless, the fact that we did not examine possible differences among racial minority groups (e.g., comparing Black and Hispanic individuals) leaves an open question concerning whether associations would differ in magnitude between these groups. Given that there are factors other than status that could shape political attitude processes among members of racial minority groups (Craig & Richeson, 2016), future research comparing the size of associations between racial minority groups would be informative.

A related question concerns how intersecting identities (e.g., the intersection of race and gender) might shape the relationship between political conservatism and epistemic motivation. The influence of intersecting identities on political attitudes and behaviors has received much less attention within empirical research relative to the analysis of identities along a single axis. For example, Craig and Richeson (2016, p. 25) note that “A missing but essential piece of the picture is how identification with multiple stigmatized identities may influence individuals’ tendencies toward forming coalitions”. Importantly, there has been a lively yet inconclusive debate among scholars about whether or how degrees of discrimination and identification vary based on intersecting identities (e.g., whether African-American men experience more discrimination than African-American women; Sidanius & Pratto, 2001; Smith & Stewart, 1983; Purdie-Vaughns & Eibach, 2008). Thus, at the current time it is unclear how the intersection of various identities would impact group status and the strength of associations between psychological motivations and political conservatism. Examining this question would be generative for future research.

5.3. Implications for understanding belief systems

More broadly, the results and theoretical perspectives that we have outlined here could also hold implications for understanding the factors predicting other beliefs systems among members of higher and lower status groups. For example, epistemic motivations for order and closure predict stronger adherence to religious beliefs (Jost et al., 2014). It is possible that under certain conditions group status could also modulate this relationship. Some researchers have argued that religious belief systems and religious practices operate in part to develop a sense of community and group advocacy for members of lower status groups, such as racial minorities and members of lower-class groups (e.g., Lincoln & Mamiya, 1990). It is possible that the epistemic function of religion becomes merged with the group enhancing role that religion has served for some lower status groups. Thus, the relationship between epistemic motivation and religious beliefs might be stronger for member of some lower (versus higher) status groups. This perspective could be used to generate predictions about the psychological antecedents of related belief systems, as well as why heterogeneity might exist in any relationship between motivations and beliefs.

5.4. Concluding remarks

Here, we examined whether group status would modulate the strength of the relationship between epistemic motivation and political ideology. We found some evidence that the relationship was stronger among members of lower (versus higher) status gender and social class groups, and that the relationship did not consistently vary across racial groups. Differences in correlation strength between gender and social class groups were also relatively small. These findings highlight the possibility that there is nuance in the origins of why people vary in their political belief systems, and contribute to broader discussions concerning how the psychological foundations of political ideology might function in a complex manner.

Declaration of Competing Interest

J.R. Axt is a member of the research team that organized the release and use of the Attitudes, Identities and Individual Differences (AIID) dataset. At no point did J.R. Axt analyze or have access to the full dataset before receiving the in-principle acceptance for this registered report submission. This research was also partly supported by Project Implicit. J.R. Axt is Director of Data and Methodology for Project Implicit, Inc., a nonprofit organization with the mission to “develop and deliver methods for investigating and applying phenomena of implicit social cognition, including especially phenomena of implicit bias based on age, race, gender, or other factors.”

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jrp.2020.103940.
References


