Article

Components of the Belief Gap: Ideology and Education

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Abstract

Knowledge gap research focuses on education as an indicator of socioeconomic status (SES). Belief gap research centers on ideology as potentially more powerful than education in comparing sociopolitical groups with scientifically established knowledge and groups with opposing beliefs accepted on faith. This study examined the relationship between education and ideology to understand belief gaps better. The study used 2008 American National Election Study (ANES) data to compare conservatives, moderates, and liberals by education on religiosity, child rearing values, opinionation, need for cognition, orientation toward politics, and mass media access and use. Although liberals tended to be more educated than conservatives overall, better-educated conservatives had the highest household incomes and were a much larger group. No known knowledge gap studies have reported results on one group characterized by high education and an opposing group distinguished by a different indicator of SES. Reformulations of the belief gap hypothesis are offered.

Keywords

politics and social sciences, belief gap, knowledge gap, ideology, religiosity, child rearing values, mass media, need for cognition, opinionation

A deepening schism between conservatives and liberals since the 1970s has implications for scientific research and policy that alarm many scholars, policy makers, and members of the public. Increasing ideological polarization and scientific politicization affect political elites and ordinary citizens (Abramowitz & Saunders, 2005; Gauchat, 2012; Layman, Carsey, & Horowitz, 2006; Levendusky, 2009; Mann & Ornstein, 2012; McCarty, Poole, & Rosenthal, 2006; Shapiro & Bloch-Elkon, 2008; Treier & Hillygus, 2009).

Issues of particular concern include global warming and climate change (Hindman, 2009; Ladwig, 2010; McCright & Dunlap, 2011), stem cell research (Ho, Brossard, & Scheufele, 2008), sexuality, sexual abstinence, AIDS research (Burack, 2008; Hindman & Yan, 2012; Smith, 2001), health care (Hindman, 2012), and Darwinian evolution (Ladwig, 2010; Miller, Scott, & Okamoto, 2006; Mooney, 2005). In fact, public trust in science itself has waned among conservatives but not liberals or moderates in the past four decades (Gauchat, 2012). Ideological divisions also exist for other issues, such as the existence in Iraq of weapons of mass destruction, numbers of casualties in the Iraq war, Social Security, economic inequality, welfare issues, and national economic conditions (Abramowitz & Saunders, 2005; Bartels, 2002; Blake & Culley, 2011; Daves, White, & Everett, 2011; Shapiro & Bloch-Elkon, 2008).

Some observers have thought that improving public understanding of science would increase public acceptance of scientific findings; however, this is not the case (e.g., Gauchat, 2012; Miller et al., 2006). Gauchat (2012) found greater distrust of science in educated conservatives than in less-educated conservatives and concluded,

> Taken together, these results highlight a perplexing issue: cross-nationally, more highly educated societies trust science more; yet, within advanced societies the expansion of public education over time has not brought about greater public trust. *One possible interpretation, supported by a growing number of studies, is that social factors such as race/ethnicity, income, religiosity, social capital, and political identifications are at least as important as knowledge and education in predicting trust in science* (Gauchat, 2008, 2010; Sturgis & Allum, 2004; Yearley, 2005). (pp. 169-170, italics added)

The objective of this article is to explore relationships of variables relevant to ideology that may contribute to greater understanding of these results, especially in light of recent work on "belief gaps." Ideology is defined here as a philosophy or body of ideas that forms the basis of a political, economic, social, or other system, reflects its needs and interests, and provides blueprints for action.[1] Political conservatives espouse a "political philosophy or attitude emphasizing

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respect for traditional institutions, distrust of government activism, and opposition to sudden change in the established order."[2] In contrast, political liberalism supports reform, openness to new ideas, tolerance, broad-mindedness, and questioning of tradition.[3] Political moderates occupy a middle ground between liberals and conservatives.

Belief Gaps Based on Ideology and Knowledge Gaps Based on Education

Hindman (2009) introduced a "belief gap" hypothesis that extended the "knowledge gap" hypothesis by offering beliefs as the dependent variable instead of knowledge and by evaluating ideology and education as independent variables. Tichenor, Donohue, and Olien (1970) proposed the knowledge gap hypothesis as follows:

> As the infusion of mass media information into a social system increases, segments of the population with higher socioeconomic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between these segments tends to increase rather than decrease. (pp. 159-160)

Although the knowledge gap hypothesis refers to socioeconomic status (SES), education frequently is used as the indicator of SES in knowledge gap research, and knowledge frequently is positively correlated with level of education (Gaziano, 1997; Gaziano & Gaziano, 2009; Hwang & Jeong, 2009, 2010; Viswanath & Finnegan, 1996). SES indicators, such as education, income, and occupation, tend to be intercorrelated. Hindman (2009) theorized, however, that ideology would be a better predictor than education of beliefs about scientific evidence for global warming over time under the conditions of increasing controversy, media coverage, and activities of elites and interest groups on this issue. An important contributory factor is an increasingly acrimonious political environment. He emphasized that his review of the knowledge gap hypothesis came

> . . .within a broader social climate of rising political partisanship: a time in which issues with public policy implications are increasingly subject to political dispute and partisan polarization. Of particular interest are heavily publicized issues in which the scientific community plays a key role in defining the problem and its causes. (Hindman, 2009, p. 790)

A growing gap over time between liberals and conservatives was supported for beliefs about scientific evidence that global warming is occurring, but it was not statistically significant for beliefs that human activity causes global warming (Hindman, 2009).[4] Education and ideology, however, were related to beliefs in global warming as a consequence of human activity. Liberals and the more educated were more likely to perceive the actions of humans as causes of the problem, compared with conservatives and the less educated. Hindman (2009) expressed concern that conservatives brushed aside scientifically supported data because of their religious beliefs. He defined knowledge as empirically supported facts and beliefs as convictions accepted as true without proof.

Other reports have relevant information. For example, education played a role in belief that global warming is taking place, but it was not related to beliefs about the human cause of the problem (McCright & Dunlap, 2011). McCright and Dunlap did not differentiate knowledge from belief. Their focus was beliefs about global warming that are consistent with the scientific consensus and beliefs that are not. They noted several studies reporting negative correlations between education and concern about global warming and one study that found a positive relationship between education and concern. They stated, in particular, ". . . the effects of educational attainment and self-reported understanding on beliefs about climate science and personal concern about global warming are *positive* for liberals and Democrats, but are *weaker or negative* for conservatives and Republicans" (McCright & Dunlap, 2011, p. 175, italics in original). Controlling for other major variables did not change the findings. Liberals tended to champion the view that scientific consensus shows global warming to be a real issue, stemming from human activity, and a threat to society. Conservatives tended to challenge the scientific consensus and defend the industrial capitalist system.

The proportions of the American public who believed that global warming was a real phenomenon grew between 2001 and 2010, but declined sharply in 2010 (McCright & Dunlap, 2011). The proportion of people who believed that human activities were responsible for global warming decreased somewhat. The Pew Research Center for the People & the Press (2011) reported similar findings. The proportions who were very concerned about the implications of global warming tended to increase, with some fluctuations. Overall, McCright and Dunlap (2011) found evidence of ideological and political partisan polarization.

The results of Hindman (2009) and McCright and Dunlap (2011) indicate that a more detailed look at the relation between education and ideology may increase our understanding of any potential tension between them. The first hypothesis, therefore, is,

> **Hypothesis 1:** Higher education will be positively related to greater liberalism, and conversely, lower education will be related to greater conservatism.
> **Research Question 1 (RQ1):** Are there other demographic differences that distinguish conservatives from liberals?

Religious Value Predispositions

Religiosity is frequently identified as a value predisposition that can be antithetical to science (Brossard, Scheufele, Kim,

& Lewenstein, 2009; Gauchat, 2008, 2010, 2012; Ho et al., 2008; Ladwig, 2010; Sturgis & Allum, 2004; Yearley, 2005). Religiosity influences people, in part, through childhood socialization, interpersonal networks, and information sources.

Ho et al. (2008) examined the public's attitudes toward another controversial scientific issue, stem cell research. They concluded that the public makes sense of this issue by using value predispositions and heuristic cues received from news media. The public's beliefs about stem cell research were conditioned by three value predispositions in particular: religiosity, ideology, and deference to scientific authority. Education was positively related to support for human embryonic stem cell research, although the relationship attenuated after other variables were controlled. While this study was not highly similar to Hindman's (2009), the tendency of many in the public to rely on non-scientific means to shape their views is of interest.

Religious beliefs played an indirect role in public support for funding nanotechnology, in addition to influences such as science media and knowledge (Brossard et al., 2009). Religious value predispositions tempered factual knowledge about nanotechnology.

Ladwig (2010) compared ideology and religiosity as value predispositions that predict (a) controversial science knowledge (about human evolution and the big bang theory of the origin of the universe) and (b) non-controversial science (the very hot center of the earth, radioactivity,[5] lasers, electrons, antibiotics,[6] and continental drift), measured at one point in time. Although he did not directly test Hindman's hypotheses, his results suggest support. Liberals with high non-controversial knowledge scores also scored highly on controversial knowledge. This occurred for conservatives, too, but to a lesser degree. Liberals also scored higher than conservatives on self-perceived knowledge of scientific study. The value predispositions of religiosity and ideology were significant and explained almost 12% of the variance in the model. (Greater scores on a socioeconomic index that accounted for education, income, and occupation were significantly related to non-controversial science knowledge, even when all other major variables were accounted for.)

The next hypothesis proposed, therefore, is,

Hypothesis 2: Religiosity will be positively related to conservatism.

Child Rearing Value Predispositions

People may be predisposed to understand ideology and appropriate government–citizen relations in terms of the earliest examples to which they are exposed—the parent–child relationship (Barker & Tinnick, 2006; Lakoff, 2002). Some see the social construction of ideology based on perceptions of parent–child relations as either nurturance (related to liberalism) or discipline (related to conservatism). Those who lean toward the nurturant model are more likely to stress egalitarian and compassionate values; those inclined toward the disciplinarian model tend to emphasize political individualism and traditionalism (Barker & Tinnick, 2006; Lakoff, 2002).

Lakoff's (2002) nurturant model emphasizes parent–child discussion with explanations for rules and with give and take, even to the extent of allowing conflict and disagreement. Parental supervision of children relies on persuasion rather than punishment. The goals are empathy, social responsibility, and cooperation (Barker & Tinnick, 2006). Lakoff's "strict father," or disciplinarian, model seeks to protect children from a dangerous and difficult world by emphasizing strict adherence to authority, punishment for infractions of rules, and competition with the goals of personal responsibility, self-discipline, and strong morals. Of course, many families fall in between these polar opposites. (For earlier work on these concepts, see Baumrind, 1968, 1971; Gaziano, 2001; Maccoby & Martin, 1983.)

Barker and Tinnick (2006; also see Feldman & Stenner, 1997) used data from the 2000 American National Election Study (ANES) to test Lakoff's theory, using an index of items concerning the qualities that children should have. Child rearing values scores related to the two models of nurturance and discipline strongly predicted attitudes toward a variety of issues, including conservatism or liberalism, as hypothesized.

Social structure influences people's child rearing behaviors through the mechanisms of occupation and parents' child rearing values. Kohn's (1969/1989, 1976) and others' research (Kohn, Slomczynski, & Schoenbach, 1986; Weininger & Lareau, 2009) showed that middle-class parents tend to stress self-direction as a value and that working class parents tend to emphasize conformity to external standards and to exhibit more authoritarianism. "Middle class" in the United States is "the socioeconomic class between the working class and the upper class, usually including professionals, highly skilled laborers, and lower and middle management."[7] The "working class" in the United States is "the socioeconomic class consisting of people who work for wages, especially low wages, including unskilled and semiskilled laborers and their families."[8]

Middle-class occupations tend to be concerned with the manipulation of interpersonal relations, ideas, and symbols; working-class occupations tend to be oriented toward things. Middle-class occupations often entail more self-direction, less close supervision, and less conformity to rules and authority than working-class occupations do. Level of education underlies these differences as a key variable in entry into occupations, having direct and indirect impact on people.[9]

Hypothesis 3a: Conservative ideology will be positively related to more disciplinarian, or authoritarian, child rearing values, and liberal ideology will be negatively related to authoritarian child rearing values.

Hypothesis 3b: Education will be negatively related to more authoritarian child rearing values.

Opinionation

Another moderating influence may be having strong opinions. Having stronger opinions about political issues is associated with being more knowledgeable about politics and public affairs, greater participation, and greater news media use (Garramone, 1983; Kim, Scheufele, & Shanahan, 2005; Milbrath & Goel, 1982; Scheufele, Shanahan, & Kim, 2002; Stamm, Emig, & Hesse, 1997; Zaller, 1992). It may be that conservatives and liberals are more attuned to political issues and feel more passionately about them; thus, the next hypothesis is,

Hypothesis 4: Conservatives and liberals will be equally opinionated.
Research Question 2 (RQ2): Will education moderate the relationship of ideology and opinionation?

Need for Cognition

One moderating variable may be differences in the way people think, not only cognitive skills but also other cognitive styles, which can vary by education and ideology. Higher education and advantages provided by higher SES allow greater development of cognitive skills (Eveland & Scheufele, 2000; Gaziano, 2012; Hackman & Farah, 2009; Neuman, 2006; Park & Kosicki, 1995; Tichenor et al., 1970), as well as perceptions of a greater need for cognition (Liu & Eveland, 2005).

Need for cognition is a person's tendency to engage in and enjoy thinking, including whether one prefers complex problem solving or simplicity of tasks (Cacioppo & Petty, 1982). Cacioppo and Petty (1982) investigated a potential relationship between dogmatism and need for cognition because Rokeach (1960) had found that highly dogmatic persons valued social recognition, salvation, and obedience, whereas those lower in dogmatism placed greater value on equality, freedom, and being broad-minded. Dogmatism (rigid assertion of opinions, ideas, whether empirically supported or not) is a construct related to authoritarianism (obedience to authority, maintaining control of a parent/governing body over others). Because greater open-mindedness overlaps somewhat with need for cognition, they expected to find dogmatism and need for cognition weakly and negatively correlated, which they did. In addition, higher American College Test scores in their college student sample were related to lower dogmatism.

Furthermore, research on the brain has uncovered differences between conservatives and liberals (Amodio, Jost, Master, & Yee, 2007). Results were considered to be consistent with previous research showing liberals to be more adaptable to information complexity, ambiguity, and novelty, while conservatives were more responsive to more structured, orderly, and predictable situations. A meta-analysis of data from 12 countries showed how three categories of social-cognitive motives act on political conservatism (Jost, Glaser, Kruglanski, & Sulloway, 2003). The following hypotheses are offered:

Hypothesis 5a: Conservatives and liberals will differ in their needs for cognition.
Hypothesis 5b: Education will be positively related to greater need for cognition.

Orientation Toward Politics

If liberals and conservatives are expected to be more opinionated than moderates, this could include higher levels of interpersonal discussion about political issues, greater political interest, and more political activities. Others have shown the importance of these behaviors and their interrelatedness in the political process (e.g., Eveland & Scheufele, 2000; Gaziano, 1997, Liu & Eveland, 2005; Peterson, Duncan, & Pang, 2002; Scheufele, 2000; Scheufele, Nisbet, Brossard, & Nisbet, 2004; Viswanath & Finnegan, 1996). Research questions on these points are as follows:

Research Question 3a (RQ3a): Will conservatives and liberals discuss the presidential election equally frequently?
Research Question 3b (RQ3b): Will education make a difference in their discussion behavior?
Research Question 4a (RQ4a): Will liberals and conservatives be equally interested in the campaign?
Research Question 4b (RQ4b): Will education play a role in political interest?
Research Question 5a (RQ5a): Will conservatives and liberals be equally politically active?
Research Question 5b (RQ5b): Will education make a difference in their political activities?

Mass Media Access and Use

Access to information circulating in the environment is an important variable in belief (Hindman, 2009) and knowledge gaps (Gaziano, 2010; Jerit, Barabas, & Bolsen, 2006; Tichenor et al., 1970; Viswanath & Finnegan, 1996). Although the present study does not focus on knowledge gaps *per se*, a reasonable assumption is that liberals and conservatives who are opinionated and cognitively sophisticated are likely to have access to the largest information environments and to attend to media content more closely.

The more educated may have larger print environments and the less educated may have larger broadcast media environments because increased print media coverage of political issues tends to strengthen the relation between education and knowledge but increased television coverage does not tend to improve the relationship. It may be that print is more cognitively demanding and broadcast is more accessible to the less educated but also more superficial in coverage (Gandy & El Waylly, 1985; Kleinnijenhuis, 1991).

The dataset used in the present study does not include measures of use of specific news channels such as CNN, NBC, CBS, or Fox, or online blogs. Other research, however, has shown that conservatives and Republicans are likely to perceive content on conservative talk shows and television channels as more truthful and sources and content favoring Democrats and liberals as untruthful (Jamieson & Cappella, 2009). Conservatives have tended to view mainstream news media with distrust and to prefer outlets that share their views; however, their knowledge and beliefs about certain issues such as the number of American casualties in the War in Iraq, the Occupy Wall Street movement, or abstinence-only sex education have tended to be inaccurate when conservative news outlets such as Fox are their main news sources (Jamieson & Cappella, 2009; Johansen & Joslyn, 2008; Hindman & Yan, 2012; Morris, 2005; Young & Brewer, 2012). Similarly, Democrats and liberals tended to find CNN and NPR as more honest. Partisan weblogs may have magnified these kinds of effects on polarization (Baum & Groeling, 2008; Eveland & Dylko, 2007; Johnson & Kaye, 2004). CNN, MSNBC, and other sources potentially seen as more liberal have not seemed to be as partisan.

Fragmented or more insular information environments can contribute to lower understanding of political views contrary to one's own and to lower tolerance for conflicting viewpoints (Baum & Groeling, 2008; Iyengar & Hahn, 2009; Shapiro & Bloch-Elkon, 2008; Tewkesbury, 2005). Increased exposure to "likeminded" partisan news appears to lead to decreased tolerance of a diversity of views, decreased understanding of other groups, and decreased accuracy of issue knowledge, especially among more partisan groups who may be among the easiest to mobilize to support political candidates for office (Dilliplane, 2011). Gauchat (2012, p. 171) stated,

> Studies of the conservative movement in the United States have also focused on its cultural dimensions and, particularly, the [New Right's] media empire. Beginning with radio and book publishing houses and then extending into cable television, think tanks, and Internet social networking sites, the NR has created an intellectual apparatus that promotes the conservative agenda and articulates a conservative cultural identity. This intellectual base represents an alternative to academic locations and the scientific community and is often socially distinguished and reinforced through its criticism of "liberal" bias in these cultural spheres (Blee & Creasap, 2010; Gross et al., 2011; Nash, [2006]). For example, Jacques, Dunlap, and Freeman (2008) have identified an elite-driven movement that is culturally located in conservative think tanks and media outlets and often disputes scientific conclusions to advance ideological or financial goals. (see also Oreskes and Conway, 2010)

The following research questions and hypothesis derive from these findings:

Research Question 6a (RQ6a): Will conservatives and liberals have equivalent use and attention to major mass media about the presidential election?
Research Question 6b (RQ6b): Will education make a difference in the media behavior of liberals and conservatives?
Hypothesis 6: Conservatives will be more distrustful of mainstream media than liberals.

Political Party Identification

While some argue that political partisanship is the concept that people can identify with more easily than ideology (Levendusky, 2009), ideology is the focus here because ideology and anti-science political stances are frequently identified as important public policy issues (e.g., Gauchat, 2012; Hindman, 2009; McCright & Dunlap, 2011). Ideology and partisanship appear to be increasingly correlated over time, however (Abramowitz & Saunders, 2005; McCright & Dunlap, 2011; Shapiro & Bloch-Elkon, 2008; Veenstra, Hossain, & Lyons, in press).

Method

Data are from the 2008 ANES, which conducted face-to-face interviews.[10] Pre-election interviews (n = 2,322) averaged 73 min and were carried out September 2 through November 3, 2008. Post-election interviews (n = 2,102) averaged 91 min and were conducted November 5 through December 30, 2008. The pre-election maximum response rate[11] was 78.2%, and the post-election maximum response rate was 57.7%.[12] The data were weighted to adjust for age, education, nonresponse, and attrition. The survey used randomization by a computer-assisted interviewing procedure, used for selection of half-samples to reduce overall interview length, and for question order within batteries. The number of cases for the present analyses was less than the total because respondents who did not think of themselves in ideological terms were omitted from the analysis.

Demographics. Besides education, demographics frequently identified as characteristics important to citizenship and understanding of political and scientific issues are age (being older), family income (higher), and gender (male; Bennett, 1989; Brossard et al., 2009; Delli Carpini & Keeter, 1996; Eveland & Scheufele, 2000; Ho et al., 2008; Kwak, 1999; McCright & Dunlap, 2011). Furthermore, Caucasians have had more advantages, knowledge, and access to relevant information sources (Gaziano & Horowitz, 2001; Williams & Collins, 1995). Respondents were asked the grade of school or year of college they had completed (recorded as categories); the month, day, and year of their birth; race; and household income (recorded as categories). Interviewers observed gender.

Ideology. Ideology was measured on a 7-point scale on which the political views that people might hold were arranged from *extremely liberal* (=1) to *extremely conservative* (=7). Respondents were asked, "Where would you place yourself on this scale, or haven't you thought much about this? (Political party identification was measured on a 7-point scale, ranging from *strong Democrat* [= 0] to *strong Republican* [= 6].)

Religious value predispositions. Respondents were asked whether they considered religion to be an important part of their lives, how much guidance it gave them, how often they prayed, and how often they attended religious services. In addition, people were asked whether they thought the Bible is the actual word of God and is to be taken literally, whether it is the word of God but not everything in it should be taken literally, or whether the Bible is a book written by men and is not the word of God. If they were Christian, they were asked, "Would you call yourself a born-again Christian, that is, have you personally had a conversion experience related to Jesus Christ?" In addition, a religiosity score was constructed by summing responses to amount of guidance, frequency of praying, and frequency of attending religious services (Cronbach's $\alpha = .83$).

In the United States, the principal religions represented are Protestant, Catholic, and Jewish, although Christians considerably outnumber Jews. Respondents who attended other types of religious services or thought of themselves as part of some other religious denomination were just a fraction of the total. For instance, less than 2% attended non-Judeo-Christian services, and about 6% thought of themselves as Muslim, Buddhist, Hindu, or other non-Judeo-Christian religion, regardless of attendance at services.

Child rearing value predispositions. A 4-point scale of child rearing values was constructed, ranging from low to high authoritarianism, following Feldman and Stenner (1997). Respondents were asked to choose between four word pairs describing desirable qualities for children to have. Each pair contained one "authoritarian" word and one "non-authoritarian" (self-direction) word. Authoritarian responses were scored 1, non-authoritarian responses were scored 0, and responses that neither or both were important (or not certain) were scored 0.5. The child rearing values score summed up responses for each of the four questions, ranging from 0 to 4. (Barker & Tinnick, 2006), used only three of these word pairs.) The wording was, "Although there are a number of qualities that people feel that children should have, every person thinks that some are more important than others. I am going to read you pairs of desirable qualities. For each pair please tell me which one you think is more important for a child to have: ['Both' should be volunteered.] 1. Independence or *respect for elders*, 2. *Obedience* or self-reliance, 3. Curiosity or *good manners*, and 4. Being considerate or *well behaved*." [The authoritarian response is italicized.] Cronbach's $\alpha = .60$. This compares with .49 (Kuder-Richardson) for Barker and Tinnick (2006) and .66 (Cronbach) for Feldman and Stenner (1997).

Opinionation. Three questions measured opinionation: (a) "Would you say you have opinions about almost everything, about many things, about some things, or about very few things? (rescaled from low to high); (b) "If you wanted to defend an opinion of yours, how successfully do you think you could do that?" using a 5-point scale, rescaled from low to high; and, (c) "Of the situations when you see two people disagreeing with one another, in how many of them can you see how both people could be right?" using a 5-point scale, from low to high.

Need for cognition. Participants were asked, "Do you like having responsibility for handling situations that require a lot of thinking, do you dislike it, or do you neither like it nor dislike it?" (after follow-up questions: 5-point scale *dislike it a lot* = 1; *like it a lot* = 5). Second, "some people prefer to solve simple problems instead of complex ones, whereas other people prefer to solve more complex problems. Which type of problem do you prefer to solve: simple or complex?"

Orientation toward politics. Respondents were asked the number of days in a week they discussed politics with their family or friends, and they were asked how interested they were in politics and government on a 5-point scale, rescaled from low to high.[13] An 8-point political participation scale (0-7) was created by summing the number of positive answers to questions about actions such as trying to persuade others to vote for a particular party or candidate; attending any gatherings in support of a candidate; displaying a campaign button, a car bumper campaign sticker, or a sign on their property, working for parties or candidates; and giving money to political groups.

Mass media access and use. Participants were asked whether they watched any programs about the presidential campaign on television, read about it in any magazines or any newspapers, heard any speeches or discussions about it on the radio, or accessed information about it on the Internet. If they had, they also were asked about frequency of use and amount of attention paid to content.[14] Because exposure and attention were highly correlated, ranging from .75 to .93 and some researchers recommend combining them (e.g., Cacciatore, Scheufele, & Corley, 2012; Eveland & Scheufele, 2000), frequency and level of attention were standardized and combined into one variable for each medium. Intercorrelations ranged from .09 (Internet and newspapers) to .39 (magazines and newspapers), with most in the .2 range. In addition, respondents were asked, "How much of the time do you think you can trust the media to report the news fairly?—Just about always, most of the time, only some of the time, or almost never?" (recoded from low to high).

Analysis

First, respondents were divided into high (some college or more education) and low (high school degree or less) education groups, and they were also divided into conservatives, moderates, and liberals. These groups were cross-tabulated to form six groups. Key variables were examined according to these groups. Then, a hierarchical ordinary least squares regression was conducted with the dependent variable, ideology, regressed on the independent variables, entered in blocks to determine the best predictors. The demographic variables were entered first, then religiosity, child rearing values, and opinion and cognitive variables, followed by political discussion, political interest, political participation, and media use variables, in a likely causal order. Four interaction variables followed, for education by each of the following: (a) religiosity, (b) child rearing values, (c) opinionation, and (d) need for cognition. These variables were first centered before being multiplied to create interaction terms to reduce potential multicollinearity between the terms and their components. (Similarly, these variables were regressed on political party identification separately, because partisanship and ideology were expected to be highly correlated.)

Results

Support for the hypotheses will be examined for each conceptual group of variables and then re-examined in light of the regression on ideology.

Education and ideology. Roughly one fourth of the citizens interviewed were liberals, more than one fourth were moderates, and fewer than one half were conservatives (Table 1). The first hypothesis predicted that higher education would be positively related to greater liberalism and conversely, lower education would be related to greater conservatism.

About three fourths of liberals had been to college, compared with somewhat more than half of moderates and two thirds of conservatives. Hypothesis 1, which expected education and ideology to be inversely related, was weakly supported; however, the pattern was somewhat unexpected because more conservatives and liberals than moderates had been to college. One of the most notable results, however, was that better-educated conservatives constituted the largest of the 6 groups, nearly 3 in 10 respondents, compared with about 2 in 10 who were better-educated liberals. There also were more than twice as many less-educated conservatives as less-educated liberals. Further results for education will be examined later.

RQ1 asked whether there were other demographic differences between conservatives and liberals. Table 1 indicates many differences. As a group, better-educated liberals and moderates were younger (see Table 2 for results on age) and more likely to be single or to be female than other groups (Table 1). Less-educated conservatives were disproportionately more likely to be male. Most notably, although liberals had an advantage over others in education, better-educated conservatives were the wealthiest group. Less-educated liberals were very different from more-educated liberals in race, incomes, work status, and disability status. More-educated conservatives were disproportionately more likely to be White and to be married. Well-educated liberals were especially likely to be working. More students were found among well-educated moderates. Better-educated liberals were much more willing than other groups to identify themselves as homosexual or bisexual. Less-educated moderates and conservatives were more likely than others to have served or to be serving in the military, and more-educated liberals were the least likely to have military service. As would be expected, liberals tended to be Democrats, regardless of educational level. Conservatives tended to be Republicans, particularly more-educated conservatives. Moderates were inclined to be Independents, as would be expected; very few of them were Republicans.

Religious value predispositions. The second hypothesis stated that religiosity would be positively related to conservatism. More than 8 in 10 conservatives said that religion was an important part of their lives, regardless of education (Table 3). Fewer than 6 in 10 well-educated liberals said this. Other groups fell in between. Less-educated liberals and all conservatives tended to agree that religion provided a great deal of guidance in day-to-day living. Better-educated liberals tended to say that it gave them "some guidance" than to say "a great deal of guidance." Better-educated conservatives were well above the average in reporting attendance at religious services, and all conservatives were above average in how often they prayed (Table 2). Although more of the well-educated liberals said that they attended services than said they did not, those saying they did not ever attend services were the largest proportion of all the groups who said this. Overall religiosity was the highest in conservatives, especially those who were highly educated. It was the lowest among highly educated liberals but not as low in less-educated liberals. Roughly half of all the more-educated groups agreed that the Bible is God's word but not all of it should be interpreted literally (Table 3). Nearly 4 in 10 liberals perceived it as a book written by people only, considerably more than other groups. Six in 10 less-educated conservatives and nearly 5 in 10 less-educated moderates believed that the Bible is literally the word of God. Approximately two thirds of all conservatives reported born-again experiences as Christians, compared with one third of well-educated liberals. In general, Hypothesis 2 was supported.

Child rearing value predispositions. Hypothesis 3a stated that conservatives would have more authoritarian child rearing values than liberals. Hypothesis 3b proposed that higher education would be related to less authoritarian child rearing

Table 1. Demographic Variables.

Proportion of total	Liberals *n* = 447 (26.9%)	Moderates *n* = 488 (29.4%)	Conservatives *n* = 725 (43.6%)	Total *N* = 1,660[a] (99.9%)[b]
Highest level of education completed				
High school degree or less (%)	23.7	45.9	34.9	35.1
Some college or more (%)	76.3	54.1	65.1	64.9
			χ^2 = 50.43, *df* = 2, *V* = .174***	

Proportion of total:	Low education/ liberal *n* = 106 (6.4%)	Low education/ moderate *n* = 224 (13.5%)	Low education/ conservative *n* = 253 (15.2%)	High education/ liberal *n* = 341 (20.5%)	High education/ moderate *n* = 264 (15.9%)	High education/ conservative *n* = 472 (28.4%)	Total *N* = 1,660 (99.9%)[c]
Variables							
Household income per year							
Less than $30,000	65.3	38.1	41.5	23.5	22.6	13.5	27.9
$30,000 to under $60,000	18.4	30.7	34.9	29.4	31.8	22.2	28.1
$60,000 or more	16.3	31.2	23.6	47.1	45.6	64.3	44.0
				χ^2 = 215.92, *df* = 10, *V* = .262***			
Gender							
Female	53.8	53.6	44.3	59.2	58.0	52.1	53.6
Male	46.2	46.4	55.7	40.8	42.0	47.9	46.4
				χ^2 = 15.65, *df* = 5, *V* = .097**			
Race							
Non-White	32.1	16.5	17.8	21.8	20.5	8.5	17.1
White	67.9	83.5	82.2	78.2	79.5	91.5	82.9
				χ^2 = 48.94, *df* = 5, *V* = .172***			
Marital status							
Married/live with partner	44.7	55.2	51.0	47.5	50.4	66.2	54.7
Divorced/separated	16.5	14.5	15.5	14.7	16.8	12.2	14.5
Single, never married	25.2	21.7	21.1	34.5	25.6	17.5	23.9
Widowed	13.6	8.6	12.4	3.2[d]	7.3[e]	4.1	6.9
				χ^2 = 77.40, *df* = 15, *V* = .125***			
Employment status							
Working now	51.9	55.4	51.0	71.5	68.2	66.9	63.2
Laid off/unemployed	4.7	5.4	7.5	5.3	4.2	3.6	4.9
Retired	20.8	21.6	26.9	10.0	14.0	19.3	18.1
Permanently disabled	14.1	7.2	3.2	4.4	3.4	2.5	4.5
Homemaker	6.6	7.2	9.1	5.0	4.2	6.2	6.2
Student	1.9	3.2	2.3	3.8	6.0	1.5	3.1
				χ^2 = 100.19, *df* = 25, *V* = .11***. Two cells have expected count < 5.			
Does R think of the self as Democrat, Republican, Independent, or what?[f]							
Democrat	68.4	39.1	22.7	68.2	35.0	9.3	35.1
Independent	27.4	46.7	25.2	26.2	51.6	24.8	32.3
Republican	4.2	14.2	52.1	5.6	13.4	65.9	32.6
				χ^2 = 609.13, *df* = 10, *V* = .443***			
Self-identification of sexual orientation of R							
Heterosexual/straight	98.0	96.8	99.2	84.9	97.0	97.7	95.1
Homosexual or bisexual	2.0	3.2	.8	15.1	3.0	2.3	4.9
				χ^2 = 95.27, *df* = 5, *V* = .241***. One cell has expected count < 5.			
R has served or is serving now in military							
Yes	12.3	18.3	19.8	7.9	14.4	16.7	14.9
No	87.7	81.7	80.2	92.1	85.6	83.3	85.1
				χ^2 = 21.72, *df* = 5, *V* = .114***			

[a]Weighted.
[b]Total does not add to 100% because of rounding.
[c]Total does not add to 100% because of rounding.
[d]Total does not add to 100% because of rounding.
[e]Total does not add to 100% because of rounding.
[f]Other political parties excluded from this analysis.
**$p \leq .01$. ***$p \leq .001$.

Table 2. Variables Measured as Continuous.

Variables	Low education/ liberal *n* = 106 *M (SD)*	Low education/ moderate *n* = 224 *M (SD)*	Low education/ conservative *n* = 253 *M (SD)*	High education/ liberal *n* = 341 *M (SD)*	High education/ moderate *n* = 264 *M (SD)*	High education/ conservative *n* = 472 *M (SD)*	Total *N* = 1,660 *M (SD)*
Age	48.7 (19.3)	48.0 (18.5)	50.7 (19.2)	42.1 (15.5)	44.7 (16.1)	48.4 (16.4)	46.8*** (17.4)
Frequency of attending religious services	1.5 (1.6)	1.4 (1.5)	1.8 (1.7)	1.2 (1.4)	1.4 (1.5)	2.4 (1.6)	1.7*** (1.6)
How often R prays	3.4 (1.5)	3.3 (1.4)	3.7 (1.3)	3.0 (1.5)	3.3 (1.4)	3.7 (1.3)	3.4*** (1.4)
Overall religiosity	5.7 (3.6)	5.3 (3.6)	6.4 (3.5)	4.4 (3.4)	5.2 (3.6)	7.1 (3.7)	5.8*** (3.7)
Authoritarian child rearing values score	2.6 (1.2)	2.7 (1.0)	3.0 (0.9)	1.7 (1.3)	2.2 (1.1)	2.4 (1.0)	2.4*** (1.2)
How opinionated R is	2.8 (1.0)	2.5 (.9)	2.6 (.8)	3.0 (.8)	2.7 (.8)	2.9 (.8)	2.8*** (.8)
How successfully R thinks R can defend opinions	3.0 (1.2)	2.7 (1.3)	2.8 (1.1)	3.3 (1.0)	3.0 (1.1)	3.1 (1.0)	3.0*** (1.1)
When two people disagree, how often R can see both could be right	3.1 (1.0)	3.0 (.9)	2.9 (.9)	3.3 (.9)	3.3 (.8)	3.1 (.9)	3.1*** (.9)
How much R likes handling responsibility for thinking	3.3 (1.2)	3.3 (1.2)	3.5 (1.2)	3.9 (1.0)	3.8 (1.2)	3.9 (1.1)	3.7*** (1.1)
Number of days in a week that R discussed presidential election with others	3.1 (2.5)	2.4 (2.1)	2.8 (2.3)	3.7 (2.4)	2.5 (2.1)	3.0 (2.3)	3.0*** (2.3)
Number of political activities	1.1 (1.3)	.5 (.9)	.9 (1.1)	1.7 (1.8)	.9 (1.3)	1.3 (1.4)	1.1*** (1.3)
How interested R is in politics and elections	3.0 (.9)	2.8 (.9)	2.9 (.9)	3.2 (.8)	2.9 (1.0)	3.2 (.8)	3.0*** (.9)
How often R trusts the media to report the news fairly	2.6 (.7)	2.4 (.6)	2.3 (.7)	2.5 (.6)	2.4 (.7)	2.1 (.7)	2.3*** (.7)

***$p \leq .001$.

values. More-educated liberals scored lower on this measure than others, while less-educated liberals scored above the mean, giving only partial support to Hypothesis 3a (Table 2). Although conservatives tended to give an authoritarian response, less-educated conservatives scored higher on this than more-educated conservatives did. Hypothesis 3b was supported only for better-educated liberals; better-educated moderates and conservatives tended to be average in authoritarian child rearing values.

Opinionation. Hypothesis 4 stated that conservatives and liberals would be equally opinionated. The more-educated liberals and conservatives tended to say that they had more opinions than others, which lends some support to the hypothesis (Table 2). Less-educated liberals were nearly as likely to report being opinionated as more-educated liberals. Results, therefore, did not provide a clear answer to RQ2 about the role of education in moderating the relation of ideology and opinionation. Responses to two other questions about opinions were examined. Respondents were asked how successfully they thought they could defend their opinions. Better-educated liberals felt the most confident of standing up for their opinions, and less-educated moderates and conservatives showed the least confidence. The participants were also asked, of situations when they see two people disagreeing with each other, in how many they could see that both could be right. More-educated moderates and liberals were the most able to do this, and less-educated conservatives tended to be the least able to perceive this.

Need for cognition. Hypothesis 5a expected that conservatives and liberals would differ in need for cognition but received mixed support in this initial look at results. Hypothesis 5b stated that education would moderate this relationship but did not receive clear-cut support. Well-educated conservatives and liberals tended to prefer responsibility for handling a lot of thinking, closely followed by well-educated moderates (Table 2). Nearly two thirds of well-educated liberals favored complex problems over simple ones, compared with about half of better-educated conservatives (data not shown). Well-educated moderates fell in between. All the less-educated groups chose simple problems over complex ones.

Orientation toward politics. RQ3a asked whether conservatives and liberals would discuss the presidential election equally frequently. RQ4a enquired about ideology and interest in politics and public affairs. RQ5a concerned whether liberals and conservatives were equally politically active. RQ3b, RQ4b, and RQ5b asked whether education would make a difference in these political orientation variables. Conservatives did not talk about the election with others or

Table 3. Religious Value Predispositions by Education and Ideology Categories.

Variables	Low education/ liberal *n* = 106	Low education/ moderate *n* = 224	Low education/ conservative *n* = 253	High education/ liberal *n* = 341	High education/ moderate *n* = 264	High education/ conservative *n* = 472	Total *N* = 1,660
Is religion an important part of R's life?							
Important	72.4	70.0	81.8	57.1	68.7	82.0	72.5
Not important	27.6	30.0	18.2	42.9	31.3	18.0	27.5
					$\chi^2 = 75.64$, $df = 5$, $V = .214$***		
How much guidance does religion provide to R in day-to-day living?							
Some	12.0	25.9	16.5	39.2	25.6	17.8	22.9
Quite a bit	30.7	29.9	28.6	27.8	29.4	25.1	27.8
A great deal	57.3	44.2	54.9	33.0	45.0	57.1	49.3
					$\chi^2 = 56.27$, $df = 10$, $V = .153$***		
Would you call yourself a born-again Christian?							
Yes	49.4	42.9	67.2	34.2	41.2	61.2	51.5
No	50.6	57.1	32.8	65.8	58.8	38.8	48.5
					$\chi^2 = 72.23$, $df = 5$, $V = .239$***		
Is the Bible literally the word of God, or is it written by men?							
Actual word of God, literally	35.8	46.3	59.7	9.4	25.2	38.8	34.8
God's word, but not literally	40.6	37.0	31.9	50.8	55.5	49.8	45.8
A book written by men	23.6	16.7	8.4	39.8	19.3	11.4	19.4
					$\chi^2 = 250.18$, $df = 10$, $V = .278$***		

***$p \leq .001$.

participate as often as liberals did, and education did not diminish these differences very much (Table 2). Highly educated liberals and conservatives had the highest interest levels.

Mass media access and use. RQ6a asked whether conservatives and liberals would have equivalent access, use, and attention to major mass media about the presidential election, and RQ6b asked whether education would influence their media behaviors. Access to television did not differ among them (Table 4). Radio speeches and discussions about the campaign and newspapers reached better-educated liberals and conservatives in fairly similar numbers. Among the less-educated groups, conservatives accessed radio the most often. Education did not affect newspaper access very much, although well-educated political moderates stood out as newspaper readers; however, more-educated liberals had considerably greater access to magazines and the Internet than more-educated conservatives and moderates.

Hypothesis 6 expected conservatives to be more skeptical of mainstream media. It was supported particularly by results for the more-educated conservatives (Table 2). Less-educated conservatives were also mistrustful but not as strongly. Liberals found the media the most credible, especially those with less education.

Regression on ideology. Demographics, religiosity, authoritarian child rearing values, opinionation, need for cognition, orientation toward politics, and mass media variables were entered in blocks and regressed on ideology to examine these relationships more fully when controls were added (Table 5). Political party identification was not entered because of the high relationship between ideology and party ($r = .61$, $p \leq .001$). For comparison, however, a separate regression on partisanship with the same independent variables was performed.

The first hypothesis expected that higher education would be positively related to greater liberalism, and conversely, lower education would be related to greater conservatism. The hypothesis was supported even when other variables were controlled. Interestingly, the relation of household income, another indicator of SES, was opposite of the results for education. RQ1 asked whether demographics besides education were of importance, as mentioned earlier. Lower education, higher household incomes, being male, and being White were of the greatest importance because they remained significant in the final model, while age was no longer significant. The demographic variables explained 6.9% of the variance in ideology.

Hypothesis 2 expected religiosity and conservatism to be positively related, and Hypothesis 3 expected authoritarian child rearing values to be positively related to conservatism. Both of these were supported when controls were added. Three variables relevant to opinions were included. They were not highly interrelated, indicating that they measured different things. These were being opinionated, believing one could successfully defend one's opinions, and being able to see two disagreeing parties as potentially being right at

Table 4. Media Access Variables by Education and Ideology Categories.

Variables	Low education/ liberal *n* = 106	Low education/ moderate *n* = 224	Low education/ conservative *n* = 253	High education/ liberal *n* = 341	High education/ moderate *n* = 264	High education/ conservative *n* = 472	Total *N* = 1,660
Did you watch programs about the campaign on television?							
Yes	93.4	86.6	90.9	90.6	88.6	93.4	90.8
No	6.6	13.4	9.1	9.4	11.4	6.6	9.2
					χ^2 = 10.96, *df* = 5, *V* = .081, *ns*		
Did you hear radio speeches/ discussion about the campaign?							
Yes	45.3	41.5	51.4	64.1	53.8	61.7	55.6
No	54.7	58.5	48.6	35.9	46.2	38.3	44.4
					χ^2 = 41.73, *df* = 5, *V* = .159***		
Did you read about the campaign in newspapers?							
Yes	58.5	58.7	60.5	65.1	71.6	65.2	64.2
No	41.5	41.3	39.5	34.9	28.4	34.8	35.8
					χ^2 = 12.61, *df* = 5, *V* = .087*		
Did you read about the campaign in magazines?							
Yes	24.5	22.8	18.2	56.9	42.8	39.2	37.0
No	75.5	77.2	81.8	43.1	57.2	60.8	63.0
					χ^2 = 127.58, *df* = 5, *V* = .277***		
Did you view/hear Internet information about the campaign?							
Yes	34.9	33.5	27.3	71.8	56.4	59.7	51.6
No	65.1	66.5	72.7	28.2	43.6	40.3	48.4
					χ^2 = 171.93, *df* = 5, *V* = .322***		

*$p \leq .05$. ***$p \leq .001$.

times. Although all three were correlated initially with ideology, only the third played a significant role. The sign was negative, meaning that inability to see two sides to an argument being right sometimes was related to greater conservatism. Results relevant to Hypothesis 4 showed that opinionation did not characterize one ideological group more than another. Need for cognition was not a significant predictor, pertinent to Hypothesis 5a, suggesting that this variable did not set conservatives and liberals apart from each other. Value predisposition, opinion, and cognitive variables explained 11.3% of the variance in ideology.

RQ3a, RQ4a, and RQ5a concerned ideology and orientation to politics (discussion, interest, and participation, respectively), and RQ3b, RQ4b, and RQ5b asked about the role of education in these relations. They were not significant and scarcely explained any variance.

RQ6a asked whether conservatives and liberals would have equivalent mass media use and attention concerning the presidential election. The negative sign for the zero-order relation of these variables suggested that lower frequency of use and attention to mass media were predictors of conservatism, but none of these relationships was significant when controls were added. Hypothesis 6 indicated that conservatives would be more distrustful of mainstream media than liberals, and distrust of media to report news fairly was significant. Media variables explained 4.4% of the variance, nearly all of which came from lack of media trust.

Interactions with education were examined with respect to four variables: religious value predispositions, authoritarian child rearing value dispositions, opinionation, and need for cognition. The first three were positive and significant; need for cognition was negative and significant. They explained 1% of the variance. These interactions further address support for Hypothesis 3b (concerning authoritarian child rearing values and education), RQ2 (concerning the moderating role of education on opinion), and Hypothesis 5b (about education and need for cognition). Higher education was related to lower conservatism when levels of religiosity, authoritarian values, and opinionation were lower; however, when conservatism was higher, the more educated also tended to be higher in religiosity, authoritarian child rearing values, and opinionation. Second, higher education was related to lower conservatism when participants had higher need for cognition; conversely, higher education correlated with higher conservatism when need for cognition was lower.

The overall regression model explained almost 25% of the variance in ideology (23.4% adjusted R^2).

Because ideology and partisanship were highly correlated, a separate regression on political partisanship (high scores = Republican) was conducted. It produced a somewhat similar pattern of results (not shown). Education was not very important when demographics were controlled nor was being able to see two sides of an argument. Greater political participation and lower magazine use and attention were predictors. The patterns of interactions were similar, but only

Table 5. Hierarchical Regression Predicting Ideology.

	Zero-order	Model 1	Model 2	Model 3	Model 4	Model 5
Block 1: Demographics						
Education	−.091***	−.139***	−.070*	−.063*	−.062*	−.066*
Age	.148***	.113***	.014	.023	.031	.042
Household income	.102***	.124***	.139***	.141***	.123***	.122***
Gender (female = 1)	−.095***	−.079**	−.116***	−.114***	−.101***	−.099***
Race (White = 1)	.152***	.130***	.180***	.176***	.145***	.139***
Incremental R^2		.069***				
Block 2: Values, opinions, and cognitions						
Religiosity	.277***		.263***	.263***	.245***	.232***
Authoritarian child rearing values	.256***		.166***	.163***	.162***	.138***
How many opinions R has	−.046†		−.031	−.018	−.027	−.029
How successfully R thinks he or she can defend opinions	−.098***		−.045†	−.035	−.031	−.035
How often R sees both disagreeing parties as being right	−.116***		−.071**	−.073**	−.070**	−.070**
Liking responsibility for handling thinking	−.021		−.005	−.002	−.015	−.003
Incremental R^2			.121***			
Block 3: Orientation toward politics						
Frequency of discussing politics in a week	−.072**			−.036	−.049†	−.043†
Political participation	−.073**			−.034	−.030	−.029
Interest in public affairs and elections	.007			−.002	.016	.020
Incremental R^2				.003		
Block 4: Media use and attention						
Television	−.029				.023	.022
Magazine	−.152***				−.040	−.030
Radio	−.038				.020	.017
Newspaper	−.047†				−.037	−.042
Internet	−.099***				.006	.003
How often R trusts media to report news fairly	−.246***				−.197***	−.192***
Incremental R^2					.043***	
Block 5: Interactions						
Education × Religiosity						.051*
Education × Authoritarian child rearing values						.057*
Education × Opinionation						.058*
Education × Need for cognition						−.053*
Incremental R^2						.010***
Total R^2						.247***
Adjusted R^2						.234***

Note. n = 1,392 (weighted; cases total fewer than 1,660 because of listwise deletion if values were missing on relevant variables). Cell entries for models are final standardized regression coefficients for Blocks 1, 2, 3, and 4, and cell entries for Block 5 are before-entry standardized regression coefficients.
†$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

two were significant: education and authoritarian child rearing values and education and opinionation.

Limitations

The study was based on secondary data and therefore was limited to the questions available, and questions measuring knowledge about controversial topics and specific news sources such as CBS, NBC, Fox, CNN, and so on were not included. It used cross-sectional data and was not able to use the panel design. More needs to be known about changes in ideological differentials over time. It may be that belief gaps due to ideology open and close fluidly over time as some research indicates that knowledge gaps do (Viswanath, Finnegan, Hannan, & Luepker, 1991), or as Hindman (2009) hypothesizes, may widen over time. The purpose of the study, however, was to examine the relation between education and ideology, and the results contribute insights into

ways in which liberals and conservatives differ, especially with regard to education and income. A number of available questions concerned key concepts examined in the present study: religious value predispositions, child rearing value predispositions, opinionation, need for cognition, orientation toward politics, and media access and use.

Discussion and Conclusion

This study sought to examine the relationship between education and ideology to better understand belief gaps between conservatives and liberals. The study used 2008 ANES data to compare conservatives, moderates, and liberals by education on several characteristics, values, and actions. Liberalism was related to higher education, and conversely, conservatism was related to lower education. When respondents were divided by low and high education and by liberal, moderate, or conservative philosophy, however, well-educated conservatives were the largest group. The group of better-educated liberals was less than three fourths that size. Well-educated liberals, on the whole, were more likely than conservatives to have graduate work beyond college and were not as affluent as well-educated conservatives. They also tended to be younger and were less likely to be married.

Authoritarianism and its kindred constructs are related to lower public affairs knowledge (McLeod & Perse, 1994; Mutz, 1987; Peterson et al., 2002; Simmons & Garda, 1982). This may occur even when authoritarians hold strong opinions about political matters (Peterson et al., 2002). Others have found that education tends to have a negative relation with authoritarianism (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Marcus, Sullivan, Theiss-Morse, & Wood, 1995; Stone, Lederer, & Christie, 1993). Formal schooling may have a liberalizing effect on authoritarian attitudes because of increased cognitive development, sophistication, and abstract thinking; increased opportunity to meet people of varied backgrounds; augmented political expertise, and understanding of the importance of democratic principles; and improved self-esteem (Altemeyer, 1988; Marcus et al., 1995; Stone et al., 1993; Templeton, 1966). These characteristics are related to exposure to information, receptiveness to new ideas and experiences, and general curiosity (McCrae, 1996; Peterson et al., 2002; Peterson, Smirles, & Wentworth, 1997).

In many respects, the characteristics of more-educated liberals contrasted sharply with those of more-educated conservatives and evoked the picture of divergent cultures. More-educated liberals differed from all the other groups in a number of ways, including a greater tendency to be younger, female, non-White, employed, less religious, more oriented toward thinking and complex problem solving, and more opinionated than others. They varied markedly from other groups in their child rearing values. They tended more than others to have encountered the 2008 presidential campaign in magazines and on the Internet, to not have military service, and to be willing to self-identify as homosexual or bisexual.

The regression analysis on ideology produced an image of stronger conservatives as being well-to-do White males who are more religious, inclined to interpret the Bible literally, and more authoritarian in their views on child rearing. They tend to have difficulty in seeing the viewpoints of others, distrust the media, and may possibly have more constricted information environments than others (although results that could have supported this latter assertion did not attain statistical significance).

Other research has shown that conservatives appear to live in increasingly insular environments, further segregated by influences of the media of the New Right. Not trusting the major media to cover news fairly was a predictor of conservatism. This echoes the finding that conservatives, especially if more educated, tend to have lower trust in science (Gauchat, 2012) and greater skepticism about President Barack Obama's having been born in the United States, especially with higher attentiveness to conservative media outlets (Blake & Chen, 2012).

The portrait of diverging cultures based on differences in ideology supports the "belief-knowledge" gap hypothesis offered by Gaziano and Gaziano (1999):

> As the infusion of mass media information into society increases, certain groups will tend to acquire this information at a faster rate than other groups, so that the gap in knowledge between these groups tends to increase because of differences in their social construction of knowledge—that is, their cultures. (p. 130)

Such a conceptualization recalls recent writings describing "culture wars" based on ideological differences (Fiorina, Abrams, & Pope, 2011; Hunter, 1992; Thomson, 2010; Zimmerman, 2002). When issues are controversial, which groups will prevail in defining what constitutes knowledge, depends in part, on their access to, and influence by, elite and powerful organizations, factions, and other groups.

While many knowledge gap studies and some belief gap studies have focused on education as an indicator of SES, none has considered situations in which education and income might define opposing groups, because education, income, and occupation tend to be related. The results for household income suggest that when knowledge or belief gaps based on differences in ideology occur, one of the most powerful underlying explanations is income, as Gauchat (2012) has proposed. Larger household incomes may be more important than education in creating ideology gaps. A comparison of correlations of ideology with education and income in several polls in Table 6 shows this pattern, including three of five from Hindman's (2009) study that reported significant results for income. Results for only one poll out of nine polls depart from this pattern (note that results display the more stringent two-tailed significance values).

Table 6. Intercorrelations of Education, Household Income, and Ideology in Selected Surveys.

Survey	Ideology[a] and education	Ideology[a] and income	Number of cases (weighted)[b]	Number of cases (unweighted)[c]
Pew April 2012	−.030**	.037***	7,689	2,499
NORC[d] 2012	−.073**	.040†	1,653	1,681
Pew October 2010	−.066***	.051***	6,782	1,821
NORC 2010	−.042†	.060*	1,744	1,761
Pew April-May 2009	−.056***	.031*	4,310	1,605
ANES Fall 2008	−.090***	.102***	1,394	1,282
Pew April 2008[d]	−.117***	−.058*	1,271	1,276
Pew January 2007[d]	−.025**	.058***	12,492	1,450
Pew August 2006[d]	−.062**	.042†	1,792	1,782
ANES Fall 2004	−.043	.155***	828	844
ANES Fall 2000	−.064*	.048†	1,327	1,365

Note. The Pew polls used a non-probability targeted within-household selection method called "youngest male/youngest female," and the ANES and NORC surveys used a probability method, Kish (methods described in Gaziano, 2005). The Pew surveys underrepresented persons with higher incomes and overrepresented those with lower incomes, in comparison with the ANES and NORC surveys. ANES = American National Election Studies; NORC = national opinion research center.

[a]High ideology scores = conservative; low scores = liberal.

[b]Cases excluded listwise.

[c]NORC, National Opinion Research Center, University of Chicago.

[d]This was one of the three (of five) polls with significant results for income in Hindman's (2009) study.

†$p \leq .10$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$ (two-tailed).

It appears that income, combined with conservatism, may now come to play an unexpected and complicating part in defining beliefs about the facts of issues or interpretations of the facts. High incomes may trump high education in boosting some groups' social influence, including access to powerful interest groups. These findings suggest a reformulation of the belief gap hypothesis as follows:

> Under the condition of increasing social conflict, as the infusion of mass media information into a social system increases, groups with greater social power will tend to define the meaning of information in ways that benefit them, so that the gap in interpretation of what constitutes knowledge tends to increase rather than decrease between groups with greater and lesser social power.

The relationship of ideology and income may strengthen over time if the relationship of ideology and partisanship is increasingly correlated, as some observe (Abramowitz & Saunders, 2005; McCright & Dunlap, 2011). Dissimilarity in religious and child rearing values may further reinforce the differences between better-educated liberals and other groups in the future as their children come of age. Perhaps differences between liberals and conservatives in sheer numbers, culture, marital status, number of children, education, incomes, and access to influential interest groups may play a role in amassing social power, as well.

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Notes

1. Retrieved from http://www.thefreedictionary.com/ideology, which referenced *The American Heritage® Dictionary of the English Language*, Fourth ed., ©2000 by Houghton Mifflin Co.; *Collins English Dictionary—Complete and Unabridged* © 2003 by HarperCollins Publishers; *Collins Thesaurus of the English Language—Complete and Unabridged*, Second ed., ©2002 by HarperCollins Publishers.
2. Retrieved from the *American Heritage Dictionary*: http://ahdictionary.com/word/search.html?q=conservative.
3. Retrieved from the *American Heritage Dictionary*: http://ahdictionary.com/word/search.html?q=liberal.
4. His first hypothesis was, "Political ideology is a better predictor of the distribution of politically disputed beliefs than is education." Second hypothesis: "As the infusion of mass media information into the system increases over time, the relationship between political ideology and politically disputed beliefs tends to strengthen." (p. 794)
5. Radioactivity is controversial in some parts of the world for ecological, political, or pacifist reasons.
6. Antibiotics also is considered controversial science in some parts of the world because many people are against prophylactic antibiotic use or believe that over-use of antibiotics in people and animals raised for food leads to decreased effectiveness of antibiotics.
7. Retrieved from the *American Heritage Dictionary*: http://www.ahdictionary.com/word/search.html?q=middle+class.
8. Retrieved from the American Heritage Dictionary: *http://www.ahdictionary.com/word/search.html?q=working+class*.

9. Self-direction becomes the antecedent and consequent variable in perceptions of opportunity, openness to innovation, efficacy, tolerance of dissent and differences, trust in others, and reliance on internal processes. In contrast, an orientation toward conformity tends to relate to attitudes of intolerance, alienation, fatalism, and distrust, as well as reliance on perceived external consequences of actions and attitudes—an orientation toward obedience to authority often provides some structure and meaning to situations and forces that appear beyond one's control or comprehension.
10. See www.electionstudies.org. The American National Election Study (ANES) 2008 Time Series Study [dataset]. Stanford University and the University of Michigan [producers]. These materials are based on work supported by the National Science Foundation under grants SES-0535334, SES-0720428, SES-0840550, and SES-0651271, Stanford University, and the University of Michigan. Any opinions, findings, and conclusions or recommendations expressed here are those of the author and do not necessarily reflect the views of the funding organizations.
11. Response rate = RR5, according to the standard definitions of the American Association for Public Opinion Research (AAPOR), http://www.aapor.org/Home.htm. The minimum response rate, RR1, was 59.5%.
12. The post-election minimum response rate, or RR1, according to AAPOR standard definitions, was 53.9%. The re-interview rate was 90.5%.
13. Participants were randomly divided into two groups, and each was asked the same question with slightly varying response categories. Results were similar, so the two groups were combined for analysis.
14. See previous note.

References

Abramowitz, A., & Saunders, K. (2005). Why can't we all just get along? The reality of a polarized America. *The Forum*, *3*(2), 1-22.

Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. (1950). *The authoritarian personality*. New York, NY: Harper & Row.

Altemeyer, B. (1988). *Enemies of freedom: Understanding right-wing authoritarianism*. San Francisco, CA: Jossey-Bass.

Amodio, D. M., Jost, J. T., Master, S. L., & Yee, C. M. (2007). Neurocognitive correlates of liberalism and conservatism. *Nature Neuroscience*, *10*, 1246-1247.

Barker, D. C., & Tinnick, J. D., III. (2006). Competing visions of parental roles and ideological constraint. *American Political Science Review*, *100*, 249-263.

Bartels, L. M. (2002). Beyond the running tally: Partisan bias in political perceptions. *Political Behavior*, *2*, 117-150.

Baum, M. A., & Groeling, T. (2008). New media and the polarization of American political discourse. *Political Communication*, *25*, 345-365.

Baumrind, D. (1968). Authoritarian vs. authoritative parental control. *Adolescence*, *3*, 255-272.

Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology Monograph*, *4*(1, Pt. 2).

Bennett, S. E. (1989). Trends in Americans' political information, 1967-1987. *American Politics Quarterly*, *17*, 422-435.

Blake, K. R., & Chen, C. (2012, November). *The roles of partisanship, conservative media diet and education in belief gaps about President Obama's birthplace: A conditional process model*. Paper presented at the annual meeting of the Midwest Association for Public Opinion Research, Chicago, IL.

Blake, K. R., & Culley, M. (2011, November). *Polarized lenses: Party identification and Tennesseans' ratings of the state and national economies (2004-2011)*. Paper presented at the annual meeting of the Midwest Association for Public Opinion Research, Chicago, IL.

Blee, K. M., & Creasap, K. A. (2010). Conservative and right-wing movements. *Annual Review of Sociology*, *36*, 269-286.

Brossard, D., Scheufele, D. A., Kim, E., & Lewenstein, B. V. (2009). Religiosity as a perceptual filter: Examining processes of opinion formation about nanotechnology. *Public Understanding of Science*, *18*, 546-558.

Burack, C. (2008). *Sin, sex, and democracy: Antigay rhetoric and the Christian Right*. Albany: State University of New York Press.

Cacciatore, M. A., Scheufele, D. A., & Corley, E. A. (2012). Another (methodological) look at knowledge gaps and the Internet's potential for closing them. *Public Understanding of Science*. Advance online publication. doi: 10.1177/0963662512447606

Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology*, *42*, 116-131.

Daves, R. P., White, H. A., & Everett, S. E. (2011, November). *The belief gap: More than just one issue*. Paper presented at the annual meeting of the Midwest Association for Public Opinion Research, Chicago, IL.

Delli Carpini, M. X., & Keeter, S. (1996). *What Americans know about politics and why it matters*. New Haven, CT: Yale University Press.

Dilliplane, S. (2011). All the news you want to hear: The impact of partisan news exposure on political participation. *Public Opinion Quarterly*, *75*, 287-316.

Eveland, W. P., Jr., & Dylko, I. (2007). Reading political blogs during the 2004 election campaign: Correlates and political consequences. In M. Tremayne (Ed.), *Blogging, citizenship and the future of media* (pp. 105-126). New York, NY: Routledge.

Eveland, W. P., Jr., & Scheufele, D. A. (2000). Connecting news media use with gaps in knowledge and participation. *Political Communication*, *17*, 215-237.

Feldman, S., & Stenner, K. (1997). Perceived threat and authoritarianism. *Political Psychology*, *18*, 741-770.

Fiorina, M. P., Abrams, S. J., & Pope, J. C. (2011). *Culture war? The myth of a polarized America* (3rd ed.). Boston, MA: Longman.

Gandy, O. H., Jr., & El Waylly, M. (1985). The knowledge gap and foreign affairs: The Palestinian-Israeli conflict. *Journalism Quarterly*, *62*, 777-783.

Garramone, G. M. (1983). TV news and adolescent political socialization. In R. N. Bostrom (Ed.), *Communication yearbook* 7 (pp. 651-669). Beverly Hills, CA: Sage.

Gauchat, G. (2008). A test of three theories of anti-science attitudes. *Sociological Focus*, *41*, 337-357.

Gauchat, G. (2010). *The politicization of science in the public sphere* (Doctoral dissertation). Retrieved from http://digitalcommons.uconn.edu/dissertations/AAI3476645

Gauchat, G. (2012). Politicization of science in the public sphere: A study of public trust in the United States, 1974 to 2010. *American Sociological Review*, *77*, 167-187.

Gaziano, C. (1997). Forecast 2000: Widening knowledge gaps. *Journalism & Mass Communication Quarterly*, *74*, 237-264.

Gaziano, C. (2001). Toward a broader conceptual framework for research on social stratification, childrearing patterns, and media effects. *Mass Communication and Society*, *4*, 219-244.

Gaziano, C. (2005). Comparative analysis of within-household respondent selection techniques. *Public Opinion Quarterly*, *69*, 124-157.

Gaziano, C. (2010). Notes on "Revisiting the knowledge gap hypothesis: A meta-analysis of thirty-five years of research." *Journalism & Mass Communication Quarterly*, *87*, 615-632.

Gaziano, C. (2012). Antecedents of knowledge gaps: Parenting knowledge and early childhood cognitive development—Review and call for research. *The Open Communication Journal*, *6*, 17-28.

Gaziano, C., & Gaziano, E. (2009). Theories and methods in knowledge gap research. In D. W. Stacks & M. Salwen (Eds.), *An integrated approach to communication theory and research* (2nd ed., pp. 122-136). New York, NY: Taylor & Francis.

Gaziano, C., & Horowitz, A. M. (2001). Knowledge gap on cervical, colorectal cancer exists among U.S. women. *Newspaper Research Journal*, *22*, 12-27.

Gaziano, E., & Gaziano, C. (1999). Social control, social change, and the knowledge gap hypothesis. In D. Demers & K. Viswanath (Eds.), *Mass media, social control and social change: A macrosocial perspective* (pp. 117-136). Ames: Iowa State University Press.

Gross, N., Medvetz, T., & Russel, R. (2011). The contemporary American conservative movement. *Annual Review of Sociology*, *37*, 325-354.

Hackman, D. A., & Farah, M. J. (2009). Socioeconomic status and the developing brain. *Trends in Cognitive Sciences*, *13*, 65-73.

Hindman, D. B. (2009). Mass media flow and differential distribution of politically disputed beliefs: The belief gap hypothesis. *Journalism & Mass Communication Quarterly*, *86*, 790-808.

Hindman, D. B. (2012). Knowledge gaps, belief gaps, and public opinion about health care reform. *Journalism & Mass Communication Quarterly*, *89*, 585-605.

Hindman, D. B., & Yan, C. (2012, August). *The knowledge gap vs. the belief gap and abstinence-only sex education*. Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, Chicago, IL.

Ho, S. S., Brossard, D., & Scheufele, D. A. (2008). Effects of value predispositions, mass media use, and knowledge on public attitudes toward embryonic stem cell research. *International Journal of Public Opinion Research*, *20*, 171-192.

Hunter, J. D. (1992). *Culture wars: The struggle to define America*. New York, NY: Basic Books.

Hwang, Y., & Jeong, S. H. (2009). Revisiting the knowledge gap hypothesis: A meta-analysis of thirty-five years of research. *Journalism & Mass Communication Quarterly*, *86*, 513-532.

Hwang, Y., & Jeong, S. H. (2010). Response to "Notes on 'Revisiting the knowledge gap hypothesis: A meta-analysis of thirty-five years of research.'" *Journalism & Mass Communication Quarterly*, *87*, 633-638.

Iyengar, S., & Hahn, K. S. (2009). Red media, blue media: Evidence of ideological selectivity in media use. *Journal of Communication*, *59*, 19-39.

Jacques, P. J., Dunlap, R. E., & Freeman, M. (2008). The organization of denial: Conservative think tanks and environmental skepticism. *Environmental Politics*, *17*, 349-385.

Jamieson, K. H., & Cappella, J. N. (2009). *Echo chamber: Rush Limbaugh and the conservative media establishment*. New York, NY: Oxford University Press.

Jerit, J., Barabas, J., & Bolsen, T. (2006). Citizens, knowledge, and the information environment. *American Journal of Political Science*, *50*, 266-282.

Johansen, M. S., & Joslyn, M. R. (2008). Political persuasion during times of crisis: The effects of education and news media on citizens' factual information about Iraq. *Journalism & Mass Communication Quarterly*, *85*, 591-608.

Johnson, T. J., & Kaye, B. K. (2004). Wag the blog: How reliance on traditional media and the Internet influence credibility perceptions of weblogs among blog users. *Journalism & Mass Communication Quarterly*, *81*, 622-642.

Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin*, *129*, 339-375.

Kim, S. H., Scheufele, D. A., & Shanahan, J. (2005). Who cares about the issues? Issue voting and the role of news media during the 2000 U.S. presidential election. *Journal of Communication*, *55*, 103-121.

Kleinnijenhuis, J. (1991). Newspaper complexity and the knowledge gap. *European Journal of Communication*, *6*, 499-522.

Kohn, M. L. (1976). Social class and parental values: Another confirmation of the relationship. *American Sociological Review*, *41*, 538-545.

Kohn, M. L. (1969/1989). *Class and conformity: A study in values, with a reassessment, 1977*. Chicago, IL: University of Chicago Press.

Kohn, M. L., Slomczynski, K. M., & Schoenbach, C. (1986). Social stratification and the transmission of values in the family: A cross-national assessment. *Sociological Forum*, *1*, 73-102.

Kwak, N. (1999). Revisiting the knowledge gap hypothesis: Education, motivation, and media use. *Communication Research*, *26*, 385-413.

Ladwig, P. J. (2010, November). *Knowledge or belief? Religiosity and ideology shape knowledge of controversial science*. Paper presented at the annual meeting of the Midwest Association for Public Opinion Research. Chicago, IL.

Lakoff, G. (2002). *Moral politics: How liberals and conservatives think* (2nd ed.). Chicago, IL: University of Chicago Press.

Layman, G. C., Carsey, T. M., & Horowitz, J. M. (2006). Party polarization in American politics: Characteristics, causes, and consequences. *Annual Review of Political Science*, *9*, 83-110.

Levendusky, M. (2009). *The partisan sort: How liberals became Democrats and conservatives became Republicans*. Chicago, IL: University of Chicago Press.

Liu, Y. I., & Eveland, W. P., Jr. (2005). Education, need for cognition, and campaign interest as moderators of news effects on political knowledge: An analysis of the knowledge gap. *Journalism & Mass Communication Quarterly*, *82*, 910-929.

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In P. H. Mussen (Ed.), *Handbook of child psychology* (Vol. 4., pp. 1-101). New York, NY: Wiley.

Mann, T. E., & Ornstein, N. J. (2012). *It's even worse than it looks: How the American constitutional system collided with the new politics of extremism*. New York, NY: Basic Books.

Marcus, G. E., Sullivan, J. L., Theiss-Morse, E., & Wood, S. L. (1995). *With malice toward some: How people make civil liberties judgments*. New York, NY: Cambridge University Press.

McCarty, N., Poole, K. T., & Rosenthal, H. (2006). *Polarized America: The dance of ideology and unequal riches*. Cambridge, MA: MIT Press.

McCrae, R. R. (1996). Social consequences of experiential openness. *Psychological Bulletin*, *120*, 323-337.

McCright, A. M., & Dunlap, R. E. (2011). The politicization of climate change and polarization in the American public's views of global warming, 2001-2010. *The Sociological Quarterly*, *52*, 155-194.

McLeod, D. M., & Perse, E. M. (1994). Direct and indirect effects of socioeconomic status on public affairs knowledge. *Journalism Quarterly*, *71*, 433-442.

Milbrath, L. W., & Goel, M. L. (1982). *Political participation: How and why do people get involved in politics?* (2nd ed.). Washington, DC: University Press of America.

Miller, J. D., Scott, E. C., & Okamoto, S. (2006). Public acceptance of evolution. *Science*, *313*, 765-766.

Mooney, C. (2005). *The Republican war on science*. New York, NY: Basic Books.

Morris, J. S. (2005). The Fox News factor. *Harvard International Journal of Press/Politics*, *10*(3), 56-79.

Mutz, D. C. (1987). Political alienation and knowledge acquisition. In M. L. McLaughlin (Ed.), *Communication yearbook* 10 (pp. 470-498). Newbury Park, CA: Sage.

Nash, G. H. (2006). *The conservative intellectual movement in America, since 1945* (3rd ed.). New York, YN: Basic Books.

Neuman, S. B. (2006). How we neglect knowledge—And why. *American Educator*, *30*, 24-27.

Oreskes, N., & Conway, E. M. (2010). *Merchants of doubt: How a handful of scientists obscured the truth on issues from tobacco smoke to global warming*. New York, NY: Bloomsbury Press.

Park, E., & Kosicki, G. M. (1995). Presidential support during the Iran-Contra affair: People's reasoning process and media influence. *Communication Research*, *22*, 207-236.

Peterson, B. E., Duncan, L. E., & Pang, J. S. (2002). Authoritarianism and political impoverishment: Deficits in knowledge and civic disinterest. *Political Psychology*, *23*, 97-112.

Peterson, B. E., Smirles, K. A., & Wentworth, P. A. (1997). Generativity and authoritarianism: Implications for personality, political involvement, and parenting. *Journal of Personality and Social Psychology*, *72*, 1202-1216.

Pew Research Center for the People & the Press (2011, December 1). *Modest rise in number saying there is "solid evidence" of global warming*. Retrieved from http://pewresearch.org/pubs/2137/global-warming-environment-partisan-divide-

Rokeach, M. (1960). *The open and closed mind*. New York, NY: Basic Books.

Scheufele, D. A. (2000). Talk or conversation? Dimensions of interpersonal discussion and their implications for participatory democracy. *Journalism & Mass Communication Quarterly*, *77*, 727-743.

Scheufele, D. A., Nisbet, M. C., Brossard, D., & Nisbet, E. C. (2004). Social structure and citizenship: Examining the impacts of social setting, network heterogeneity, and informational variables on political participation. *Political Communication*, *21*, 315-338.

Scheufele, D. A., Shanahan, J., & Kim, S. H. (2002). Who cares about local politics? Media influences on local political involvement, issue awareness, and attitude strength. *Journalism & Mass Communication Quarterly*, *79*, 427-444.

Shapiro, R. Y., & Bloch-Elkon, Y. (2008). Do the facts speak for themselves? Partisan disagreement as a challenge to democratic competence. *Critical Review*, *20*, 115-139.

Simmons, R. E., & Garda, E. C. (1982). Dogmatism and the "knowledge gap" among Brazilian mass media users. *Gazette*, *30*, 121-133.

Smith, A. M. (2001). Why did Armey apologize? Hegemony, homophobia, and the Religious Right. In A. E. Ansell (Ed.), *Unraveling the Right: The new conservatism in American thought and politics* (pp. 148-172). New York, YN: Westview.

Stamm, K. R., Emig, A. G., & Hesse, M. B. (1997). The contribution of local media to community involvement. *Journalism & Mass Communication Quarterly*, *74*, 97-107.

Stone, W. F., Lederer, G., & Christie, R. (1993). *Strength and weakness: The authoritarian personality today*. New York, NY: Springer-Verlag.

Sturgis, P., & Allum, N. (2004). Science in society: Re-evaluating the deficit model of public attitudes. *Public Understanding of Science*, *13*, 55-74.

Templeton, F. (1966). Alienation and political participation: Some research findings. *Public Opinion Quarterly*, *30*, 249-261.

Tewkesbury, D. (2005). The seeds of audience fragmentation: Specialization in the use of online news sites. *Journal of Broadcasting & Electronic Media*, *49*, 332-348.

Thomson, I. T. (2010). *Culture wars and enduring American dilemmas*. Ann Arbor: University of Michigan Press.

Tichenor, P. J., Donohue, G. A., & Olien, C. N. (1970). Mass media flow and differential growth in knowledge. *Public Opinion Quarterly*, *34*, 159-170.

Treier, S., & Hillygus, D. S. (2009). The nature of political ideology in the contemporary electorate. *Public Opinion Quarterly*, *73*, 679-703.

Veenstra, A. S., Hossain, M. D., & Lyons, B. A. (in press). *Partisan* and discussion as enhancers *of the belief gap*. *Mass Communication and Society*.

Viswanath, K., & Finnegan, J. R., Jr. (1996). The knowledge gap hypothesis: Twenty-five years later. In B. R. Burleson (Ed.), *Communication yearbook* 19 (pp. 187-227). Thousand Oaks, CA: Sage.

Viswanath, K., Finnegan, J. R., Jr., Hannan, P. J., & Luepker, R. V. (1991). Health and knowledge gaps: Some lessons from the Minnesota Heart Health Program. *American Behavioral Scientist*, *34*, 712-726.

Weininger, E. B., & Lareau, A. (2009). Paradoxical pathways: An ethnographic extension of Kohn's findings on class and childrearing. *Journal of Marriage and Family*, *71*, 680-695.

Williams, D. R., & Collins, C. (1995). US socioeconomic and racial differences in health: Patterns and explanations. *Annual Review of Sociology*, *21*, 349-386.

Yearley, S. (2005). *Making sense of science: Understanding the social study of science*. London, England: Sage.

Young, D., & Brewer, P. (2012). *Survey of America's perceptions of the occupy Wall Street movement*. Newark, NJ: Center for political communication, University of Delaware. Retrieved from http://www.udel.edu/cpc/research/ows2012/Site/Occupy_Wall_Street_Research_2012.html

Zaller, J. R. (1992). *The nature and origins of mass opinion*. New York, NY: Cambridge University Press.

Zimmerman, J. (2002). *Whose America? Culture wars in the public schools*. Boston, MA: Harvard University Press.

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