



Received: 15 August 2016  
Accepted: 09 December 2016  
First Published: 09 January 2017

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## SOCIAL PSYCHOLOGY | RESEARCH ARTICLE

# Adult attachment style and beliefs about public affairs and scientific issues

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**Abstract:** As political polarization has rapidly increased since the 1970s in the United States, controversies about the facts of public affairs and scientific issues have also intensified. Disagreements occur especially between the most educated Democrats and the most educated Republicans. Concepts relevant to a relational variable that helps to explain differences in cognitive development in children, called attachment style, may illuminate differences in beliefs of adults about public affairs issues. National general population surveys were conducted online in 2013 and 2014, containing an adult attachment style self-report instrument with questions on beliefs about a number of public affairs topics. While several studies examine adult attachment and political ideology or partisanship, this paper is among the first to focus on adult attachment and specific contested political and scientific beliefs. The findings suggest that adult attachment styles may partly explain why belief gaps develop between more and less advantaged groups.

**Subjects:** Communication Theory; Mass Communication; Political Communication

**Keywords:** adult attachment style; political beliefs; belief gap; partisanship; religiosity; media trust

### 1. Political conflict and beliefs about issue facts

Until recently many researchers have assumed that perceptions of the facts about issues disseminated by mass media are widely shared among all groups receiving information about them. Upsurges in political polarization in the United States reveal, however, that different groups do not agree on the facts or their implications for many issues (Daves, White, & Everett, 2011; Gaines, Kuklinski, Quirk, Peyton, & Verkuilen, 2007; Garrett, Weeks, & Neo, 2016; Kull, Ramsay, & Lewis, 2003;



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Cecilie Gaziano is a consultant at Research Solutions, Inc., in Minneapolis, Minnesota, USA. She holds Master's and Doctoral degrees in mass communication theory and methods from the University of Minnesota and is a fellow of the Midwest Association for Public Opinion Research. Her research interests include the knowledge gap and belief gap hypotheses, mass media and their audiences, and social science and medical research on parents, children, and families. She has authored or co-authored articles in journals of mass media, communication, public opinion, health, and medicine, as well as several chapters in edited books and entries in three international encyclopedias on media effects, communication, and survey research methods.

### PUBLIC INTEREST STATEMENT

The paper "Adult attachment style and beliefs about public affairs and scientific issues" looks at a concept called adult attachment style in connection with political party and political beliefs in the United States. The research problem stems from findings that partisans on opposite sides of contested issues frequently define the issues in terms so different that coming to an agreement is difficult. Often there is a conflict between people who rely on scientific evidence and people who draw on religious convictions. Attachments may be secure or insecure. Secure attachments promote intellectual development in children and may do so in adults. On the whole, insecure attachment styles were related to conservative, or Republican, beliefs in about half the comparisons of beliefs about issues.

Nyhan & Reifler, 2010). Study of these changes led to a “belief gap hypothesis” that extends the “knowledge gap hypothesis” proposed by Tichenor, Donohue, and Olien (1970). The knowledge gap hypothesis states:

As the infusion of mass media information into a social system increases, segments of the population with higher socioeconomic status [SES] 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)

Conflict, however, often brings issue knowledge to the attention of all social groups, leading to narrowing of knowledge differentials between more and less advantaged groups (Tichenor, Donohue, & Olien, 1980)—presuming that all are seeing the information in the same way.

The belief gap hypothesis states:

Political ideology is a better predictor of the distribution of politically disputed beliefs than is education. 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. (Hindman, 2009, p. 794)

Principally, contested political beliefs tend to depend on whether the beliefs are held by liberals or conservatives, Democrats or Republicans (Garrett et al., 2016; Hindman, 2009, 2012; Hindman & Yan, 2015; Veenstra, Hossain, & Lyons, 2014; Veenstra, Lyons, & Fowler-Dawson, 2016).

The most educated citizens are often the most divided if they are partisans on the opposite sides of issues. Joslyn and Haider-Markel (2014, pp. 926–927) explain this:

On the one hand, the cognitive development produced by education allows citizens to access an array of available information, process that information, and evaluate the alternatives. On the other, party identification narrows the information environment, attracting certain sources while ignoring others. Education provides a more thoughtful and effortful information search, whereas party identification engenders a biased use of information to arrive at a preferred conclusion.

Belief gap researchers conceive of knowledge as facts supported by scientific study and beliefs as views accepted without systematic scrutiny (Hindman, 2009, 2012). Perceived conflict between religion and science is often cited as the reason for political disputes between conservatives and liberals about issues (Gauchat, 2012; Hindman, 2009; McCright & Dunlap, 2011; Miller, Scott, & Okamoto, 2006). All knowledge can be thought of as a form of belief, however (Gaziano, 2013; Gaziano & Gaziano, 1999; McCright & Dunlap, 2011). In this paper, convictions about issues, whether based in science, religion, or other domains, will be treated as beliefs. Conflict may bring topics to the attention of a variety of social groups, who may take divergent views of those topics. They may disagree on what constitutes a fact or truth, and even if they agree on the facts, they may disagree on the interpretation of those facts (Gaines et al., 2007; Garrett et al., 2016; Hindman, 2009, 2012; Kull et al., 2003; Nyhan & Reifler, 2010).

The present paper reports on an exploratory study of political partisanship and beliefs in the context of a relational concept, adult attachment style. Concepts relevant to attachment may help to explain differences in beliefs of Republicans and Democrats. Previous researchers report mixed results for the relation of attachment and political ideology or partisanship (Koleva & Rip, 2009). Little, if any, research, however, has centered on adult attachment and specific contested public affairs and scientific beliefs.

## 2. Why adult attachment may affect beliefs

The attachment process influences variables pertinent to acquisition of beliefs and knowledge. The earliest relationships in life affect perceptions of power and authority (Barker & Tinnick, 2006; Feldman & Stenner, 1997; Lakoff, 2002) and may be the underpinnings of ideology and partisanship. These perceptions may derive from what is called attachment. The concept of adult attachment is receiving attention for its potential connection to ideology and partisanship (Dunkel & Decker, 2012; Gillath & Hart, 2010; Koleva & Rip, 2009; Thornhill & Fincher, 2007; Weber & Federico, 2007; Weise et al., 2008). Many researchers believe that adult attachment relationships derive from infant attachment, although theories and measurement of adult attachment style and infant attachment differ in many ways (Crowell & Treboux, 1995; Hazan & Shaver, 1987; Mikulincer & Shaver, 2003; Simpson, Rholes, & Phillips, 1996).

Infant attachments may be secure or insecure (Ainsworth, Blehar, Waters, & Wall, 1978; Mikulincer & Shaver, 2003). Secure attachment is fostered by the caregiver's ability to respond to the infant's emotional needs, anxiety, and distress with consistent comfort and reliability, so that the infant can trust the caregiver as a safe base from which to explore the environment (Ainsworth et al., 1978; Bowlby, 1988). Infants whose caregivers do not respond consistently to their emotional needs are more likely to develop insecure attachments. They have learned that the caregiver's ability to provide comfort and safety is unpredictable. They may feel powerless and fearful, have low self-esteem, and lack interest in new experiences. Their attachment system is hyperactivated in response to their anxiety (Ainsworth et al., 1978; Cassidy & Kobak, 1988; Main, 1990). This type of insecure attachment is called anxious-ambivalent. In more extreme cases where the infant learns that the caregiver consistently is unable to support the child emotionally, the child develops an insecure anxious-avoidant attachment. This child deactivates his or her attachment system in order to lower anxiety by restricting close relationships and emotional connections (Brennan, Clark, & Shaver, 1998; Griffin & Bartholomew, 1994; Mikulincer, 1998). Bowlby ([1969] 1982) theorized that children develop "working models" of relationships from these early experiences.

Individuals develop strategies to manage anxiety in relationships with others, based on their childhood experiences; however, they may be able to revise their coping strategies in response to later experiences. People with anxious-ambivalent attachment styles fear abandonment and often seek to merge with others. They may be approval-seeking, dependent, preoccupied, and self-critical (Collins & Read, 1990; Mikulincer & Florian, 1998; Simpson et al., 1996). Those with anxious-avoidant styles often seek emotional distance from others. They can construct a facade of self-reliance; they may be negative, cynical, and angry at perceived slights; and they can seek control over others (Brennan et al., 1998; Griffin & Bartholomew, 1994; Mikulincer, 1998; Mikulincer & Shaver, 2003). Securely attached individuals exhibit confidence in others, tolerance, capacity for intimacy, autonomy, and greater connections to others (Brennan et al., 1998; Hazan & Shaver, 1987; Mikulincer, 1998).

The quality of attachment in earliest life may impact cognitive development (Cassidy, 1986; De Ruiter & Van Ijzendoorn, 1993; Jacobsen, Edelstein, & Hofmann, 1994). This is because attitudes of trust and self-efficacy promote thinking, problem-solving, information processing, and attitudes toward learning. Attachment, therefore, may be an important factor in explaining development of political beliefs in adulthood. The objective of the present research was to determine if adult attachment is related to beliefs about scientific and public affairs issues.

There are several scales to measure attachment style in adults. Carver's (1997) Measure of Attachment Qualities (MAQ) was selected as suitable for a general population survey, as a result of examining results of several reports using this measure (Carver, 1997; Hollist & Miller, 2005; Roccato, 2008; Roccato & Ricolfi, 2005; Roccato, Russo, & Senestro, 2013; Segal, Needham, & Coolidge, 2009). Many self-report attachment measures treat security and avoidance as polar opposites. Carver (1997) thought of avoidance as a quality to be considered separately from security, even though these two variables were inversely related. Separate factor loadings for the items measuring the

different scale components supported this contention (Carver, 1997; Hollist & Miller, 2005; Kim & Carver, 2007; Segal et al., 2009). Similarly, Carver's (1997) research found two types of anxious-ambivalent attachment: merger and worry, each of which expressed separate qualities according to factor loadings (Carver, 1997; Hollist & Miller, 2005; Segal et al., 2009). Ambivalent-worry captures fear of abandonment or relationship betrayal, positive view of self, and negative view of others. Ambivalent-merger denotes desire for closeness, preoccupation, negative view of self, and positive view of others. Although some other adult attachment scales contain one dimension that includes both the worry and merger forms of ambivalence, confirmatory factor analysis and other research validated separation into two constructs (Carver, 1997; Hollist & Miller, 2005; Roccato, 2008; Roccato & Ricolfi, 2005; Roccato et al., 2013; Segal et al., 2009).

### 3. Intervening variables

Variables that may affect the relationship between attachment and ideology, and also are pertinent to belief gaps were measured. These included trust, religiosity, and formal education.

#### 3.1. Trust

Child development research identifies early attachment as a process of relationship experiences that enhance or restrict a child's development of trust, confidence, and interest in learning (Bowlby, [1969] 1982; De Ruiter & Van Ijzendoorn, 1993; Erickson & Egeland, 2004; Sroufe, Egeland, Carlson, & Collins, 2005). Because attachment styles tend to be stable throughout life, one may expect that more secure individuals will be higher in trust and interest when they reach adulthood (Ainsworth, 1991; Fraley, 2002; Fraley & Shaver, 2000; Hazan & Shaver, 1987; Simpson, Collins, Tran, & Haydon, 2007).

A type of trust relevant to belief gaps, ideology, and partisanship is trust in mass media to report news in an accurate, unbiased way (Gaziano, 2014; Hindman, 2009). In the US, many observers view media distrust as a serious problem for a democratic society, since media dissemination of news is an important element in the political process (Jones, 2004). Conservatives increasingly tend to distrust mainstream news media as too liberal and to favor news channels that cover news from a conservative point of view, such as Fox, and liberals are more disposed to choose CNN, MSNBC, and NPR (Hindman, 2009; Hindman & Yan, 2015; Jamieson & Cappella, 2009; Jones, 2004; Lee, 2010; Morris, 2005).

#### 3.2. Religiosity

People often comprehend complicated or controversial public affairs and scientific issues such as abortion or global warming by using their value predispositions, such as religious values or heuristic cues from news media, religious institutions, and political elites (Brossard, Scheufele, Kim, & Lewenstein, 2009; Hindman, 2009; Ho, Brossard, & Scheufele, 2008). Being religious is often related to being conservative (Roccato, 2008) and is frequently a factor in conservatives' distrust of scientific information, for instance (Brossard et al., 2009; Gauchat, 2012; Ho et al., 2008).

#### 3.3. Political orientations

Ideology and partisanship are major divisive factors among citizens today (Abramowitz & Saunders, 2005; Hindman, 2009; Layman, Carsey, & Horowitz, 2006; McCright & Dunlap, 2011; Shapiro & Bloch-Elkon, 2008). In the US, the primary political parties are Republicans and Democrats.

#### 3.4. Demographic variables

Education, household income, gender, age, and race play roles in acquiring relevant information and defining its meaning. In particular, formal schooling may have a liberalizing effect on many people because of increased cognitive development, sophistication, abstract thinking, increased opportunity to meet people of varied backgrounds, and augmented political expertise and understanding of the importance of democratic principles (Altemeyer, 1981, 1996, 1998). On the other hand, education is a component of divisiveness in combination with ideology and political party identification (Joslyn & Haider-Markel, 2014; Pew Research Center, 2016).

#### 4. Research question

Since the literature emphasizes the importance of secure attachments for cognitive development and since research conflicts as to whether attachment is related to political orientation, there is some question as to whether specific beliefs conditioned by political views may relate to attachment. The following research question, therefore, is proposed.

RQ1. Is security of adult attachment style related to specific beliefs about public affairs and scientific issues?

#### 5. Study 1

##### 5.1. Data and method

A national general population survey in the United States was conducted online through SurveyMonkey during 27 September–1 October 2013 ( $N = 330$ ). The response rate was 35.1% of persons invited to take part. The survey contained 50 questions and took about 10 minutes to complete. Its title was “Opinions about Topics in the News, Interpersonal, and Social Issues.” SurveyMonkey recruits thousands of people to participate in its customers’ surveys, who fill out personal profiles upon enrollment and who are compensated by donations to charitable organizations and entries in sweepstakes. The company says that it maintains benchmarking surveys to make sure that their panels are representative of the US population. Though Internet surveys are relatively inexpensive and quick, they also tend to over represent higher SES groups, compared with telephone and face-to-face surveys (Zickuhr & Rainie, 2013). A second study carried out in 2014 is described later in this report. Participants gave informed consent by registering in SurveyMonkey’s panel and accepting the survey. No identifying information is in data provided by SurveyMonkey.

##### 5.2. Independent variable: Adult attachment

Carver’s (1997) MAQ is a self-report with 14 Likert-type categories that have endpoints of “disagree with the statement a lot” and “agree with the statement a lot.” It yields four subscales of three to five items gauging secure attachment, avoidant attachment, and two types of ambivalent patterns—worry and merger. Examples include the following: “Being close to someone gives me a source of strength for other activities.” “I often worry my partner will not want to stay with me.” “I get uncomfortable when someone wants to be very close.”

Three items were reverse coded, and the scales were averaged to be on the same metric. Internal consistency for Study 1 was: security,  $\alpha = 0.71$ ; avoidance,  $\alpha = 0.80$ ; ambivalent-worry,  $\alpha = 0.77$ ; and ambivalent-merger,  $\alpha = 0.75$ . These results are congruent with other reports (Carver, 1997; Kim & Carver, 2007; Kim, Carver, Deci, & Kasser, 2008; Segal et al., 2009).

##### 5.3. Dependent variables: Beliefs about issues

The belief answers supported by scientific research are shown in italics. These answers were coded as “0”; non-scientific belief answers were coded as “1.” Categories were rotated.

###### 5.3.1. Evolution

The question was:

*Some people think that humans and other living things have evolved over time.* Others think that humans and other living things have existed in their present form since the beginning of time. Which of these comes closer to your view?

###### 5.3.2. Global warming and its causes

Participants were asked: “From what you’ve read and heard, is there solid evidence that the average temperature on earth has been getting warmer over the past few decades, or not?” If they said “yes,” they were asked: “Do you believe that the earth is getting warmer *mostly because of human activity such as burning fossil fuels* or mostly because of natural patterns in the earth’s environment?”

### 5.3.3. *Sexual orientation*

In your opinion, do you think that homosexuality is: (1) something that people are born with, (2) something that develops because of the way people are brought up, (3) or is it just the way that some people prefer to live?

There is no scientific consensus yet about causes of sexual orientation (Långström, Rahman, Carlström, & Lichtenstein, 2010; Osmundson, 2011; Sanders et al., 2015). Answer category (1) was coded “0” as a belief that homosexuality cannot be changed. The other two answer categories were combined and coded “1” as consistent with belief that it can be changed.

## 5.4. *Intervening variables*

### 5.4.1. *Trust in media*

Participants were asked, “How much of the time do you think you can trust the media to report the news fairly?” (five-point scale ranging from “always” to “never,” recoded so 5 = high trust).

### 5.4.2. *Religious value predispositions*

Respondents were asked to evaluate the importance of religion in their lives and frequency of attending religious services on five-point scales. The end points were “extremely important” and “not important at all” for the first measure and “every week” to “never” for the second. Responses were combined to form a religiosity score and recoded so high scores meant very religious (Cronbach’s  $\alpha = 0.86$ , Study 1 and Study 2).

### 5.4.3. *Political party identification*

Respondents were asked: “In politics today, which describes your views the best?” with a seven-point scale anchored by “strong Republican” and “strong Democrat” (with the option of “other, please specify”). “Don’t know” and “other” responses were excluded in the analysis. Respondents also were asked about ideological identification on a seven-point scale arranged from “extremely liberal” to “extremely conservative.” Ideology was not used in the regression analyses because it was highly correlated with partisanship at  $r = 0.70$ ,  $p < 0.001$  in the first study and  $0.76$  ( $p < 0.001$ ) in the second study.

### 5.4.4. *Demographics*

Demographic control variables were gender, age, education, and household income. Gender was a dichotomous variable with male coded as “0” and female coded as “1.” Age was continuous, computed from a question asking year of birth. Education was ordinal with five categories ranging from “less than high school” to “graduate degree.” Household income was ordinal, concerning the total combined money earned by all household members during the previous year, with seven categories that had endpoints of “less than \$20,000” and “\$150,000 or more.” Data were also collected on race and Hispanic ethnicity but excluded from analysis because there were too few cases of non-whites and Hispanics for analysis.

## 6. **Results**

In Study 1, the 2013 sample contained a larger share of women, people with higher education and incomes, and the middle-aged than national census data of the same period, shown in Table 1. (Tables 1 and 2 give results for Study 2 in 2014, which will be discussed later.) The 2013 sample also disproportionately represented whites and non-Hispanics, compared with the census (not shown).

The 2013 sample was more likely to be Democratic than the general population, as shown by a *t*-test comparison with the General Social Survey conducted by NORC in 2014, based on the same question about political party identification, but this difference was not statistically significant at 0.05 or better (Table 2). The 2014 samples will be considered later.

**Table 1. Comparisons of 2013 and 2014 demographic data with national census data<sup>a</sup>**

Variables	2013 general population sample (N = 330) (%)	2014 general population sample (N = 223) (%)	2014 conservative sample (N = 202) (%)	2013 American community survey (N = 163,663) (%)
<i>Gender</i>				
Males	45.5	44.8	55.4	48.6
Females	54.5	55.2	44.6	51.4
<i>Education</i>				
No high school degree	0.6	0.9	0.5	13.6 <sup>b</sup>
High school degree	9.7	7.6	12.4	28.0
Some college	35.7	34.1	34.7	29.2
College degree	30.0	30.9	28.2	18.2
Graduate work/degree	23.9	26.5	24.3	11.0
<i>Household income</i>				
Less than \$20,000	9.4	13.5	7.9	18.8
\$20,000–\$34,999	11.6	13.0	11.4	16.0
\$35,000–\$49,999	10.6	15.2	14.9	13.7
\$50,000–\$74,999	23.7	13.0	20.3	18.1
\$75,000–\$99,999	17.9	15.7	15.3	11.8
\$100,000–\$149,999	17.6	17.9	13.9	12.4
\$150,000 or more	9.1	11.7	16.3	9.2
<i>Age</i>				
18–24 years	7.9	14.3	7.4	12.8
25–34 years	16.1	17.9	11.4	17.6
35–44 years	22.4	17.5	14.9	16.8
45–54 years	20.3	23.3	16.3	18.3
55–64 years	20.3	16.6	25.7	16.2
65 years or older	13.0	10.3	24.3	18.3

<sup>a</sup>Some totals do not add to 100% because of rounding.

<sup>b</sup>Based on adults aged 25 years or older.

The four attachment variables and political party affinity were uncorrelated (Table 3). The only variables correlated with party were religiousness and media distrust. Interestingly, however, trust in media reporting and religiousness was unrelated. See Appendix A for descriptive statistics of continuous variables.

Secure attachment correlated negatively with anxious-avoidance,  $-0.45$  ( $p < 0.001$ ), and it was unrelated to anxiety-worry or anxiety-merger. Worry and merger were interrelated at  $0.47$  ( $p < 0.001$ ). Avoidance was associated with both ambivalent-worry and ambivalent-merger at  $0.27$  ( $p < 0.001$ ). These results were relatively congruent with previous work (Carver, 1997; Hollist & Miller, 2005; Kim & Carver, 2007; Kim et al., 2008; Segal et al., 2009).

Security was related to greater media trust and to higher household incomes. Avoidance was negatively related to religiousness, trust in media, and household income. Worry was negatively correlated with religiosity and age. Anxious-ambivalence-merger styles were not associated with

**Table 2. t-tests on partisanship results for 2013 sample, 2014 samples, and 2014 national General Social Survey (GSS) sample obtained from the National Opinion Research Center at the University of Chicago, IL, USA**

Partisan identification				
	Mean	SD	Median	N
2013 general audience sample <sup>a,b</sup>	3.46	1.73	4	313
2014 general audience sample <sup>b,c,d</sup>	3.43	1.61	3	204
2014 conservative sample <sup>c,e</sup>	5.45	1.32	6	194
2014 GSS <sup>a,d,e</sup>	3.66	1.92	4	2,450

Notes: Partisanship was measured on a seven-point scale, where lowest = “strong Democrat,” highest = “strong Republican,” and 4 = “Independent.” “Don’t know” responses and identification with other parties excluded.

<sup>a</sup>t = 1.75, df = 2,761, p = 0.10.

<sup>b</sup>t = 0.20, df = 515, p < 0.84.

<sup>c</sup>t = 13.65, df = 396, p < 0.001.

<sup>d</sup>t = 1.66, df = 2,652, p = 0.10.

<sup>e</sup>t = 12.72, df = 2,642, p = 0.001.

**Table 3. Pearson correlations for main variables in 2013 survey**

	Party ID <sup>a</sup>	Security	Avoidance	Worry	Merger	Religiosity	Media trust	Education	Household income	Age
Party ID	–									
Security	–0.07	–								
Avoidance	–0.06	–0.45***	–							
Worry	–0.09	–0.01	0.27***	–						
Merger	–0.07	0.02	0.27***	0.47***	–					
Religiosity	0.25***	0.05	–0.23***	–0.15**	–0.00	–				
Media trust	–0.29***	0.23***	–0.14*	0.05	0.06	0.02	–			
Education	–0.04	0.10 <sup>†</sup>	–0.08	–0.06	0.04	0.05	0.11*	–		
Household income	0.07	0.14*	–0.13*	–0.09 <sup>†</sup>	–0.07	–0.04	0.11*	0.26***	–	
Age	0.06	0.07	–0.07	–0.14*	0.05	0.12*	0.17**	0.15**	0.07	–

Note: N = 313 (17 observations missing).

<sup>a</sup>High = Republican, low = Democrat.

<sup>†</sup>p < 0.10.

\*p < 0.05.

\*\*p < 0.01.

\*\*\*p < 0.001 (two-tailed).

other variables besides avoidance and worry attachment styles. Other researchers report that more people are securely attached than insecurely attached (Peterson & Park, 2007; Shallcross, Howland, Bemis, Simpson, & Frazier, 2011). The present study also found that a larger share of respondents scored highly on secure attachment style than the segments of respondents who scored highly on the insecure attachment styles.

Beliefs about evolution were regressed on main variables in a binary logistic procedure, first on a block containing education, household income, age, and gender, and in a second block including religiousness, trust in mass media as news sources, and political party identification (Table 4, left-hand side). Then came a third block for the four styles of adult attachment. Belief that evolution is not true was significantly associated with lower education, higher religiosity, and higher level of

**Table 4. Binary logistic regression results for belief outcomes in 2013 and 2014 conservatives**

	2013 general population sample		2014 conservative sample		
	Evolution is untrue (=1)	Homosexuality can be changed (=1)	Government can't afford to help needy (=1)	Blacks are mostly responsible (=1)	Government is wasteful (=1)
Education	-0.668***	-0.390*	0.583 <sup>†</sup>	-0.294	-0.265
Household income	0.036	-0.029	0.376*	-0.011	0.128
Age	0.006	0.020 <sup>†</sup>	0.000	0.023	0.038**
Gender (1 = female)	0.323	-1.112***	0.178	0.592	0.982*
Block 1 $\chi^2$	16.375**	26.149***	19.189***	6.020	13.421**
Religiosity	0.369***	0.262***	0.002	-0.423**	-0.151 <sup>†</sup>
Media trust	-0.260	-0.186	-0.048	-0.168	-0.550*
Party ID <sup>a</sup>	0.141	0.401***	0.466*	0.634**	0.411*
Block 2 $\chi^2$	63.750***	63.255***	10.514*	22.604***	14.322**
Secure	-0.051	-0.111 <sup>†</sup>	0.140	0.082	-0.108
Avoidant	-0.082	-0.032	0.302*	-0.066	-0.090
Worry	0.096*	0.010	-0.234*	-0.119	-0.155*
Merger	-0.029	-0.011	0.174	0.174 <sup>†</sup>	0.100
Block 3 $\chi^2$	6.023	3.630	14.730**	5.695	5.162
<i>Tests</i>					
Model likelihood ratio test $\chi^2$ , <i>df</i> = 11	86.148***	93.034***	44.433***	34.319***	32.906***
Goodness of fit: Hosmer & Lemeshow <i>df</i> = 8	6.957	9.170	11.926	12.175	9.814
Nagelkerke <i>R</i> <sup>2</sup>	0.346	0.401	0.388	0.308	0.261
<i>N</i>	313 (17 missing)	272 (58 missing)	194 (8 missing)	194 (8 missing)	194 (8 missing)

Notes: Entries are betas from binary logistic regressions. Republican, or more conservative, beliefs are coded = 1.

<sup>a</sup>High = Republican, low = Democrat.

<sup>†</sup>*p* < 0.10.

\**p* < 0.05.

\*\**p* < 0.01.

\*\*\**p* < 0.001 (two-tailed).

anxious-ambivalent-worry attachment style. Political party was not a predictor. The first two blocks were statistically significant, but as a block, attachment style scores were not significant. The Hosmer and Lemeshow test yielded a low chi-square that was not statistically significant, suggesting a well-fitting model. The likelihood ratio test indicated that the model did better than chance at predicting the dependent variable and was statistically significant.

Table 4 also presents a binary logistic regression in which beliefs about changeability of sexual orientation were regressed on the same blocks of variables as shown for evolution. Primary predictors of belief that sexual orientation can be changed were lower education, male gender, greater religiosity, and higher Republican party identification. Being older and scoring lower on secure attachment style may be important, also, but these variables were significant only at 0.10. Researchers may not accept significance levels of 0.10 as consequential; however, such levels are reported here

as indications of relationships that could be explored more fully in future work. The model did well in this table, but the block of attachment variables was not significant.

Belief that global warming is not a real phenomenon was regressed on the same demographic, attachment, value, and attitude variables as the two previous belief variables (not shown). Here, however, neither the attachment styles nor the demographics were significant. The only statistically significant predictor was Republican partisanship, and model fit was poor. Belief that global warming is occurring because of human activity was regressed on the same blocks of variables (not shown). The only significant variable again was Republican party identification, and the model tests did not signify a well-fitting model.

These results did not satisfactorily answer the research question about adult attachment styles and beliefs, so additional research was needed.

## 7. Study 2

### 7.1. Data and method

Two new national samples were drawn from SurveyMonkey participants 23–24 September 2014. One sample was of the general population ( $N = 223$ ), and the other was predominantly conservative ( $N = 202$ ). The conservatives were sought because of a desire to compensate for the liberal skew of the sample in Study 1. Independent and intervening variables were the same as in Study 1, but new belief variables were added.

### 7.2. Dependent variables: Beliefs about issues

#### 7.2.1. Obama's birthplace

Which of the following statements expresses your opinion about where President Barack Obama was born? Do you think that President Barack Obama: (1) Definitely was born in the United States. (2) Probably was born in the United States. (3) Probably was born in another country. (4) Definitely was born in another country?

(Responses to the first two items were coded “0,” as supported by Barack Obama’s birth certificate, a position held by most Democrats, and responses to the last two items were coded “1,” for Republican, more conservative, belief.)

#### 7.2.2. Common Core

“A topic that sometimes has been controversial is Common Core standards in public education. Which of the two statements below best describes this issue, in your opinion?” [The first item is a Republican, or more conservative, response, coded “1,” and the second is a Democratic, or more liberal, response, coded “0.” Statement order was randomized in the survey.] (1) Common Core standards in public education were developed by the National Governors Association, working with an organization of state school superintendents, with the intent of advancing educational standards and identifying the math and literacy skills that every student at each grade level should have. (2) “Common Core standards in public education were developed by the Obama administration to teach values to children at an early age that appear to be anti-Christian, anti-American, and anti-family ideas.”

#### Other public affairs issues

For the following beliefs, participants were instructed: “Please mark the statement that comes closer to your views.” Questions are from Pew Research Center (2014) and were designed to separate Democrats and liberals from Republicans and conservatives. The Republican answer is shown as number “1” below, and the Democratic response is “2,” although statement order was randomized in the survey.

### 7.2.3. *Racial discrimination*

(1) “Blacks who can’t get ahead in this country are mostly responsible for their own condition.” (2) “Racial discrimination is the main reason why many black people can’t get ahead these days.”

### 7.2.4. *The needy*

(1) “The government today can’t afford to do much more to help the needy.” (2) “The government should do more to help needy Americans, even if it means going deeper into debt.”

### 7.2.5. *The environment*

(1) “Stricter environmental laws and regulations cost too many jobs and hurt the economy.” (2) “Stricter environmental laws and regulations are worth the cost.”

### 7.2.6. *Government waste*

(1) “Government is almost always wasteful and inefficient.” (2) “Government often does a better job than people give it credit for.”

### 7.2.7. *Business*

(1) “Government regulation of business usually does more harm than good.” (2) “Government regulation of business is necessary to protect the public interest.”

### 7.2.8. *Government benefits*

(1) “Poor people today have it easy because they can get government benefits without doing anything in return.” (2) “Poor people have hard lives because government benefits don’t go far enough to help them live decently.”

### 7.2.9. *Immigration*

(1) “Immigrants today are a burden on our country because they take our jobs, housing and health care.” (2) “Immigrants today strengthen our country because of their hard work and talents.”

### 7.2.10. *Ensuring peace*

(1) “The best way to ensure peace is through military strength.” (2) “Good diplomacy is the best way to ensure peace.”

### 7.2.11. *Profits*

(1) “Most corporations make a fair and reasonable amount of profit.” (2) “Business corporations make too much profit.”

### 7.2.12. *Homosexuality*

(1) “Homosexuality should be discouraged by society.” (2) “Homosexuality should be accepted by society.”

### 7.2.13. *Genetically modified organisms*

GMO science belief scores on this issue were obtained by counting each answer supported by scientific research as “1” and summing those answers (Cronbach’s  $\alpha = 0.71$  for both the general population and conservative samples).

“We hear a lot in the news today about GMOs or ‘genetically modified organisms.’ Below are some possible definitions of genetic modification. Which of the following statements about genetic modification are true, and which are false?” [Questions below are labeled “T” (true) if supported by scientific research and “F” (false) if not supported by scientific study. For questions and answers, see: Hallman, Hebden, Cuite, Aquino, and Lang (2004); Legge and Durant (2010); Nicolia, Manzo, Veronesi, and Rosellini (2014)].

- “Genetic modification is a process by which scientists can change the genes in some food crops and farm animals to make them taste better and stay fresh longer.” (F)
- “Genetic modification is a process by which scientists can change the genes in some food crops and farm animals to make them grow faster or bigger and be more resistant to bugs, weeds and disease.” (T)
- “Genetic modification is a process by which scientists can change the genes in some food crops and farm animals so they can reproduce on their own and live longer creating everlasting yield.” (F)
- “Most processed foods in the United States contain an ingredient from a GM crop.” (T)
- “Human cells and human genes function differently from those in animals and plants.” (F)
- “By eating genetically modified fruit, a person’s genes may become altered.” (F)
- “Ordinary tomatoes contain genes while genetically modified ones do not.” (F)
- “Genetically modified animals are always bigger than ordinary ones.” (F)
- “It is not possible to transfer animal genes into plants.” (F)
- “The scientific research conducted so far has not detected any significant hazards directly connected with the use of GM crops.” (T)

## 8. Results

The 2014 general population sample was similar in composition to the 2013 sample (turn back to Table 1). The 2014 conservatives sample over represented males, in contrast to the other two samples. Both the 2014 samples disproportionately represented higher SES individuals, whites and non-Hispanics, compared with the census. Race and Hispanic ethnicity were excluded from analysis, as in the 2013 investigation. The conservatives sample was significantly older, more religious, and less trusting of mass media, compared with the 2014 general population sample (not shown). The conservatives scored significantly higher than the general population group on security of attachment style, while the general population sample scored significantly higher on all the insecure styles (not shown).

The 2014 sample of the general public was not significantly different from the 2013 sample in partisanship (returning to Table 2), but like the 2013 sample, it was more Democratic than the General Social Survey ( $p < 0.10$ ). The conservatives sample was considerably more Republican than the other two samples and the GSS, as would be expected.

For Study 2, internal consistency of the attachment variables in the general population sample was: security,  $\alpha = 0.68$ ; avoidance,  $\alpha = 0.83$ ; ambivalent-worry,  $\alpha = 0.73$ ; and ambivalent-merger,  $\alpha = 0.75$ , similar to the 2013 results. The conservative sample’s results were congruent, correspondingly 0.73, 0.78, 0.70, and 0.75.

### 8.1. The 2014 sample of conservatives

In the sample of conservatives, political party identification was weakly connected to security at a 0.10 level, and higher income made a significant difference in Republican identification (Table 5). The interrelationships of the attachment variables were similar to those in the other two samples. Trust in fairness of media reporting and being religious were weakly related.

Refer back to Table 4, right-hand side, for binary logistic results for the three belief variables that yielded significant findings in the conservative sample. Attachment variables helped to account for results in all three sets of beliefs, although the block for attachment variables was significant only in the case of helping the needy. Having an avoidant attachment style was a significant predictor of views about needy people. Lower level of anxious-ambivalent-worry style also significantly explained the beliefs about the role of government in aiding the poor, as well as government wastefulness. In the case of government help, it is possible that those with avoidant attachment styles

**Table 5. Pearson correlations for main variables in 2014 survey of conservatives**

	Party ID <sup>a</sup>	Security	Avoidance	Worry	Merger	Religiosity	Media trust	Education	Household income	Age
Party ID	–									
Security	0.13 <sup>†</sup>	–								
Avoidance	0.02	–0.58***	–							
Worry	–0.09	–0.26***	0.31***	–						
Merger	–0.01	–0.07	0.28***	0.53***	–					
Religiosity	0.11	0.04	–0.13 <sup>†</sup>	–0.04	0.08	–				
Media trust	–0.13 <sup>†</sup>	0.09	–0.07	0.00	0.02	0.12 <sup>†</sup>	–			
Education	0.07	0.05	–0.01	–0.08 <sup>†</sup>	–0.08	0.06	–0.05	–		
Household income	0.44***	0.17*	–0.09	–0.08	–0.14*	–0.08	–0.06	0.22**	–	
Age	–0.04	0.05	–0.10	–0.13 <sup>†</sup>	–0.14 <sup>†</sup>	–0.02	0.10	0.16*	0.13 <sup>†</sup>	–

Note: N = 194 (8 observations missing).

<sup>a</sup>High = Republican, low = Democrat.

<sup>†</sup>p < 0.10.

\*p < 0.05.

\*\*p < 0.01.

\*\*\*p < 0.001 (two-tailed).

lowered their sense of worry in order to manage anxiety; however, this does not explain the lower degree of worry in the case of government waste.

Higher education (weakly) and higher household incomes (more strongly) predicted belief that the government cannot pay for aid to the needy but not the other two beliefs shown. Being older and/or female significantly accounted for belief that government is wasteful but not for the other two beliefs. Demographics did not predict belief that blacks who cannot get ahead in this country are mostly responsible for their condition. Being Republican was a consistent significant predictor of all three beliefs. Lower trust in media was significant only for belief that the government is wasteful and inefficient. Lower religiosity predicted belief that blacks are mostly responsible for their situation and weakly indicated belief that government is wasteful.

Lower level of worry attachment style also contributed significantly to the conservative sample's science belief scores on genetically modified organisms in a multiple regression analysis in which the same blocks of variables were entered in the same order as in the binary logistic regressions (Table 6). The third block of attachment variables did not reach significance at 0.05 or better, however. Higher education was the most powerful predictor of GMO science belief scores, entered in the first block of demographic variables. Political party and media trust were not predictors, and low religiosity was weakly related at p < 0.10.

Attachment variables did not sufficiently explain the conservative sample's awareness of nine other belief variables: Obama's birthplace, Common Core educational objectives, military strength, government benefits for poor people, immigrants, environmental protection costs, corporate profits, regulation of business, and whether or not homosexuality should be discouraged by society.

### 8.2. The 2014 general population sample

Partisanship showed no correlation with the attachment variables in the general population sample, according to Table 7. Republican affiliation was negatively related to education and positively related to religiosity in the general population group. Security was significantly associated with education and trust in media. Secure attachment and avoidant styles were correlated negatively, –0.51

**Table 6. Multiple regression: GMO science belief scores for 2014 conservative sample**

	Zero-order	Model 1	Model 2	Model 3
<i>Block 1: Demographic variables</i>				
Education	0.296***	0.255***	0.268***	0.255***
Household income	0.214**	0.140 <sup>†</sup>	0.073	0.091
Age	0.055	-0.015	-0.002	-0.011
Gender (1 = female)	-0.157*	-0.102	-0.087	-0.075
Incremental R <sup>2</sup> (%)		12.1***		
<i>Block 2: Heuristic cues</i>				
Religiosity	-0.122 <sup>†</sup>		-0.141*	-0.129 <sup>†</sup>
Media trust	-0.092		-0.028	-0.024
Party ID <sup>a</sup>	0.173*		0.120	0.094
Incremental R <sup>2</sup> (%)			2.8	
<i>Block 3: Attachment variables</i>				
Secure	0.000			-0.006
Avoidant	0.096			0.134
Worry	-0.178*			-0.198*
Merger	-0.087			0.015
Incremental R <sup>2</sup> (%)				3.8 <sup>†</sup>
Total R <sup>2</sup> (%)				18.7***
Adjusted R <sup>2</sup> (%)				13.8***
N				194 (8 missing)

Note: Cell entries are standardized regression coefficients.

<sup>a</sup>High = Republican, low = Democrat.

<sup>†</sup>p < 0.10.

\*p < 0.05.

\*\*p < 0.01.

\*\*\*p < 0.001 (two-tailed).

**Table 7. Pearson correlations for main variables in 2014 survey of general population**

	Party ID <sup>a</sup>	Security	Avoidance	Worry	Merger	Religiosity	Media trust	Education	Household income	Age
Party ID	-									
Security	-0.03	-								
Avoidance	0.07	-0.51***	-							
Worry	-0.00	0.08	0.20**	-						
Merger	0.01	0.17*	0.19**	0.62***	-					
Religiosity	0.20**	0.07	-0.09	-0.01	-0.03	-				
Media trust	-0.11	0.15*	-0.10	-0.04	-0.06	0.05	-			
Education	-0.18**	0.18*	-0.05	-0.14*	-0.13 <sup>†</sup>	0.00	-0.02	-		
Household income	0.06	0.11	-0.01	-0.19**	-0.16*	-0.04	0.11	0.37***	-	
Age	0.07	-0.08	-0.04	-0.14 <sup>†</sup>	-0.07	0.19**	0.14*	0.10	0.30***	-

Note: N = 204 (19 observations missing).

<sup>a</sup>High = Republican, low = Democrat.

<sup>†</sup>p < 0.10.

\*p < 0.05.

\*\*p < 0.01.

\*\*\*p < 0.001 (two-tailed).

**Table 8. Binary logistic regression: Belief outcomes in 2014 general population sample**

	2014 general population sample					
	Government can't afford to help needy (=1)	Blacks are mostly responsible (=1)	Government is wasteful (=1)	Obama was not born in the US (=1)	Common Core is un-Christian, etc. (=1)	Environmental protection is too costly (=1)
Education	0.361 <sup>†</sup>	-0.125	-0.058	-0.712*	-0.327	-0.190
Household income	-0.031	0.085	0.026	-0.108	0.111	0.104
Age	-0.027*	0.032*	0.019	0.019	0.044 <sup>†</sup>	-0.010
Gender (1 = female)	0.318	-0.410	0.550	0.508	0.238	-0.452
Block 1 $\chi^2$	2.047	13.116*	5.512	17.052**	5.801	3.346
Religiosity	0.081	0.097	0.003	-0.018	0.236 <sup>†</sup>	0.267***
Media trust	0.101	-0.579*	-0.790***	-0.638*	-0.914*	-0.344
Party ID <sup>a</sup>	0.694***	0.692***	0.577***	0.694***	0.602**	0.423***
Block 2 $\chi^2$	43.852***	50.801***	42.867***	27.346***	21.563***	34.173***
Secure	-0.120 <sup>†</sup>	0.047	-0.076	-0.097	0.009	-0.005
Avoidant	0.014	0.148*	-0.047	-0.074	-0.014	0.056
Worry	-0.055	-0.050	-0.068	0.165*	0.193 <sup>†</sup>	-0.053
Merger	0.112 <sup>†</sup>	0.074	0.214**	0.037	-0.073	0.174*
Block 3 $\chi^2$	7.112	8.626 <sup>†</sup>	12.065*	8.084 <sup>†</sup>	3.148	9.621*
<i>Tests</i>						
Model likelihood ratio test $\chi^2$ , <i>df</i> = 11	53.012***	72.542***	60.444***	52.482***	30.513***	47.140***
Goodness of fit: Hosmer & Lemeshow <i>df</i> = 8	4.695	11.124	3.530	6.124	4.553	10.537
Nagelkerke <i>R</i> <sup>2</sup>	0.307	0.401	0.346	0.394	0.353	0.309

Notes: *N* = 204 (19 observations missing, except for Obama's birthplace, where *N* = 188, 35 observations missing).

Entries are betas from binary logistic regressions. Republican, or more conservative, beliefs are coded = 1.

<sup>a</sup>High = Republican, low = Democrat.

<sup>†</sup>*p* < 0.10.

\**p* < 0.05.

\*\**p* < 0.01.

\*\*\**p* < 0.001 (two-tailed).

(*p* < 0.001). Worry and security were uncorrelated, but merger and security were modestly and significantly correlated. Worry and merger were strongly linked, however, and both related significantly to lower education and lower income. Avoidant style and lower trust in mass media were not connected. Religiosity and media trust were unrelated. Both of the 2014 samples contained larger proportions of securely attached individuals than insecurely attached individuals. Descriptive statistics of continuous variables are in Appendix A.

Moving now to results for binary logistic regressions with those beliefs in which attachment variables played some part, attachment variables explained some of the reasons for general population respondents' views of six of the 13 issues studied in 2014 (Table 8). Higher scores on ambivalent

merger style may be related to agreement that government cannot afford to help the needy ( $p < 0.10$ ). Those higher in avoidant attachment styles were significantly more likely to hold that blacks are mostly responsible for their condition. Lower scores on worry attachment style and belief that blacks are responsible were in the same direction as found for helping the needy in Table 4 but not statistically significant. Those higher in ambivalent-merger styles were significantly more likely to endorse the view that government is wasteful and that environmental protection hurts jobs and the economy. Those with higher levels of ambivalent-worry style were disproportionately more likely to believe that Obama was not born in the US ( $p < 0.05$ ). The data suggested that higher scores on worry were related to the position that Common Core educational standards are anti-Christian and anti-family ( $p < 0.10$ ). Attachment styles did not significantly predict beliefs of general population participants with regard to homosexuality, government benefits for the poor, immigration, ensuring peace, corporate profits, or government regulation of business.

Among demographic variables, lower education was a significant element in two cases (belief that Obama was not born in the United States, Table 8; immigrants are burdensome, data not shown); whereas higher education predicted higher GMO science belief scores (multiple regression results not shown). Possibly higher education was associated with belief that government cannot afford to help the needy ( $p < 0.10$ ). Household incomes and gender mattered little for beliefs. Being younger was associated with believing that government cannot afford to help the needy, and being older was connected to belief that Blacks are mostly responsible for their condition. Age may also be linked to belief that Common Core standards are bad ( $p < 0.10$ ).

Identifying with the Republican party was the strongest explanation for respondents' beliefs about the various issues in 12 of 13 cases for this sample (data not shown if attachment variables were not significant). The only topic with variance not explained by party was GMO science belief (data not shown), an issue different in character and measurement from the other issues. Distrust of media reporting significantly predicted six beliefs (data for two not shown); on the other hand, higher media trust explained GMO science belief scores (not shown). Higher religiosity accounted for significant results of three beliefs (costliness of environmental protection, discouragement of homosexuality (data not shown), and perceived burden of immigrants (not shown). Religiosity may have figured in lack of support for Common Core educational standards ( $p < 0.10$ ) and maintaining military strength ( $p < 0.10$ , Table 8). Appendix B summarizes the results of logistic regressions in which attachment variables were significant at 0.10 or better with odds ratios, as an indication of effect sizes.

## 9. Limitations

Probability levels of 0.10 may not be accepted as meaningful, and most blocks of attachment variables in the binary logistic regressions did not reach significance. Readers may also be critical of significance levels because a number of significance tests were performed. These kinds of results were noted as signposts to potentially fruitful areas for future research. The study was cross sectional, not over time, which does not allow for assessing causes. More questions about interest in specific topics could be asked. The Internet samples in the current study can be criticized for being unrepresentative of the general population. The online samples over represented Caucasians, the more educated and well off financially and the middle aged. Democrats and liberals made up a larger proportion of the first sample than occurs in the general population. Future studies should be more representative of the general population, even if conducted on the Internet, and contain more variables that may further illuminate the relation of adult attachment to beliefs about public affairs and scientific issues.

## 10. Discussion and conclusions

Some form of adult attachment style, secure or insecure, was expected to be related to beliefs held by partisans, based on research that shows security to be linked to cognitive development in children. One component of Carver's (1997) MAQ assessed security of adult attachment style, and three components of the scale measured insecure attachment style: ambivalence-worry, ambivalence-merger, and avoidance. Worry and merger styles were not precisely the opposite of security, being

uncorrelated with security in 2013 and yielding mixed results in 2014. Avoidance was correlated inversely with security ranging from  $-0.44$  in 2013 to  $-0.53$  for the 2014 general population sample and  $-0.59$  in the 2014 conservatives sample, all at  $p < 0.001$ .

Taking into account results for all 30 belief comparisons (four beliefs, counting global warming and human causes as two issues, in the 2013 study and 13 beliefs in each of the 2014 samples), some form of adult attachment style accounted for results in 12 comparisons, although several of these were at  $p < 0.10$ , and blocks of attachment variables were not significant in many comparisons. Attachment did not predict results in another 18 comparisons. In 11 comparisons insecure attachment style significantly predicted beliefs associated with Republican political positions. Attachment was not correlated with party identification, indicating that when attachment was influential, its impact was in addition to partisanship, whereas religiosity and distrust of mass media were known correlates of partisanship. The pattern of findings supporting the role of attachment's contribution to beliefs is of consequence.

Although Republicans tended to be religious and not to trust media, compared with Democrats, media trust and religiousness were not especially interrelated in any of the three samples. In general, level of formal education and being religious made a difference in all the beliefs examined, except for climate change. Trust in news media reporting was less important overall in these particular samples. The relationship of insecure attachments to lower education or lower household incomes partly explains belief gaps between higher and lower SES groups. The results tend to support the belief gap hypothesis that political leanings are stronger predictors of politically disputed beliefs than education is. In Tables 4 and 8, political party significantly predicted beliefs and education did not in seven of 11 comparisons. Education was significant while party was not in one case. Both party and education mattered as predictors in three instances.

The results supporting the relation of partisanship to beliefs about causes of homosexuality, climate change, President Obama's birthplace, and school issues were relatively congruent with other research (Brossard et al., 2009; Gauchat, 2012; Hindman, 2009, 2012; Hindman & Yan, 2015). The relationship of religiousness and formal education to the kinds of beliefs studied supported outcomes of other investigations (Gaziano, 2013, 2014; Gauchat, 2012; McCright & Dunlap, 2011; Miller et al., 2006; Veenstra et al., 2014). Having lower education, higher religiosity, lower media trust, being a Republican, and holding beliefs that do not square with scientifically established facts also corresponded with previous research on other topics (Nyhan & Reifler, 2010; Veenstra et al., 2014).

Higher levels of ambivalence-worry, ambivalence-merger, and avoidance styles of attachment denote higher anxiety. Carver's (1997) comparisons of the MAQ scale with other kinds of scales revealed ambivalence-worry and ambivalence-merger to be more related to neuroticism than avoidance was. Neuroticism is one of the "big five" fundamental personality domains and is a principal component of dysfunctional coping mechanisms (Goldberg, 1993; Stöber, 2003). It includes anxiety, fear, worry, and emotional instability. Merger includes preoccupation, desire for close relationships but at the same time encompassing distrust of closeness, lower self-worth, lower self-efficacy, and higher emotional impulsiveness (Carver, 1997; Segal et al., 2009). Avoidance also includes fearfulness and worry, negative thinking, difficulty in creative problem-solving and handling stress (Carver, 1997; Mikulincer, Shaver, & Pereg, 2003; Segal et al., 2009). Ambivalent-worry was related moderately and inversely to conscientiousness in Carver's (1997) research. Characteristics of conscientiousness are achievement orientation, self-discipline, and being organized, all of which may be connected to higher SES. Future research should focus on lower SES groups, in whom attachment insecurity may be stronger, since one reason that attachment did not play a stronger role in shaping beliefs in the present research may be that the three samples overrepresented higher SES groups.

#### Funding

The author received no direct funding for this research.

#### Competing Interests

The author declares no competing interest.

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#### Citation information

Cite this article as: Adult attachment style and beliefs about public affairs and scientific issues, Cecilie Gaziano, *Cogent Psychology* (2017), 4: 1279423.

#### Correction

When the above article was first published online, footnote b in Appendix B mistakenly referenced Table 7, instead of Table 6. This has now been corrected and the author apologizes for the error.

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## Appendix A

### Descriptive statistics

	<b>M</b>	<b>SD</b>	<b>N</b>
<i>2013 study</i>			
Education	3.67	0.966	330
Household income	4.18	1.760	330
Age	46.58	14.767	330
Secure	16.44	3.009	330
Avoidant	10.37	3.465	330
Ambivalent-worry	8.76	3.878	330
Ambivalent-merger	9.58	3.537	330
Political party identification	3.46	1.726	313
Ideology	3.74	1.669	330
Religiosity	5.53	2.927	330
Media trust	2.67	0.884	330
<i>2014 study, general population</i>			
Education	3.74	0.964	223
Household income	4.05	1.955	223
Age	43.67	15.372	223
Secure	16.44	3.108	223
Avoidant	10.60	3.461	223
Ambivalent-worry	9.14	3.730	223
Ambivalent-merger	9.76	3.627	223
Political party identification	3.43	1.606	204
Ideology	3.52	1.494	223
Religiosity	5.14	2.870	223
Media trust	3.01	0.872	223
<i>2014 study, conservatives</i>			
Education	3.63	1.000	202
Household income	4.31	1.849	202
Age	51.31	16.311	202
Secure	17.10	2.740	202
Avoidant	9.97	3.211	202
Ambivalent-worry	8.08	3.404	202
Ambivalent-merger	9.26	3.391	202
Political party identification	5.45	1.319	194
Ideology	5.80	0.904	202
Religiosity	7.22	2.747	202
Media trust	2.63	0.867	202

## Appendix B

### Summary of findings about attachment style and beliefs

Type of belief	Attachment style	$\beta^a$	Odds ratio exp (B)	Direction of relationship
<i>General population 2013</i>				
Evolution	Worry	0.096*	1.101	Higher worry and did not believe in evolution
Changing homosexuality	Security	-0.111 <sup>†</sup>	0.895	Lower security and belief that homosexuality could be changed
<i>General population 2014</i>				
Helping needy	Security	-0.120 <sup>†</sup>	0.887	Lower security and/or higher merger and belief that helping the needy is too expensive
	Merger	0.112 <sup>†</sup>	1.119	
Blacks responsible	Avoidance	0.148*	1.159	Higher avoidance and belief that blacks are responsible for their condition
Government waste	Merger	0.214**	1.238	Higher merger and belief that government is wasteful
Obama's birthplace	Worry	0.165*	1.180	Higher worry and belief Obama was not born in USA
Common Core	Worry	0.193 <sup>†</sup>	1.213	Higher worry and belief that Common Core is bad
Environment	Merger	0.174*	1.190	Higher merger and belief protection is too costly
<i>Conservatives 2014</i>				
Helping needy	Avoidance	0.302*	1.352	Higher avoidance and/or lower worry and belief that helping the needy is too expensive
	Worry	-0.234*	0.791	
Blacks responsible	Merger	0.174 <sup>†</sup>	1.190	Higher merger and belief that blacks are responsible for their condition
Government waste	Worry	-0.155*	0.856	Lower worry and belief that government is wasteful
GMO belief-knowledge <sup>b</sup>	Worry	-0.198*	$d = -0.40$	Lower worry and more knowledgeable about scientific facts

<sup>†</sup> $p < 0.10$ .

\* $p < 0.05$ .

\*\* $p < 0.01$  (two-tailed).

<sup>a</sup>From logistic regressions in Tables 4 and 8.

<sup>b</sup>Measured as a continuous variable. Result is from the multiple regression in Table 6.



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