

## Conservative Shift Among High-Exposure Survivors of the September 11th Terrorist Attacks

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Potentially traumatic events evoke a wide range of responses and outcomes. From a motivated social cognitive approach to ideology, system-threatening events such as 9/11 should increase psychological needs to manage uncertainty and threat and, therefore, the appeal of politically conservative opinions. We investigated “conservative shift” among high-exposure survivors of the 9/11 terrorist attacks ( $n = 45$ ) and its relationship to coping and adjustment. Results indicated that Democrats and Independents (as well as Republicans) were more likely to shift toward conservatism and away from liberalism following 9/11. Despite its prevalence, we found relatively little evidence that embracing conservatism was related to improved well-being as measured either in terms of survivors’ mental health symptoms or friends–relatives’ ratings of their psychological adjustment. On the contrary, political conservatism, right-wing authoritarianism, and conservative shift were generally associated with the following: chronically elevated levels of posttraumatic stress disorder (PTSD) and depression, desire for revenge and militarism, cynicism, and decreased use of humor. Conservative shift was also associated with increased religiosity, patriotism, and the perception that the events of 9/11 created new interests and opportunities, suggesting that it may contain some adaptive (as well as maladaptive) features.

The notion that certain political ideologies are better suited than others to minimize threat and uncertainty is one that is almost as old as the field of social psychology itself. In one of the most famous (and infamous) articulations, Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950) proposed in *The Authoritarian Personality* that, “ideologies have for different individuals, different degrees of appeal, a matter that depends upon the individual’s needs and the degree to which these needs are being satisfied or frustrated” (p. 2). More specifically, researchers of authoritarianism have suggested that highly threatening circumstances could lead people to embrace conservative attitudes that provide relatively simple yet cognitively rigid solutions (e.g., good vs. evil, black vs. white, us vs. them, leader vs. follower) to problems of security and threat (e.g., Altemeyer, 1990; Doty, Peterson, & Winter, 1991; McCann, 1997; Sales, 1973). The notion that fear and rigidity pull more strongly for right-wing than

for left-wing ideological outcomes has been controversial (Eysenck, 1954/1999; Shils, 1954), and in the years since its publication the work of Adorno and colleagues has drawn substantial criticism, both within academia and in the popular media (e.g., see Wolfe, 2005).

When Jost, Glaser, Kruglanski, and Sulloway (2003) conducted a quantitative review of the empirical evidence since 1958 to see how the hypotheses of Adorno et al. (1950) and their followers had fared over the years, they found that several variables pertaining to threat and uncertainty avoidance were indeed predictive of conservative (or right-wing) rather than liberal (or left-wing) opinions. The two strongest psychological predictors of political conservatism were death anxiety and system threat (with weighted mean correlations of approximately .50 obtained for each variable, aggregated across several studies). The fact that the terrorist attacks of 9/11 induced death anxiety and system threat in the general population could help to explain “conservative shift” in American public opinion in late 2001 and afterward (e.g., Jones, 2003). On the basis of the available evidence, Jost, Glaser, et al. (2003) concluded that there is an especially good match between needs to reduce threat and uncertainty,

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on one hand, and the contents of conservative ideology (resistance to change and acceptance of inequality) on the other hand. This is because preserving existing social institutions allows one to maintain what is familiar and known (e.g., “tradition”) while rejecting the risky, uncertain prospects associated with social change. An account that stresses psychological needs affecting ideological inclinations may also help to explain the correspondence between political conservatism and religious commitment insofar as epistemic and existential needs to minimize uncertainty and threat appear to drive both ideological outcomes. Research reveals that the correlation between conservatism and religiosity is substantial—Mehrabian (1996), for instance, obtained estimates ranging from .27 to .44—and needs to manage uncertainty and threat account for their shared variance (Napier & Jost, 2006).

Despite considerable evidence, the notion that embracing conservative ideology might serve as an attempt to quell the fear and uncertainty elicited by highly distressing events, such as a terrorist attack, continues to be controversial. Greenberg and Jonas (2003), for instance, largely echoed Eysenck’s (1954/1999) skepticism concerning the uniqueness of right-wing authoritarianism, writing that “left-wing ideologies serve these motives [to reduce fear, anxiety, and uncertainty] just as well as right-wing ones” (p. 378). Crowson, Thoma, and Hestevold (2005) worried that research on the psychological antecedents of conservatism has “led many on the left to demonize persons who identify with rightist causes and agendas” and set out to demonstrate that “the adoption of politically conservative attitudes may not necessarily indicate in the adoptee any mental rigidity or an overly fearful and moralistic stance” (pp. 571–572). These authors went on to suggest that fearfulness and rigidity may be associated with authoritarianism but not with political conservatism *per se*, although they did find that authoritarianism and conservatism were substantially intercorrelated in both of their studies (with correlations ranging from .35 to .50).<sup>1</sup>

Since the publication of the meta-analysis by Jost, Glaser, et al. (2003), several additional studies have demonstrated that reminders of death and terrorism increase the attractiveness of conservative leaders and opinions. For instance, Landau et al. (2004) found that subliminal and supraliminal 9/11 and mortality salience primes led college students to show increased support for conservative President George W. Bush and his counterterrorism policies and decreased support for liberal challenger John Kerry. These effects were replicated by Cohen, Ogilvie, Solomon, Greenberg, and Pyszczynski (2005) immediately prior to the Bush–Kerry election in

2004. Willer (2004) conducted time-series analyses and showed that President Bush’s approval ratings increased each time his administration raised the terror alert levels between 2001 and 2004. An experiment by Jost, Fitzsimons, and Kay (2004) demonstrated that a mortality salience prime caused survey respondents to endorse more politically conservative positions on a number of issues (including immigration, taxation, affirmative action, stem cell research, and same-sex marriage), suggesting that death anxiety affects support for conservative opinions as well as for conservative leaders. These results, when taken as a whole, appear to overturn an earlier conclusion—based primarily on a nonsignificant result obtained by Greenberg et al. (1992)—that mortality salience would lead people to cling more strongly to their own ideological priors, whether liberal or conservative. In any case, it remains an empirical possibility that death anxiety and system threat could lead Democrats and others to cling more strongly to liberal ideology rather than adopting a more conservative stance (Greenberg & Jonas, 2003).

To investigate these issues, in the current study we measured the social and political attitudes of a small but important group of people whose lives were especially disrupted by the events of 9/11. By following a sample of proximal survivors of the 9/11 attacks for a period of 18 months, we were able to assess their social and political attitudes—including political orientation, party identification, right-wing authoritarianism, and self-reported change in liberalism–conservatism since 9/11—in light of both relative trauma exposure and participants’ subsequent patterns of adjustment over time (see Bonanno, 2004). More specifically, this study allowed us to determine whether exposure to traumatic stress on the morning of 9/11 or intensified trauma symptoms in the aftermath of 9/11 would be associated with a conservative shift on the part of World Trade Center (WTC) survivors—as a motivated social cognitive approach to ideology would suggest (e.g., Jost, Glaser, et al., 2003)—or whether these factors would have no consistent effect on social and political attitudes and/or lead people to cling more strongly to prior ideological commitments, as others have suggested (e.g., Greenberg & Jonas, 2003).

We were also able to examine how embracing conservative, right-wing opinions and causes might be associated with survivors’ ongoing levels of psychological adjustment in the months following the attacks. One possibility is that right-wing reactions may not adequately address underlying issues (e.g., Adorno et al., 1950) and may therefore fail to promote healthy long-term adaptation and satisfaction, especially insofar as they emphasize the desire for vengeance and nationalistic or militaristic solutions to the problem of terrorism. Kaiser, Vick, and Major (2004) found that both emotional distress following 9/11 and the belief in a just world (a variable that is positively correlated with political conservatism) predicted the desire for revenge and retaliation. Skitka (2005) found that nationalism and patriotism following 9/11 were somewhat stronger among conserva-

<sup>1</sup>Crowson et al. (2005) did not include any measures of fear or threat in their studies and focused exclusively on variables pertaining to mental rigidity, especially the need for cognitive closure (NFC). They found that scores on the closed-mindedness factor of the NFC scale significantly and independently predicted both right-wing authoritarianism and “mainstream conservatism.”

tives than liberals, and Oswald (2005) linked some of these same variables to prejudice directed against Arabs and Arab Americans.

Although previous researchers have not investigated the coping or mental health implications of specific ideological responses to terrorist attacks, it seems unlikely that the desire for vengeance or nationalistic solutions would be associated with greater well-being (e.g., Parkes, 1993). For example, thoughts of revenge in the context of perceived injustice, such as in response to crime, are associated with increased PTSD symptoms, and this relationship becomes stronger over time (Orth, Montada, & Maercker, 2005). The magnitude of hatred and desire for revenge also predicts psychiatric symptoms among populations exposed to ethnic atrocities and ethnically motivated war (Cardozo, Kaiser, Gotway, & Agani, 2003). It is also noteworthy that thoughts of revenge are associated with PTSD even among individuals who have been exposed to environmental disasters, situations in which there may be no clearly identifiable perpetrator (Goenjian, Molina, et al., 2001).

Adorno et al. (1950) suggested that conservative tendencies to respond with cynicism, distrust, and suspicion may inhibit self-insight and the development of open, flexible responses to problems of conflict. Flexibility in coping is widely regarded as an adaptive response that promotes general health and well-being (Block & Block, 1980; Bonanno, Papa, Lalande, Westphal, & Coifman, 2004; Cheng, 2001). It also has been shown to predict resilience in the face of extreme adversity (Bonanno, 2004, 2005). A lack of flexibility in attitudes and coping strategies might therefore put those who adopt a more conservative ideological stance at risk for the development of psychopathology.

However, in particularly aversive situations, more rigid (or less flexible) forms of coping can sometimes prove to be salubrious. Bonanno (2005) has argued that isolated and potentially traumatic events “often oblige a more *pragmatic* form of coping, a *whatever it takes* approach, which may involve behaviors and strategies that are less effective or even maladaptive in other contexts” (p. 137). For example, in a sample of high-exposure survivors of the September 11th attacks, trait self-enhancement (the tendency to exhibited exaggerated, self-serving biases in perception and attribution) was associated with genuinely healthy adjustment (Bonanno, Rennicke, & Dekel, 2005). Although self-enhancement is not consistently correlated with conservatism (e.g., Aavik, & Allik, 2002; Farwell & Weiner, 2000; but see Jost, Blount, Pfeffer, & Hunyady, 2003), it is possible that conservative (as well as religious) responses to threat could serve as adaptive, relatively healthy forms of situation-specific coping. The conditions under which individual differences in rigidity, pragmatism, and self-enhancement predict adjustment are not well understood nor are the social/contextual variables that moderate these effects. Even less is known about the role of political ideology in coping with trauma. By conducting a longitudinal study, we were able to—at least to some ex-

tent—acquire evidence bearing on two theoretically significant sets of empirical relationships, namely (a) the effects of trauma and threat (measured at Wave 1) on political orientation and perceived changes in political orientation (measured at Wave 2) and (b) the effects of political orientation (and especially perceived changes in political orientation that occurred in the 18 months following September 11th) on coping responses and mental health symptoms (measured at Wave 2).

## THE CURRENT INVESTIGATION

To address these issues in the current study, we measured political orientation, right-wing authoritarianism, and self-reported change in political orientation in a sample of high-exposure survivors of the September 11th terrorist attacks. All of the participants in this study were either in or very near to the WTC at the time of the 9/11 attacks and had therefore experienced a high level of potential trauma exposure (Bonanno et al., 2005). Most perceived themselves to be in immediate physical danger during the attacks and had witnessed death or serious injury to others.

Because the research literature suggested plausible but competing hypotheses concerning relations among conservatism, coping style, and well-being, we included a battery of different measures associated with psychological adjustment. At approximately 7 and 18 months following the 9/11 attacks, participants completed the questionnaires, which included the following primary measures of psychopathology: scales measuring symptoms of depression and posttraumatic stress disorder (PTSD; see American Psychiatric Association [APA], 2000). We also obtained more objective ratings of participants' adjustment made by participants' close friends and relatives. To explore how conservative opinions and values related to the most relevant patterns of long-term adjustment, we mapped two prototypical symptom trajectories typically observed in the aftermath of potential trauma. Participants exhibiting the worst outcome, characterized by elevated levels of depression and PTSD symptoms at each assessment, were categorized as having a *chronic symptom trajectory*. By contrast, participants who evidenced relatively healthy adjustment, as characterized by little or no depression or PTSD symptoms at either assessment, were categorized as having a *resilient outcome trajectory* (Bonanno, 2004). These trajectories have been validated in a previous study that used ratings made by participants' friends and relatives and by comparing them with other dimensions such as positive affect (Bonanno et al., 2005).

To more fully investigate the ways in which political attitudes are associated with coping following potential trauma, we also considered a variety of personal and social reactions to 9/11 (in addition to adjustment), including the desire for revenge, militarism and patriotism, religiosity, and cynicism. We were particularly interested in two indicators of positive

copied: the use of humor and posttraumatic growth (Tedeschi & Calhoun, 1996). Like positive emotion in general, the use of humor appears to serve as an adaptive coping mechanism that fosters self-regulation, promotes social support, and enhances resilience to adversity (Bonanno, 2004; Bonanno & Kaltman, 1999; Fredrickson, Tugade, Waugh, & Larkin, 2003; Keltner & Bonanno, 1997; but see Martin, 2001). Although research suggests that liberals and conservatives tend to enjoy different types of humor (e.g., Ruch & Hehl, 1988), no studies have explored whether political orientation might be related to the adaptive use of humor as a strategy for coping with trauma.

In a related vein, research on the construct of posttraumatic growth suggests that coping with adverse experiences might eventually lead to personal and social benefits (for a review, see Linley & Joseph, 2004). To date, the evidence linking posttraumatic growth and psychological distress is mixed, with some studies reporting inverse associations (e.g., Frazier, Conlon, & Glaser, 2001) and some reporting positive associations (e.g. Tomich & Helgeson, 2004; Wild & Paivio, 2003). A prominent interpretation of these complex findings is that posttraumatic change is not unidimensional but rather consists of several possible patterns of growth or deterioration (Frazier et al., 2001). In the current study, we examined whether political ideology relates to three different facets of posttraumatic growth: personal growth, social benefit finding, and the perception that out of trauma comes new interests and opportunities.

## METHOD

### Participants and Recruitment

Individuals who were in or within several blocks of the WTC on September 11, 2001, were recruited by contacting companies that had been located in the WTC, by posting flyers in the vicinity of the WTC site, and through public service announcements on local radio stations. We initially recruited 65 people. Data from 9 participants were incomplete and were excluded from the study. Eleven participants could not be located or declined participation in the follow-up assessments. The final prospective sample consisted of 45 participants (18 men and 27 women), who ranged in age from 23 to 59 years ( $M = 39.16$ ,  $SD = 11.03$ ) and whose annual incomes ranged from \$10,000 to \$275,000 ( $M = \$71,453.49$ ,  $SD = \$51,793.18$ ). Thirty-seven participants (82.2%) identified themselves as Caucasian, 5 (11.1%) as Asian, and 1 (2.2%) as African American; 2 others declined to provide information concerning race/ethnicity. Most of the participants worked in office jobs (including finance, research, support staff, sales, etc.)

At the time the first plane struck the WTC, 24.4% of the current sample ( $n = 11$ ) were in one of the two WTC towers, another 40.0% ( $n = 18$ ) were within four blocks of the WTC, and 35.6% ( $n = 16$ ) were at least four blocks away. Fifty-three

percent of the sample ( $n = 24$ ) witnessed people jump from the WTC towers, and 84% ( $n = 38$ ) observed dead bodies during the attack. The final prospective sample did not differ on any of the measures included in the present study compared with those participants who completed the first set of measures but dropped out prior to the second interview.

### Materials and Procedure

Materials for this study were embedded in packets containing other questionnaires used in research by Bonanno et al. (2005). In the first wave, approximately 6–7 months after the attack, we measured demographic information (mentioned above), participants' degree of exposure to physical danger, death, and injury on 9/11, desire for revenge, militarism and patriotism, religiosity, cynicism, and use of humor. In the second wave, approximately 1 year later and 18 months after 9/11, we measured participants' social and political attitudes and asked participants whether they believed they had grown more liberal or more conservative (or neither) since 9/11. Measures of mental health coping and adjustment, including PTSD, depression, and friend–relative adjustment ratings were obtained in both waves. At both waves each participant was also asked to distribute anonymous rating forms to three self-selected close friends or relatives. At 28 months after 9/11, an additional set of friend–relative ratings were obtained (see description below). Participants were paid \$100 for their participation in each wave of the study. For additional details concerning sampling methods and recruitment, see Bonanno et al. (2005).

### Degree of Exposure to Danger, Death, and Injury

We measured two primary aspects of exposure to trauma as specified in the *Diagnostic and Statistical Manual of Mental Disorders—IV* (text rev., APA, 2000) criteria for PTSD: (a) perceived physical danger and (b) witnessed death and injury. Items were reworded to make them specifically applicable to the terrorist attacks of 9/11. Both scales were administered during the first wave of the survey.

*Perceived physical danger.* Exposure to physical danger was measured by averaging the following two items: (a) “Did you feel that you were in immediate physical danger during the period of time after the first plane struck and before the second plane struck?” and (b) “Did you feel that you were in immediate physical danger during the period of time after the second plane struck and before the towers began to collapse?” ( $\alpha = .72$ ). Responses to both questions were provided on a scale with values ranging from 0 (*not at all*) to 5 (*very much*).

*Witnessing death and injury.* The following four items gauged the degree of exposure to death and injury: (a) “Did you see other people who were seriously injured as a re-

sult of the attack?" (b) "Did you see dead bodies that resulted from the attack?" (c) "Did you see other people killed during the attack?" and (d) "Did you see people jump from the burning towers?" Responses were provided on a scale with values (and labels) as follows: 0 (*no*), 1 (*one person*), 2 (*more than one person*), and 3 (*many people*) ( $\alpha = .75$ ).

### Mental Health Coping and Adjustment

**PTSD.** To measure PTSD symptoms at each wave of assessment, we used Foa, Riggs, Dancu, and Rothbaum's (1993) 17-item PTSD Symptom Scale—Self-Report version (PSS–SR), which corresponds closely to PTSD items listed in the *DSM–III–R* (APA, 1987). In the current study, participants were asked to assess the frequency with which they experienced each item on the PSS–SR in the past month by using a 0 (*not at all or only one time*) to 3 (*5 or more times per week/almost always*) scale ( $\alpha = .91$ ). Previous research indicates that a PSS–SR total score of 28 serves as an approximate cut-off for elevated PTSD (Coffey, Dansky, et al. 1998).

**Depressive symptoms.** To measure depression at each wave of assessment, we administered the brief (9-item) version of the Center for Epidemiologic Studies Depression (CES–D) scale; it exhibits reliability and validity statistics that are comparable to the full-scale version (Kohut, Berkman, Evans, & Cornoni-Huntley, 1993). Respondents indicated on a 1 (*hardly ever*) to 5 (*almost always*) scale how often they experienced each of the following symptoms in the past 2 weeks: (1) "I felt depressed"; (2) "I felt that everything I did was an effort"; (3) "My sleep was restless"; (4) "I felt lonely"; (5) "I enjoyed life"; (6) "I did not feel like eating"; (7) "My appetite was poor"; (8) "I felt sad"; and (9) "I could not get going" ( $\alpha = .79$ ).

#### *Friend/relative ratings of participant adjustment.*

At each wave, participants were provided with three packets containing consent materials and rating forms and asked to distribute these materials to three close friends–relatives whom they felt knew them well and with whom they had relatively consistent contact. To ensure confidentiality, friends–relatives returned these ratings directly to the researchers using stamped, preaddressed envelopes. The friends–relatives were asked to rate the participant on two scales: (a) *Participant's adjustment prior to 9/11* was rated compared with "most other people" by using a 7-point scale (1 = *much worse than most people*; 4 = *about the same as most people*; 7 = *much better than most people*) for five dimensions (mental health, physical health, quality of social interactions, ability to accomplish goals, and coping ability;  $\alpha = .81$ ); (b) *Change in participant's current level of adjustment* (at 7- and 18-months) was rated "in comparison to his or her usual level" by using a 7-point scale (1 = *much worse than usual*; 4 = *about the same as usual*; 7 = *much better than usual*) for the same five dimensions ( $\alpha = .78$ ).

At 28-months post-9/11, additional sets of friend–relative ratings were distributed to measure participants' outcome trajectories. These were assigned from verbal and graphic depictions of four prototypical outcome trajectories (resilience, recovery, delayed trauma reactions, and chronic trauma reactions). Friends–relatives were asked to select the trajectory that most closely matched the participant's outcome.

Friend–relative ratings were received at each assessment for the majority of participants. To increase power for the analyses in the following paragraphs, a single, randomly selected friend–relative rating was used at each assessment. Friend–relative ratings were available for 37 participants (79%) at 7 months, for 35 participants (75%) at 18 months, and for 34 participants (72%) at 28 months. On average, the friends–relatives who provided these ratings had known the participants for 16 years ( $SD = 17$ ). Characteristics of the friends–relatives providing these ratings did not differ across time; participants whose friends–relatives provided ratings did not differ in any way from those whose friends/relatives failed to provide them.

**Outcome trajectories.** To more precisely examine relations between political ideology and outcomes, we created resilient and chronic symptom trajectories (Bonanno, 2004). These trajectories were based on a similar approach used with this sample in a previous study (Bonanno et al., 2005). Participants were first categorized as having high- or low-depression symptoms and PTSD at each assessment. Categorization of high- versus low-depression symptoms was based on the standard cut-off for the CES–D scale of 16; categorization of high- versus low-PTSD symptoms was based on the Wave 1 sample mean (PSS–SR = 16). Participants were assigned to the resilient outcome trajectory ( $n = 14$ , 31%) if they had low levels of both depression and PTSD symptoms at Wave 1 and at Wave 2. Participants were assigned to a chronic symptom trajectory ( $n = 14$ , 31%) if they had high levels of either depression or PTSD symptoms at both waves of assessment. The remainder of the sample was classified as "other" ( $n = 17$ , 38%).

Categorization of each participant's outcome as resilient, chronic, or other was also obtained from the anonymous ratings made by participants' friends–relatives obtained at 28-months post-9/11. In this case, the outcome categorization was based on a single global rating. These ratings were available for 34 participants, with 9 (27%) categorized as resilient, 11 (32%) categorized as having chronically elevated symptoms, and 14 (42%) categorized as "other."

### Personal and Social Reactions to 9/11

The Wave 1 questionnaires included a number of items that were designed to tap personal and social reactions to 9/11. These included the desire for revenge, attitudes toward militarism and patriotism, religiosity, cynicism, and use of humor. Because these items were of inherent theoretical and/or practical interest, most were analyzed as single items. Re-

spondents were asked to indicate “the degree to which each of the statements [was] true for [them]” on a 5-point scale ranging from 1 (*not at all*) to 5 (*extremely*).<sup>2</sup>

**Desire for revenge.** The following three items tapped the desire for revenge: (a) “It would make me feel better if the U.S. military found Osama Bin Laden,” (b) “I would kill Bin Laden myself if I could,” and (c) “The accidental bombing of civilian women and children in Afghanistan was an unfortunate but acceptable risk in the war on terrorism.”

**Militarism and patriotism.** The following three items tapped support for militarism and patriotism: (a) “Since September 11, my support for the U.S. military has increased,” (b) “I disagree with U.S. military involvement in Afghanistan,” and (c) “Since September 11, I feel more patriotic.”

**Religiosity.** Participants were asked the following two questions pertaining to religion: (a) “Since September 11, I have a stronger religious faith”, and (b) “Since September 11, I have doubted my faith/religion.”

**Cynicism and humor.** A single item was used to gauge cynicism: “Since September 11, I am more aware of the dark side of human nature.” Two others (as follows) were averaged to obtain a measure of self-reported humor: (a) “I am generally able to laugh freely when I see or hear something funny”, and (b) “I enjoy humor” ( $\alpha = .78$ ).

**Posttraumatic growth.** We created three measures of posttraumatic growth, measured at both waves of the study, by adapting items with the highest factor loadings on relevant subscales of the Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) and items from a study of personal growth following bereavement (Davis, Nolen-Hoeksema, & Larson, 1998). Items were reworded for application to the specific context of 9/11. To measure social benefit finding, we adapted the following two items from the Social subscale of the PTGI: (a) “Since September 11, I feel more strongly that I can count on people in times of trouble”; and (b) “Since September 11, I put more effort into relationships” ( $\alpha = .66$ ). To measure new interests/opportunities, we adapted the following two items from the New Possibilities subscale of the PTGI: (a) “Since September 11, I feel new opportunities are available which wouldn’t have been otherwise”; and (b) “Since September 11, I have developed new interests” ( $\alpha = .65$ ). Three items were used to measure personal growth. We adapted one item from the PTGI (“Since September 11, I know I can handle difficult situations”) and the following two items from research by Davis et al. (1998): (a) “Since September 11, I have grown personally”; and (b) “Since September 11, I appreciate my life more” ( $\alpha = .84$ ).

<sup>2</sup>Items measuring personal and social reactions to 9/11 were also administered at Wave 2. Because these items were similarly related to political orientation at both waves, we report only the results for Wave 1 items.

## Social and Political Attitudes

**Political orientation and party identification.** In the second wave of the survey, participants were asked several questions concerning their social and political attitudes. All participants completed Knight’s (1999, p. 63) single-item direct self-report measure of liberalism–conservatism, which requires respondents to locate themselves on a scale of political orientation ranging from 1 (*extremely liberal*) to 7 (*extremely conservative*). In this sample, political orientation scores were normally distributed with a mean of 3.51 ( $SD = 1.75$ ). In addition, participants were asked whether they considered themselves to be Democrats ( $n = 26$ ), Republicans ( $n = 6$ ), Independents ( $n = 10$ ), or whether they identified with another political party (2 people wrote in “Green” or “Libertarian”). The composition of the sample in terms of partisanship is heavily Democratic but similar to that of New York City as a whole.

**Right-wing authoritarianism.** We administered six items taken from Altemeyer and Hunsberger’s (1992) Right-Wing Authoritarianism Scale. The items we used were worded as follows: (a) “What our country *really* needs, instead of more ‘civil rights,’ is a good dose of law and order”; (b) “Some of the worst people in our country nowadays are those who do not respect our flag, our leaders, and the normal way things are supposed to be done”; (c) “We should treat protestors and radicals with open arms and open minds, since new ideas are the lifeblood of progressive change” (reverse scored); (d) “People should pay *less* attention to the Bible and the other old traditional forms of religious guidance, and instead develop their own personal standards of what is moral and immoral” (reverse scored); (e) “The situation in our country is getting so serious, the strongest methods would be justified if they eliminated the troublemakers and got us back on our true path”; and (f) “It is wonderful that young people can protest anything they don’t like, and act however they wish nowadays” (reverse scored). A right-wing authoritarianism score was calculated by taking the mean of responses to these six items following recoding ( $\alpha = .76$ ). Political conservatism and right-wing authoritarianism were very highly intercorrelated ( $r = .70, n = 45, p < .001$ ).

**Conservative (vs. liberal) shift.** Finally, we asked participants whether they thought that their political attitudes had changed since 9/11.<sup>3</sup> Specifically, they were asked the following questions: “In terms of political attitudes, since September 11, 2001, have you become more conservative, more liberal, or neither?” Responses were coded as follows so that higher val-

<sup>3</sup>Unfortunately, we were not able to obtain a measure of “actual” conservative shift, but we assume that people are at least somewhat aware of changes in their political attitudes. The first measures of social and political attitudes were administered during the second wave of data collection. We would expect similar results to those predicted and obtained here for measures of actual rather than perceived ideological shift. Future research would do well to measure political attitudes before and after traumatic events.

ues would indicate increased conservative shift: *more liberal* = -1, *neither* = 0, and *more conservative* = 1.

## RESULTS

### Conservative (Vs. Liberal) Shift

We hypothesized that people who had been in or near the WTC on 9/11 would report increased political conservatism in the 18 months following the terrorist attack, regardless of their own political party membership. That is, we predicted that Democrats and Independents as well as Republicans would be more likely to report increasing conservatism than increasing liberalism following 9/11. This hypothesis received support. For the sample as a whole, almost three times as many respondents ( $n = 17$  or 38% of the sample) indicated that since 9/11 they had grown “more conservative” rather than “more liberal” ( $n = 6$  or 13% of the sample),  $\chi^2(1, N = 45) = 5.26, p < .03$ . The remaining 49% reported that their political attitudes had remained constant since 9/11.

More Democrats (35% vs. 23%), more Independents (50% vs. 0%), and more Republicans (50% vs. 0%) reported conservative rather than liberal shifts. The 2 participants who described themselves as supporters of the “Green” or “Libertarian” parties both reported that their political orientation had not changed.<sup>4</sup> For subsequent analyses, we collapsed self-reported changes in political orientation (with three levels) into a single binary variable, contrasting participants who became more conservative ( $n = 17$ ) with those who either remained the same or became more liberal ( $n = 28$ ). This allowed us to gauge the presence or absence of perceived “conservative shift.”

### Degree of Exposure to Danger, Death, and Injury

We predicted that increased exposure to danger, death, and injury on 9/11 (as measured during the first wave of the survey) would be associated with higher scores on measures of political conservatism and right-wing authoritarianism 1 year later (as measured during the second wave of the survey). We obtained evidence partially consistent with this hypothesis (see Table 1). Perceived physical danger at Wave 1 was marginally associated with conservatism ( $r = .21, p < .10$ )<sup>5</sup> and right-wing authoritarianism ( $r = .23, p < .10$ ) at

Wave 2. Witnessing death and injury on 9/11 at Wave 1 was a significant predictor of both conservatism ( $r = .41, p < .01$ ) and right-wing authoritarianism ( $r = .36, p < .01$ ) at Wave 2. However, neither of these variables predicted the presence versus absence of a self-reported conservative shift in bivariate analyses, and witnessing death and/or injury correlated negatively with conservative shift (partial  $r = -.26, p < .05$ ) after adjusting for the significant effects of conservatism and right-wing authoritarianism.

### Mental Health Symptoms and Trajectories

There was no evidence that embracing political conservatism played a constructive role in coping and adjustment. On the contrary, we obtained relatively strong and consistent evidence that PTSD following 9/11 was associated with increased political conservatism (see Table 2). PTSD symptoms measured 7 months after the terrorist attacks (Wave 1) were significantly correlated with right-wing authoritarianism ( $r = .46, p < .001$ ), political conservatism ( $r = .29, p < .05$ ), and the likelihood of having experienced a conservative shift ( $r = .25, p < .05$ , partial  $r = .10, ns$ ) at 18 months (Wave 2). When measured during Wave 2 (18 months after 9/11), PTSD remained a significant correlate of right-wing authoritarianism ( $r = .38, p < .01$ ), conservatism ( $r = .29, p < .05$ ), and conservative shift ( $r = .32, p < .05$ , partial  $r = .20, p < .10$ ).

We also found that depressive symptoms at Wave 1 and at Wave 2 were positively associated with conservatism. Depression measured at 7 months was strongly correlated with right-wing authoritarianism ( $r = .46, p < .001$ ) and a weaker but still significant correlate of conservatism ( $r = .29, p < .05$ ) and conservative shift ( $r = .28, p < .05$ , partial  $r = .14, ns$ ) at 18 months. When measured at 18 months, depression was no longer associated with conservatism, but it was still associated with right-wing authoritarianism ( $r = .26, p < .05$ ) and conservative shift ( $r = .31, p < .05$ , partial  $r = .25, p < .05$ ).<sup>6</sup> These findings are consistent with the notion that some people (especially conservatives) may turn to authoritarian solutions as an attempt to cope with severe distress, but this form of coping is not associated with improved mental health, at least with respect to self-reported symptoms of PTSD and depression.

<sup>4</sup>To further examine the robustness of the conservative shift across the political spectrum, we also parsed the data according to self-reported voting behavior in previous presidential elections. We found that post-9/11 conservative shifts were more common than liberal shifts even among people who voted for Clinton in 1992 (32% vs. 16%), Clinton in 1996 (34% vs. 16%), and Gore in 2000 (40% vs. 12%). These results, in conjunction with analyses based on political party membership, confirm that conservative shift affected liberals and well as conservatives.

<sup>5</sup>Because the sample size of WTC survivors was small and the directions of hypothesized effects were specified on the basis of preexisting theory, we used one-tailed tests to assess the significance of correlational results.

<sup>6</sup>We also inspected partial correlations to gauge the association between right-wing authoritarianism and mental health symptoms, adjusting for political conservatism, and the association between political conservatism and mental health symptoms, adjusting for right-wing authoritarianism. Right-wing authoritarianism was correlated with PTSD at Wave 1 (partial  $r = .38, p < .01$ ) and at Wave 2 (partial  $r = .26, p < .05$ ) and with depression at Wave 1 (partial  $r = .37, p < .01$ ) and, to a lesser extent, at Wave 2 (partial  $r = .22, p < .10$ ), after adjusting for the effects of conservatism. However, conservatism was not significantly associated with these mental health outcomes after adjusting for right-wing authoritarianism. Thus, it appears that conservative survivors fared relatively poorly in terms of PTSD and depression (see Table 2) largely because of their propensity to embrace authoritarian attitudes.

TABLE 1  
Correlations Between Degree of Exposure to Trauma, Personal and Social Reactions to 9/11, and Political Orientation

Variable	Right-Wing Authoritarianism	Conservative Orientation	Conservative Shift	
			Bivariate	Partial <sup>a</sup>
Degree of exposure to trauma on 9/11				
Perceived physical danger	.23*	.21*	-.04	-.17
Witnessed death/injury to others	.36***	.41***	-.02	-.26**
Desire for revenge				
Feel better if military found Bin Laden	.33**	.21*	.55****	.51****
I would kill Bin Laden myself	.23*	.14	.43***	.40***
Accidental bombing of women/children unfortunate but acceptable	.44***	.45***	.39***	.23*
Militarism and patriotism				
Increased support for military	.46****	.38***	.48****	.36***
Disagree with US military involvement in Afghanistan	-.21*	-.31**	-.23*	.11
Became more patriotic	.42***	.35***	.42***	.30**
Religiosity				
Stronger religious faith	.25**	.27**	.41***	.33**
Since 9/11 I have doubted my faith/religion	.21*	.24*	.26**	.17
Cynicism and humor				
More aware of the dark side of human nature	.35***	.34**	.26**	.11
Use of humor (2 items)	-.25**	-.22*	-.34**	-.27**
Posttraumatic growth (7 months)				
Social benefit finding (2 items)	-.10	-.06	-.03	-.04
New interest/opportunities (2 items)	.06	.28*	.33*	.27*
Personal growth (3 items)	.02	.17	.14	.09
Posttraumatic growth (18 months)				
Social benefit finding (2 items)	-.05	.08	-.06	-.09
New interests/opportunities (2 items)	-.09	.08	.28**	.31**
Personal growth (3 items)	.09	.14	.28**	.24*

<sup>a</sup>Partial correlations are adjusted for right-wing authoritarianism and conservative orientation. All other effect sizes in this table refer to bivariate correlations.  
\**p* < .10. \*\**p* < .05. \*\*\**p* < .01. \*\*\*\**p* < .001.

TABLE 2  
Correlations Between Mental Health Symptoms, Friend/Relative Ratings of Adjustment, and Political Orientation

Variable	Right-Wing Authoritarianism	Conservative Orientation	Conservative Shift	
			Bivariate	Partial <sup>a</sup>
Symptoms following 9/11				
PTSD 7 months	.46****	.29**	.25**	.10
PTSD 18 months	.38***	.29**	.32**	.20*
Depression 7 months	.46****	.29**	.28**	.14
Depression 18 months	.26**	.15	.31**	.25**
Friend/relative ratings of adjustment				
Usual (pre-9/11)	-.28**	-.03	-.07	-.01
Change at 7 months post-9/11	-.28**	-.19	-.15	-.05
Change at 18 months post-9/11	.21*	-.24*	.08	.17

<sup>a</sup>Partial correlations are adjusted for right-wing authoritarianism and conservative orientation (column 2). All other effect sizes in this table refer to bivariate correlations.

\**p* < .10. \*\**p* < .05. \*\*\**p* < .01. \*\*\*\**p* < .001.

We next conducted a series of planned contrasts by using the categorical outcome trajectories derived from the combination of depression and PTSD symptom scores. One series of analyses compared participants who exhibited a chronically distressed symptom trajectory with all other participants, and another series of analyses compared participants who exhibited an extremely healthy (or resilient) trajectory with all other participants. We found that chronically distressed participants scored significantly higher on right-wing authoritarianism

(chronic: *M* = 3.97, *SD* = 1.25; nonchronic: *M* = 3.22, *SD* = 1.07), *t*(42) = 2.04, *p* < .05, and were significantly more likely to report a conservative shift (chronic: *M* = 0.64, *SD* = 0.49; nonchronic: *M* = 0.25, *SD* = 0.45), *t*(42) = 2.59, *p* < .05, when compared with all other participants. However, the chronically distressed symptom group did not differ from others in terms of liberalism-conservatism scores.

We were also interested in whether the chronic symptom trajectory would be associated with conservative shift even

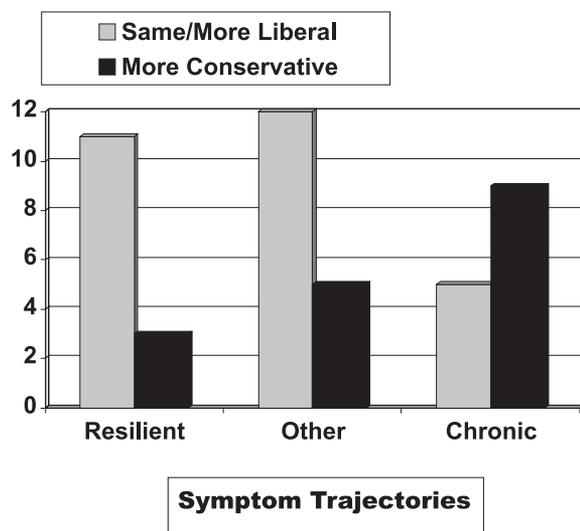


FIGURE 1 Number of Participants Reporting a Conservative Shift Across Outcome Trajectories on the Basis of Self-Reported Symptoms.

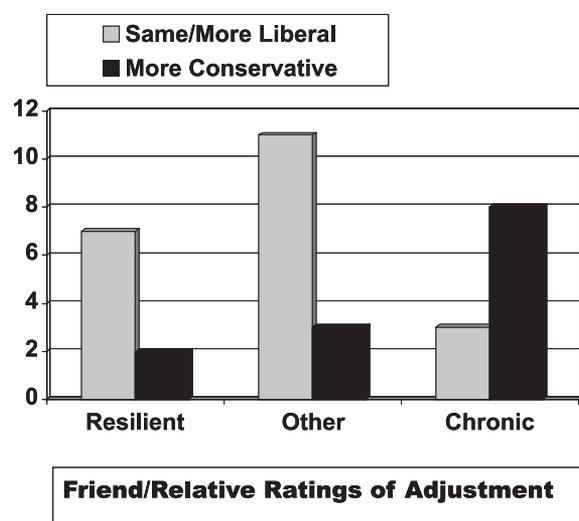


FIGURE 2 Number of Participants Reporting a Conservative Shift Across Outcome Trajectories Based on Friend-Relative Ratings.

after adjusting for the effects of the other ideological variables. To examine this issue, we conducted an analysis of covariance (ANCOVA) comparing the chronic group against all other participants, with right-wing authoritarianism and liberalism-conservatism entered as covariates. This analysis yielded a significant result,  $F(1, 41) = 4.16, p < .05$ , indicating that chronically distressed participants were more likely to report a conservative shift, regardless of their levels of right-wing authoritarianism or overall political orientation.

Because conservative shift was defined as a categorical variable, we examined this variable in a contingency analysis for membership in the outcome categories. This analysis also yielded a significant result,  $\chi^2(1, N = 45) = 6.28, p < .01$ . Consistent with the contrast analyses, the shift toward conservatism was significantly more prevalent among chronically symptomatic participants (see Figure 1). Taken as a whole, this pattern of results provides further and, indeed, highly dramatic evidence of the threat-conservatism link as posited by Adorno et al. (1950) and corroborated by Jost, Glaser, et al. (2003).

### Friends' and Relatives' Ratings of Adjustment

Paralleling the results for self-reported symptoms, people who scored more highly on right-wing authoritarianism and, to a lesser extent, conservatism were judged as less well-adjusted by their friends and family members and were also more likely to exhibit chronically distressed outcome trajectories. More specifically, authoritarian participants were seen as less healthy by their friends and family members in general, even before 9/11 ( $r = -.28, p < .05$ ), and they were also seen as faring more poorly in the 7 months after 9/11 ( $r = -.28, p < .05$ ). Conservative participants were seen as marginally less well-ad-

justed by their friends and family members 18 months after the terrorist attacks ( $r = -.24, p < .10$ ). There was no consistent relationship between coping and adjustment as perceived by friends and relatives and participants' likelihood of reporting a conservative shift (see Table 2).

We also examined the ideological variables in relation to the categorical outcome trajectories on the basis of friend-relative ratings by using the same planned contrasts and contingency analyses in the preceding paragraphs. The small sample size available for this analysis clearly limited statistical power. Although there were no significant effects for authoritarianism or conservatism, the planned contrast weighing the chronic symptom group against all other participants was again significant for the conservative shift variable. Participants categorized by friends-relatives as exhibiting a chronic symptom trajectory were significantly more likely than all other participants to report a conservative shift (chronic:  $M = 0.73, SD = 0.47$ ; nonchronic:  $M = 0.21, SD = 0.43$ ),  $t(31) = 3.11, p < .01$ . None of the analyses weighing the resilient group against other participants were significant.

An ANCOVA in which the friend-relative-assigned chronically distressed group was compared with all other participants (with right-wing authoritarianism and liberalism-conservatism entered as covariates) revealed a significant difference,  $F(1, 30) = 6.75, p < .05$ . The contingency analysis for the conservative shift variable was significant as well,  $\chi^2(1, N = 34) = 8.19, p < .05$ . Consistent with the results of the contrast analysis, these findings indicated that the shift toward conservatism was significantly more prevalent among participants who were assigned by friends-relatives to the chronic symptom trajectory (see Figure 2). Thus, chronic distress (but not resilience) was once again associated with conservative shift.

### Personal and Social Reactions to 9/11

Correlations between personal and social reactions to 9/11 and the ideological variables are listed in Table 1. The desire for revenge was indeed correlated with political orientation and conservative shift. Participants who indicated that they would feel better if the U.S. military found Bin Laden scored higher on right-wing authoritarianism ( $r = .33, p < .05$ ) and political conservatism ( $r = .21, p < .10$ ) and were much more likely to report a conservative shift ( $r = .55, p < .001$ , partial  $r = .51, p < .001$ ). Those who reported that they would “kill Bin Laden myself if [they] could” scored marginally higher on right-wing authoritarianism ( $r = .23, p < .10$ ) but not on political conservatism ( $r = .14, ns$ ); they were also significantly more likely to exhibit conservative shift ( $r = .43, p < .01$ , partial  $r = .40, p < .01$ ). Finally, participants who felt that the accidental bombing of civilian women and children would be “an unfortunate but acceptable risk in the war on terrorism” scored significantly higher on right-wing authoritarianism ( $r = .44, p < .01$ ), political conservatism ( $r = .45, p < .01$ ), and also reported becoming more conservative ( $r = .39, p < .01$ , partial  $r = .23, p < .10$ ).

There was also evidence that increased support for militarism and patriotism was associated with conservatism and conservative shift (see Table 1). Participants who agreed that their support for the military had increased since 9/11 scored higher on right-wing authoritarianism ( $r = .46, p < .001$ ), political conservatism ( $r = .38, p < .01$ ), and conservative shift ( $r = .48, p < .001$ , partial  $r = .36, p < .01$ ). People who disagreed with the war in Afghanistan scored marginally lower on authoritarianism ( $r = -.21, p < .10$ ) and conservative shift ( $r = -.23, p < .10$ , partial  $r = .11, ns$ ), and they were significantly less conservative overall ( $r = -.31, p < .05$ ). Increased patriotism since 9/11 was significantly associated with authoritarianism ( $r = .42, p < .01$ ), conservatism ( $r = .35, p < .01$ ), and conservative shift ( $r = .42, p < .01$ , partial  $r = .30, p < .05$ ).

With regard to religious attitudes, increased religious faith was correlated with increased authoritarianism ( $r = .25, p < .05$ ), conservatism ( $r = .27, p < .05$ ), and conservative shift ( $r = .41, p < .01$ , partial  $r = .33, p < .05$ ). Interestingly, the tendency to doubt one’s faith in the aftermath of 9/11 was also associated with increased right-wing authoritarianism ( $r = .21, p < .10$ ), conservatism ( $r = .24, p < .10$ ), and conservative shift ( $r = .26, p < .05$ , partial  $r = .17, ns$ ), suggesting that a period of religious doubt may have preceded the trauma-related strengthening of their faith. Cynicism, measured in terms of increased awareness of the “dark side of human nature” significantly predicted authoritarianism ( $r = .35, p < .01$ ), conservatism ( $r = .34, p < .05$ ), and conservative shift ( $r = .26, p < .05$ , partial  $r = .11, ns$ ).

<sup>7</sup>Results from analyses of partial correlations suggest that conservatives’ increased desire for revenge, militarism, patriotism, religiosity, and cynicism, and their decreased use of humor (see Table 1) was due at least in part to the strong correlation between conservatism and right-wing authoritarianism ( $r = .70, p < .001$ ). After adjusting for right-wing authoritarianism, the partial correlations between conservatism and each of these other variables were considerably weaker, and in most cases they became nonsignificant.

The use of humor as a way of coping with the tragedy was negatively associated with right-wing authoritarianism ( $r = -.25, p < .05$ ), political conservatism ( $r = -.22, p < .10$ ),<sup>7</sup> and the likelihood of experiencing a conservative shift ( $r = -.34, p < .05$ , partial  $r = -.27, p < .05$ ).

Finally, the measures of posttraumatic growth were differentially correlated with the ideological variables. Conservatism was positively correlated with the perception of new interests and opportunities in the aftermath of 9/11 at Wave 1 ( $r = .28, p < .05$ ) but not at Wave 2 ( $r = .08, ns$ ). Conservative shift was positively correlated with the perception of new interests and opportunities at Wave 1 ( $r = .33, p < .05$ , partial  $r = .27, p < .05$ ) and Wave 2 ( $r = .28, p < .05$ , partial  $r = .31, p < .05$ ), and it was also positively correlated with personal growth at Wave 2 ( $r = .28, p < .05$ , partial  $r = .24, p < .10$ ). Right-wing authoritarianism was not meaningfully associated with any of the posttraumatic growth variables. None of the ideological variables were correlated with social benefit finding.

### DISCUSSION

We set out in this study to examine the prevalence and consequences of conservative shift among high-exposure survivors of the 9/11 terrorist attacks in New York City. Adorno et al. (1950) and, more recently, Jost, Glaser, et al. (2003) have argued that when people are faced with traumatic, system-threatening events, they tend to shift toward a more conservative ideology as a means of coping with uncertainty and threat. We anticipated that such a shift would be perceptible in a small but important group of proximal survivors of the WTC attacks. Most of the participants had been in direct physical danger and had witnessed death or injury to others, leaving them particularly vulnerable to the effects of system threat and to potentially high levels of distress and trauma.

An additional aim of the present study was to explore whether conservative shift might serve adaptive ends and promote adjustment, or, alternatively, whether it might constitute a maladaptive response that would tend to be associated with worsening psychological functioning. Previous studies have documented widespread individual differences in adjustment among individuals with proximal exposure to the 9/11 attacks (Bonanno et al., 2005; Bonanno, Galea, Bucciarelli, & Vlahov, 2006). In the current study, we examined political orientation and conservative shift in relation to measures of psychopathology as well as to a broader range of personal and social responses to 9/11.

As expected, there was clear evidence for a general conservative shift in the current sample. Almost three times as many participants reported becoming more conservative than those who reported becoming more liberal in the 18 months following 9/11. What is more, conservative shift occurred across political party lines; that is, a shift toward conservatism was reported by sizeable proportions of self-identified Democrats and Independents, as well as Republicans, and

within each group conservative shift was always more prevalent than liberal shift. These results are consistent with the notion that the appeal of conservatism is generally enhanced by psychological needs to manage uncertainty and threat (Jost, Glaser, et al., 2003; Jost et al., 2004).

We also obtained partial support for a related hypothesis that politically conservative attitudes would be predicted by participants' degrees of exposure to danger, death, and injury during the terrorist attacks. Although it should be noted that all of the participants were high-exposure in absolute terms, especially high levels of exposure were associated with conservatism and right-wing authoritarianism but not with the likelihood of conservative shift. One possible explanation for this mixed pattern of results is that whereas the perceived severity of a highly threatening event may be linked to absolute levels of political orientation, the change or shift in conservative attitudes provides a more sensitive "readout" of the ongoing quality of life after the event. This idea was also suggested by the data on the course of longitudinal adjustment in the 18 months following the attack, which we discuss in more detail in the following paragraphs.

The question of whether a conservative response to trauma is adaptive or maladaptive is an interesting and evocative one. The research literature has suggested two broad but competing hypotheses concerning the relationship between conservative attitudes and psychological adjustment. On one hand, when viewed through the lens of the classic work of Adorno et al. (1950) on authoritarianism, a conservative response to threat including cynicism, hostility, and the desire for vengeance would be characterized as rigid, defensive, and inflexible (see also Altemeyer and Hunsberger, 1992). This view would suggest that conservatism, in large part because it is associated with authoritarianism, should be associated with more severe trauma reactions and a worse overall course of adjustment over time. On the other hand, more recent evidence from studies of trauma and adversity (e.g., Bonanno et al., 2005) has suggested that relatively inflexible, pragmatic coping strategies that may have maladaptive consequences in some situations might prove to be salutary in the context of excessively demanding or threatening circumstances (Bonanno, 2004, 2005). The present work would suggest that conservative attitudes, by virtue of their consistency and rigidity, could conceivably defend against the stress of the 9/11 attacks and be associated with improved well-being, at least in some domains of adjustment.

Overall, our results consistently link conservative attitudes and conservative shift with poorer psychological functioning. All three of the conservatism variables that we measured in this study (and especially right-wing authoritarianism) correlated with elevated symptoms of depression and PTSD at both 7 and 18 months after 9/11. Of particular note, conservative shift was more prevalent among participants who exhibited a chronically distressed symptom trajectory based on either self-reported symptoms or anonymous ratings from friends-relatives, even after adjusting for liberalism-conservatism and right-wing authoritarianism as

covariates. By contrast, there was no evidence that the likelihood of a conservative shift was associated with a healthy pattern of adjustment or resilience.

Taken in conjunction, these findings suggest that conservative, right-wing, and especially authoritarian responses are associated with a relatively maladaptive way of responding to extreme psychological threat. However, it is important to emphasize that these data are correlational in nature and therefore cannot be used to draw causal conclusions. We do not yet know whether severe emotional distress leads to increased conservatism or increased conservatism leads to chronic symptoms of distress (or both). In light of evidence that conservatism and religiosity are both associated with self-reported happiness in the general population (Pew Research Center, 2006), it seems more likely that distress increases an affinity for conservatism rather than vice versa. Along these lines, our findings are more consistent with the notion that initial elevations in trauma reactions (measured during the first wave of data collection) led to greater conservative shift, rather than the other way around, insofar as the political attitude variables were measured during the second wave. Settling these matters will require experimental investigation, although experimental interventions will necessarily (for ethical reasons) manipulate levels of threat that are substantially less severe than those experienced by proximal survivors of the 9/11 terrorist attacks. It would also be advisable in future studies to track political orientation longitudinally and to measure actual (rather than perceived) ideological change.

Although most of our evidence suggests that conservative shift is a maladaptive form of coping, the data also suggest a somewhat more nuanced portrait of conservatism—one that may contain some adaptive features. On one hand, right-wing attitudes were associated with the sort of "dark" and vengeful inclinations found in previous studies to predict PTSD reactions (e.g., Cardozo et al., 2003). Right-wing authoritarianism, conservatism, and conservative shift were all associated with increased cynicism and a greater desire for vengeance following the 9/11 attacks. They were also inversely correlated with the use of the potentially adaptive coping mechanism of humor (e.g., see Fredrickson, Tugade, Waugh, & Larkin, 2003; Keltner & Bonanno, 1997). On the other hand, some findings suggest that increased conservatism may be associated with a potentially adaptive narrowing and affirmation of core values. Right-wing authoritarianism, conservatism, and conservative shift were all associated with increased patriotism (as well as militarism) and stronger religious faith. In ongoing research, we are seeking to better understand the co-occurrence of political conservatism and religiosity (especially religious fundamentalism) in terms of psychological needs to reduce uncertainty and threat (e.g., Napier & Jost, 2006).

Intriguingly, conservatism in our sample was also associated with a questioning of religious faith, implying a struggle and then an ultimately deeper affirmation of spiritual beliefs. Conservatism and conservative shift were also associated

with the perception that the tragedy of 9/11 ultimately led to the development of new interests and opportunities, and conservative shift was associated with at least some forms of perceived personal growth. Regarding the latter, it is important to note that although posttraumatic growth is assumed to be a positive form of coping (e.g., Linley & Joseph, 2004), a number of investigators have begun to question whether it is in fact measuring a healthy coping response (Hall, Hobfoll, Cannetti-Nisim, Johnson, & Galea, 2006; Tomich & Helgeson, 2004). The current study does not provide data that are capable of resolving this issue, but it does seem noteworthy that participants' self-reported perceptions of perceived personal growth were at odds with friends-relatives ratings of these same participants' outcome trajectories. We hope that our study will stimulate further research dedicated to analyzing the potential benefits as well as costs (from a mental health standpoint) of adopting liberal versus conservative ideologies.

### CONCLUDING REMARKS

We obtained evidence in a sample of proximal survivors of the 9/11 terrorist attacks that, consistent with prior theorizing, heightened psychological needs to manage uncertainty and threat increase the appeal of conservative ideology and decrease the appeal of liberal ideology. WTC survivors (regardless of political partisanship) exhibited a significantly stronger tendency to become more conservative (rather than more liberal) in the 18 months following the attacks. Although conservative shift was associated with increased religiosity and the belief that the terrorist attacks created new interests and opportunities, the bulk of the evidence suggests that embracing right-wing ideology in the face of extreme threat is maladaptive from a mental health perspective. Conservatism, right-wing authoritarianism, and conservative shift were all associated with increased cynicism, militarism, and the desire for revenge, and they were negatively associated with the use of humor as a coping strategy. Conservatism, right-wing authoritarianism, and conservative shift were also associated with chronically elevated levels of depression and PTSD. These findings shed considerable (and much needed) light on the complex but fascinating set of correspondences between the psychological needs of the individual, on one hand, and the contents of specific social and political ideologies on the other. It appears that ideology is, at least in part, an attempt to cope with the challenges and exigencies of life.

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