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**Effects of viewing 9/11 footage on distress and Islamophobia:**

**A temporally-expanded approach <sup>1</sup>**

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**Abstract**

We investigated whether viewing 9/11 footage affected people's perceived distress spanning past, present, and anticipated future. Participants ( $n=174$ ) were randomly assigned to a 9/11, fear, or neutral condition. Participants completed measures of temporal perceived distress, distress of future terrorism, Islamophobia and restriction of civil liberties attitudes. Participants in the neutral and fear conditions perceived their 9/11-related distress as declining from past to present to anticipated future. Those in the 9/11 condition perceived their distress as higher at present and declining from present (*vs.* past ratings). Those viewing 9/11 footage (*vs.* neutral and fear videos) reported greater future terrorism distress, less positive attitudes toward Muslims, and greater endorsement of restriction of civil liberties. These differences were explained by higher 9/11-related distress ratings for past 5 years, present and anticipated future.

Collective tragedies affect people around the globe. Examples include the July 7 bombings in London, the September 11<sup>th</sup> 2001 attacks on the World Trade Centre in New York City, and the earthquake and tsunami in Japan 2011. Collective tragedies are associated with adverse effects on mental and physical health, as well as sociopolitical attitudes including prejudice (Slone, 2000). Research in this area has predominately explored whether exposure that is temporally *proximal* to (i.e., occurring at the time of, or shortly after) a collective tragedy affects people in the short and longer terms. Notably, exposure to collective tragedies can also occur temporally *distal* to an event. Temporally distal media exposure, for instance, typically accompanies occasions like anniversaries of tragedies. Ten years after the September 11<sup>th</sup> 2001 terrorist attacks on New York City's World Trade Centre in the U.S., for example, images of the attacks were prominent in western media, often in relation to memorials and remembrances. Less is known about the effects of exposure to collective tragedies that is temporally distal (*vs.* proximal) to an event. In the present study, we investigated the effects on distress and sociopolitical attitudes of viewing 9/11 footage (*vs.* neutral and fear videos) 10 years after the September 11<sup>th</sup> attacks.

Novel to existing research, and to gain a richer understanding of these effects, we assessed *temporal* perceptions of distress associated with 9/11. That is, we examined whether viewing 9/11 footage affected people's perceived distress spanning past, present, and anticipated future (i.e., perceived distress of 9/11 in the past, today, and in the future). We also tested the effect of viewing 9/11 footage (*vs.* neutral and fear videos) on perceived distress of future terrorism, Islamophobia, and civil liberties attitudes. Finally, we tested whether specific temporal (past, present, or anticipated future) perceptions of distress associated with 9/11 explained the

greater distress of possible future terrorism, Islamophobia, and support for the restriction of civil liberties predicted to result from viewing 9/11 footage (*vs.* neutral and fear videos).

### **Mental health consequences of 9/11**

The September 11<sup>th</sup> attacks produced several pervasive mental health consequences, including elevated and acute stress or distress-related symptoms. One national survey in the U.S. conducted 3-5 days after 9/11 revealed that 90% of adult participants reported that either they personally or their children experienced some stress symptoms as a result of the terrorist attacks; findings showed that 68% and 44% of participants experienced stress symptoms to a moderate or greater degree, respectively (Schuster et al., 2001). One to two months following 9/11, Stein et al. (2004) found that 80% of American participants were still experiencing stress symptoms “a little bit”, with 43% and 21% experiencing continued stress symptoms moderately and substantially, respectively. The September 11<sup>th</sup> attacks also fostered anxiety about the possibility of future terrorist attacks: In an American national probability sample, Silver et al. (2002) found that one month, two months, and six months following 9/11, 81.9%, 64.6% and 37.5% of participants respectively, experienced anxiety about future terrorism (see also Huddy et al., 2005; Huddy, Feldman, & Cassese, 2007). These studies illustrate how extensive the adverse mental health outcomes have been for a substantial number of Americans, and show that for most people, these adverse effects declined over time (see also Schlenger, 2002).

Media exposure proximal to 9/11 is implicated in the occurrence and severity of adverse mental health outcomes. Individuals viewing more hours of television and news reports around the time of 9/11 experienced higher distress (Cardena, Dennis, Winkel, & Skitka, 2005; Schlenger et al., 2002). In a recent longitudinal study with American adults, Silver et al. (2013) showed that greater media exposure to 9/11 predicted symptoms of posttraumatic stress 1-3

weeks and 2-3 years after the terrorist attacks. Media coverage and exposure to 9/11 was not restricted to the U.S. and Americans; people from all over the world were exposed to footage and images of 9/11. Presumably as a result of the international coverage, the negative mental health consequences of 9/11 were also not constrained to Americans: Even school-aged children in the UK who viewed news reports of the attacks reported posttraumatic stress symptoms (Holmes, Creswell, & O'Connor, 2007). Thus, the amount of media exposure temporally *proximal* to the September 11<sup>th</sup> attacks influenced the extent to which 9/11 adversely affected mental health.

Exposure to a collective tragedy can also be temporally distal. Media exposure that is distal to a collective tragedy typically accompanies occasions such as anniversaries of tragedies. Leading up to and on September 11<sup>th</sup> 2011, for example, popular U.S. television news programs like “60 Minutes” aired 9/11 anniversary shows displaying footage of the 9/11 attacks. Previous research shows that viewing videos of 9/11 fosters negative emotions such as anger and anxiety (Lambert et al., 2010). Given the prevalence of distress as an adverse outcome of 9/11, the present research focuses on this emotion. We propose that just as exposure proximal to 9/11 produced stress symptoms, temporally distal exposure to footage of 9/11 may similarly heighten distress.

### **A temporally expanded approach**

Self-evaluation often encompasses a view of the self through time (Ryff, 1991; Sanna & Chang, 2006; Staudinger, Bluck, & Kerzberg, 2003). In considering a temporally-expanded view of the self, Kilpatrick and Cantril (1960) developed “self-anchoring ladders” on which people rated their lives in the past, present, and anticipated future. The pattern of temporal ratings has been informative in the well-being domain. First, ratings of well-being indices such as life satisfaction, positive affect, and negative affect consistently take the form of upward temporal

trajectories: People perceive their lives becoming more satisfying and characterized by greater positive affect and less negative affect over time (Busseri, Choma, & Sadava, 2009, 2012; PEW, 2010). Second, researchers have shown that the upward subjective temporal trajectories encompassing past, present, and anticipated future ratings predict (poorer) mental, physical, and interpersonal functioning (Busseri et al., 2009, 2012; Lachman, Rocke, Rosnick, & Ryff, 2008; Rocke & Lachman, 2008). Given that temporally-expanded approaches permit a more nuanced investigation of self-evaluations and their implications, we adopted a temporally-expanded approach of perceived distress associated with 9/11.

We modified the life satisfaction “self-anchoring ladders” (i.e., scales on which people rate their life satisfaction; see Busseri et al., 2009, 2012; Choma, Busseri, & Sadava, 2013; Kilpatrick & Cantril, 1960) to assess temporal perceptions of distress associated with 9/11 spanning 20 years: Perceived distress of 9/11 10 years ago (2001), 5 years ago, present day (2011), and 5 years and 10 years in the anticipated future. As noted by previous researchers, most people perceive their stress stemming from 9/11 as diminishing over time (Schlenger et al., 2002; Schuster et al., 2001; Stein et al., 2004). This pattern is consistent with the general trend of perceiving one’s life as becoming better over time (Busseri et al., 2009, 2012; Lachman et al., 2008; Rocke & Lachman, 2008; PEW, 2010). Accordingly, we hypothesized that individuals exposed to neutral footage and footage eliciting general fear would perceive distress of 9/11 as declining from past to present to anticipated future. We did not expect the same downward subjective trajectory to characterize individuals exposed to footage of 9/11 10 years after the attacks. Although we expected a downward trend, we hypothesized that viewing 9/11 footage (vs. neutral or fear videos) 10 years later would alter the nature of the temporal trajectory of distress. Specifically, we expected that participants who viewed 9/11 footage would report

heightened distress at present thereby recalibrating the trajectory and ultimately delaying the eventual decline of perceived distress.

### **9/11 and Prejudice**

The September 11<sup>th</sup> 2001 attacks also negatively impacted intergroup relations. Prejudice towards Muslims, or Islamophobia (Brown, 2000; Poynting & Mason, 2007; Runnymede Trust, 1997), was particularly affected by 9/11. Islamophobic attitudes continued to worsen in the wake of the September 11<sup>th</sup> attacks, becoming increasingly negative from 2005 to 2010 (PEW, 2010). Prejudice and discrimination against Muslims was not constrained to the U.S.; although in Europe in 2000 prejudice towards Muslims was high compared to other immigrant groups (Stabac & Listhaug, 2008), these attitudes became increasingly negative following 9/11 (Allen & Nielsen, 2002; Fetzer & Soper, 2003; Sheridan & Gillet, 2005). In line with these findings, we expected that exposure to 9/11 footage 10 years after the attacks would similarly lead to greater Islamophobia.

Emotions play a fundamental role in the formation of prejudicial bias. Of particular relevance to the present research, incidental emotions, or emotions unrelated to the intergroup context, affect stereotyping and prejudice (Bodenhausen, Mussweiler, Gabriel, & Moreno, 2001; DeSteno, Dasgupta, Bartlett, & Caidric, 2004). Studying the impact of incidental emotions on implicit bias, Dasgupta, DeSteno, Williams, and Hunsinger (2009) recently proposed the ‘emotion-specific hypothesis.’ They argued that incidental emotions “applicable” to an outgroup increase prejudice (p. 585). In their research (Experiment 2), they showed that whereas incidental disgust fostered greater prejudice toward homosexuals (a disgust-relevant group), incidental anger did not. Hence, incidental emotions principally germane to an outgroup increase intergroup bias toward that outgroup, in particular.

Fear of Muslims has been underscored by the media (Richardson, 2004) with research correspondingly investigating the role of fear in relation to Islamophobia (e.g., Choma, Hodson, & Costello, 2012). We believe distress to be another emotion significant for understanding Islamophobia in the wake of 9/11. Distress or stress-related symptoms were among the most commonly reported mental health outcomes in response to 9/11, and negative attitudes toward Muslims rose following the September 11<sup>th</sup> attacks. Hence, distress might, in part, explain the relation between 9/11 and Islamophobia. Therefore, we test whether distress arising from viewing 9/11 footage 10 years after the attacks leads to higher Islamophobia. Importantly, we examined whether perceived distress associated with 9/11 at specific temporal perspectives (past vs. present vs. anticipated future) mediated the effect of viewing 9/11 footage (vs. neutral and fear videos) on Islamophobia. In other words, we sought to answer whether it is the perception of distress at the time of 9/11 (2001; i.e., *past*), *present* day (2011), or *anticipated future* distress (2021), that is most pertinent to Islamophobia.

### **9/11 and Civil Liberties Attitudes**

Several sociopolitical attitudes and policies were profoundly affected by 9/11. Civil liberties, for instance, were reduced considerably with the passage of the USA Patriot Act (see Huddy & Feldman, 2011; Whitehead & Aden, 2002). The majority of Americans endorsed the restriction of civil liberties in order to counter terrorism immediately following 9/11 (Huddy, Khatib, & Capelos, 2002; see Morgan et al., 2011). Extending this previous research, we expected that viewing 9/11 footage 10 years after the attacks would similarly affect civil liberties attitudes.

Conservative attitudes like restriction of civil liberties attitudes are often studied in relation to threat-sensitive individual differences such as right-wing authoritarianism or political

conservatism (Breckenridge & Moghaddam, 2012; Cohrs, Kielman, Maes, & Moschner, 2005; Crowson & DeBecker, 2008). Research also shows that situational threat, including threat stemming from 9/11, predicts the endorsement of conservative attitudes; this phenomenon is known as the ‘conservative shift’ (Bonanno & Jost, 2006; Landau et al., 2004; Huddy & Feldman, 2011; Jost, Glaser, Kruglanski, & Sulloway, 2003; Thorisdottir & Jost, 2011). Consistent with the conservative shift, perceived terrorist threat predicts greater support for the restriction of civil liberties (this effect has been shown to be independent of, and in interaction with, individual differences in authoritarian and conservative ideologies) (Cohrs et al., 2005; Huddy et al., 2005; see Huddy & Feldman, 2011). As an example, Americans who reported feeling insecure following 9/11 were more likely to endorse the restriction of civil liberties (Huddy, Feldman, & Weber, 2007). Just as feelings of insecurity predicted restriction of civil liberties attitudes, distress resulting from viewing 9/11 footage 10 years later might also lead to restriction of civil liberties attitudes. Presently, we focus on distress. Further, we examined whether perceived distress associated with 9/11 at specific temporal perspectives (past, present, anticipated future) mediated the effect of viewing 9/11 footage (*vs.* neutral and fear videos) on restriction of civil liberties attitudes.

### **The Present Study**

In summary, collective tragedies produce adverse effects on mental and physical health, prejudice, and sociopolitical attitudes. Modern media with graphic footage intimately acquaints people from around the world with tragedies they might otherwise be ignorant of. Not surprisingly, media exposure to collective tragedies, like the September 11<sup>th</sup> 2001 attacks on the U.S., amplified the negative effects of 9/11 (Silver et al., 2013). Most research studying the effects of media exposure to 9/11 has examined the effects of exposure temporally *proximal* to

the event. In contrast, we explored whether viewing 9/11 footage that is temporally *distal* to the event (10 years later), similarly affected distress, Islamophobia, and sociopolitical attitudes.

Adopting a temporally-expanded approach, we investigated whether viewing 9/11 footage compared to a neutral video and a fear video 10 years after the attacks affected temporal perceptions of distress associated with 9/11, distress of future terrorism, Islamophobia, and attitudes toward the restriction of civil liberties. First, we hypothesized that those viewing neutral and fear videos would report a downward subjective temporal perspective distress trajectory whereby perceived distress associated with 9/11 decreased from past to present to anticipated future. In contrast, we predicted that those viewing 9/11 footage would report an altered trajectory with perceived distress higher at (i.e., recalibrated to) present and then declining to anticipated future. Second, we predicted that viewing 9/11 footage (*vs.* neutral and fear videos) would generalize to greater distress of future terrorism. Third, we predicted that participants viewing 9/11 footage (*vs.* neutral and fear videos) would report greater Islamophobia and greater endorsement of the restriction of civil liberties. Finally, we hypothesized that temporal perceptions of distress associated with 9/11 would mediate the effect of viewing 9/11 footage on distress of future terrorism, Islamophobia, and restriction of civil liberties attitudes. We explored each subjective temporal perspective distress rating as a potential mediator to determine whether recollected, current, or anticipated future ratings of distress explained the adverse outcomes of viewing 9/11 footage.

## **Method**

### **Participants and Procedure**

British university students ( $n=174$ ;  $M_{age}=24.92$ ;  $SD=11.74$ ; 75.3% female; 94.8% White) participated in a single lab session. Participants were seated in front of individual computers,

completed a consent form, and were randomly assigned to one of three conditions<sup>1</sup>. Those in the *9/11 condition* viewed a 3-minute 55-second video showing the events of 9/11 in chronological order: The towers being hit by the planes, the fire bellowing from the towers, the towers collapsing, and people fleeing from the dust clouds. The film ended with a view of the altered NYC skyline. The clips included audio as it would have been captured by those who filmed the event; however, the clips did not have commentary or music. Participants in the *neutral condition* viewed a clip from “An Introduction to the Earth’s Geology”. Participants in the *fear condition* viewed clips from “The Shining” and “Silence of the Lambs”; these clips have previously been shown to heighten fear (Choma et al., 2012; Rottenberg, Ray, & Gross, 2007). Participants in all conditions wore headphones while viewing the videos. All participants then completed measures of temporal distress associated with 9/11, distress concerning the possibility of a future terrorist attack, Islamophobia, and attitudes towards the restriction of civil liberties.

## Measures

**Temporal distress.** Participants were instructed to “Please take a moment to think of the September 11<sup>th</sup> 2001 attacks on the World Trade Centre in New York City.” Drawing on Kilpatrick and Cantril’s (1960) widely used temporal life satisfaction measure, participants then rated their distress about the attacks at five temporal points: “Right now”, “10 years ago (September 2001)”, “5 years ago at this time (2006)”, “5 years from now (2016)”, and “10 years from now (2021)”. A response scale from 1-*not at all distressed* to 9-*extremely distressed* was used.

**Distress of future terrorism.** Participants responded to a single item asking how distressed they felt “right now, in this moment” about “the possibility of a future terrorist attack” on a scale from 1-*not at all distressing* to 9-*extremely distressing*.

**Islamophobia.** The 16-item Islamophobia Scale (Lee et al., 2009) was employed. Three items of the scale referencing America were modified to reflect that the study was being conducted in the UK. Participants responded to items (e.g., “If I could I would avoid contact with Muslims”; “Islam is a religion of hate”) on a scale from 1-*strongly disagree* to 5-*strongly agree*. Higher scores indicated greater Islamophobia ( $\alpha=.93$ ).

**Restriction of civil liberties.** Participants responded to 14-items [e.g., “There is a need to give up some of our civil liberties in the name of security”; “Anti-terror laws should not encroach on our civil liberties” (reverse-keyed) (Allen, 2011)] on a scale from 1-*strongly disagree* to 7-*strongly agree*. Higher scores indicated greater endorsement of the restriction of civil liberties ( $\alpha=.78$ ).

## Results

### Descriptive Statistics

Means, standard deviations and zero-order correlations among study variables are shown in Table 1.

### The Effect of Condition on Temporal Ratings of Distress

To determine whether ratings of distress associated with 9/11 varied across temporal perspective and as a function of experimental condition, a 5 x 3 mixed-model ANOVA was conducted with temporal perspective (TP) (past 10 years, past 5 years, present, anticipated future 5 years, anticipated future 10 years) as a within-subject variable and experimental condition (9/11, fear, neutral) as a between-subject variable. Means and standard deviations by TP and experimental condition are shown in Table 2.

The main effect of TP was significant: Wilk’s  $\lambda=.51$ ,  $F(4, 168)=39.63$ ,  $p<.001$ ,  $\eta^2=.48$ . Collapsed across experimental condition, mean ratings of distress past 10 years ( $M=6.75$ ), past 5

years ( $M=5.18$ ), right now ( $M=4.88$ ), anticipated future 5 years ( $M=4.43$ ), and anticipated future 10 years ( $M=4.13$ ) differed significantly from each other (all  $ps < .019$ ). This resulted in a non-linear declining trajectory of the temporal distress ratings. The main effect of experimental condition was significant:  $F(2, 171)=7.38, p=.001, \eta^2=.08$ . Collapsed across TP, those in the 9/11 condition reported greater distress overall ( $M=5.79$ ) compared to those in the neutral condition ( $M=4.80; p=.003$ ) and those in the fear condition ( $M=4.62; p<.001$ ). There were no differences between the neutral and fear conditions ( $p=.578$ ).

The hypothesized 2-way interaction between TP and experimental condition was significant: Wilk's  $\lambda=.76, F(8, 336)=6.01, p<.001, \eta^2=.12$ . Non-linear trajectories were observed across TP for participants in all three conditions, and, as expected, the shapes of these trajectories differed for participants in the 9/11 versus neutral and fear conditions (see Figure 1; see Table 2 for mean ratings). For participants in the neutral and fear conditions, mean ratings of distress declined from past to present to anticipated future. Mean ratings of distress at each TP significantly differed from ratings at other TPs (in the neutral condition: all  $ps < .005$ , except between right now and anticipated future 5 years  $p=.089$ ; in the fear condition: all  $ps < .093$ , except between right now and anticipated future 5 years  $p=.323$ ). For participants in the 9/11 condition, mean ratings of distress at each TP significantly differed from ratings at other TPs (all  $ps < .028$ ), with the exception of past 10 years versus right now ( $p=.803$ ) and past 5 years versus anticipated future 5 years ( $p=.454$ ). Therefore, as illustrated in Figure 1, though mean ratings of distress generally declined across TPs, this perceived decline was altered at the "right now" temporal point. Furthermore, ratings at past 10 years did not differ significantly between conditions ( $ps > .105$ ). Participants in the 9/11 condition reported significantly higher ratings at past 5 years than those in the fear condition ( $p=.049$ ). Participants in the 9/11 condition,

however, reported significantly greater distress than those in the neutral and fear conditions at present, anticipated future 5 years, and anticipated future 10 years ( $ps < .001$ ). Therefore, consistent with hypotheses, viewing 9/11 footage (vs. neutral and fear conditions) altered the perception of distress concerning 9/11 over time.

### **The Effect of Condition on Distress of Future Terrorism, Islamophobia, and Restriction of Civil Liberties Attitudes**

Three regression analyses were conducted to determine whether viewing 9/11 footage versus neutral and fear films affected perceived distress of a possible future terrorist attack, Islamophobia, and the restriction of civil liberties attitudes. Two orthogonal contrasts were created: Contrast 1 (C1) compared the 9/11 condition to the neutral and fear conditions, and contrast 2 (C2) compared the neutral control to the fear control condition. Consistent with predictions, C1 but not C2 predicted greater distress at the possibility of future terrorism ( $b = .54$ ,  $t(171) = 2.09$ ,  $p = .038$ ,  $sr^2 = .02$ ;  $b = .01$ ,  $t(171) = .02$ ,  $p = .983$ , respectively), and greater Islamophobia ( $b = .10$ ,  $t(171) = 1.68$ ,  $p = .095$ ,  $sr^2 = .02$ ;  $b = .06$ ,  $t(171) = .52$ ,  $p = .603$ , respectively). Participants in the neutral and fear conditions did not differ from each other. Also consistent with predictions, C1 predicted greater endorsement of the restriction of civil liberties,  $b = .24$ ,  $t(171) = 2.81$ ,  $p = .006$ ,  $sr^2 = .04$ . C2 marginally predicted weaker endorsement of the restriction of civil liberties,  $b = -.26$ ,  $t(171) = -1.73$ ,  $p = .085$ ,  $sr^2 = .02$ . Therefore, viewing 9/11 footage fostered greater distress of future terrorism, Islamophobia, and endorsement of restriction of civil liberties.

### **Temporal Perceptions of Distress as Mediators**

To determine whether temporal ratings of distress mediated the effects of viewing 9/11 footage compared to neutral and fear conditions on distress of a possible future terrorist attack, Islamophobia, and attitudes toward the restriction of civil liberties, path analyses using AMOS

version 22.0 software were conducted. For each path analysis, C1 (9/11 vs. neutral/fear) and C2 (neutral vs. fear) were modelled as correlated predictors of the proposed mediator (i.e., one of the five TP ratings) and one of the three dependent variables. A path was also estimated from the mediator to the dependent variable. The models were fully saturated ( $df=0$ ), therefore, fit indices are not reported. Indirect (i.e., mediated) effects were estimated based on bias-corrected estimates derived from 1000 bootstrap samples computed using maximum likelihood procedures. Standardized direct and indirect values are reported.

In all of the models, C1 had a direct effect on distress past 5 years ( $+0.15, p=.044$ ), right now ( $+0.43, p<.001$ ), future 5 years ( $+0.32, p<.001$ ) and future 10 years ( $+0.28, p<.001$ ). C1 did not significantly predict distress past 10 years ( $-0.10$ ). That is, viewing 9/11 footage compared to neutral or fear videos predicted greater distress past 5 years, present, and anticipated future, but not past 10 years. Further, C2 did not significantly predict any of the temporal mediators (direct effects from  $-0.00$  to  $-0.07$ ) in any of the models.

### **Distress of possible future attack**

For all of the models with distress of possible future terrorism as the dependent variable, C2 did not have a significant direct effect on distress of a possible future terrorist attack ( $+0.00$  to  $+0.03$ ). There were significant direct effects of C1 on distress of possible future terrorist attacks ( $+0.19, p=.005$ ), and distress past 10 years on possible future terrorism ( $+0.37, p<.001$ ). Distress past 10 years, however, was not a significant mediator. The model explained 16% of the variance in distress of future terrorism. The direct effect of distress past 5 years on distress of future terrorism was significant ( $+0.45, p<.001$ ). The direct path from C1 to distress of possible future terrorism was not significant ( $+0.09$ ); rather C1 had an indirect effect on distress of possible future terrorism ( $+0.07, p=.019$ ). Distress past 5 years, therefore, mediated the effect of viewing 9/11

footage (vs. neutral or fear video) on distress of a possible future terrorist attack. The model explained 23% of the variance in distress of future terrorism. The direct path from distress right now to distress of future terrorism was significant ( $+.55, p<.001$ ). The path from C1 to distress of possible future terrorism was not significant ( $-.08$ ); rather C1 had an indirect effect on distress of possible future terrorism ( $+.24, p=.016$ ). Distress right now, therefore, was a significant mediator. The model explained 27% of the variance in distress of future terrorism. Distress future 5 years had a direct effect on distress of future terrorism ( $+.52, p<.001$ ). The path from C1 to distress of possible future terrorism was not significant ( $-.01$ ); rather, C1 had an indirect effect on distress of possible future terrorism ( $+.16, p=.007$ ). Distress future 5 years, therefore, mediated the effect of viewing 9/11 on distress of a possible future terrorism. The model accounted for 27% of the variance in distress of future terrorism. The direct path from distress future 10 years to distress of future terrorism was significant ( $+.44, p<.001$ ). The path from C1 to distress of possible future terrorism was not significant ( $.03$ ). C1 had an indirect effect on distress of possible future terrorism ( $+.13, p=.006$ ). Therefore, distress future 10 years was a significant mediator. The model accounted for 21% of the variance in distress of future terrorism.

### **Islamophobia**

For all of the models with Islamophobia as the dependent variable, C2 did not have a significant direct effect on Islamophobia ( $+.04$  to  $+.05$ ). There was a marginally significant direct effect of C1 on Islamophobia ( $+.13, p=.079$ ). The effect of past 10 years on Islamophobia was not significant ( $+.05$ ). Therefore, distress past 10 years was not a significant mediator. The model explained only 2% of the variance in Islamophobia. Distress past 5 years had a direct effect on Islamophobia ( $+.15, p=.045$ ). Although the direct effect of C1 on Islamophobia was not significant ( $+.10$ ), C1 had an indirect effect on Islamophobia ( $+.02, p=.015$ ). Distress past 5

years, therefore, mediated the effect of viewing 9/11 (*vs.* neutral or fear video) on Islamophobia. The model explained only 4% of the variance in Islamophobia. The path from distress right now to Islamophobia was significant ( $+0.25, p=.002$ ). C1 did not have a significant direct effect on Islamophobia ( $+0.02$ ); rather it had an indirect effect ( $+0.11, p=.007$ ). Distress right now, therefore, was a significant mediator. The model accounted for 7% of the variance in Islamophobia. Distress future 5 years had a direct effect on Islamophobia ( $+0.23, p=.003$ ). Although C1 did not have a significant direct effect on Islamophobia ( $+0.06$ ), it had an indirect effect ( $+0.07, p=.005$ ). Hence, distress future 5 years mediated the effect of viewing 9/11 (*vs.* neutral or fear video) on Islamophobia. The model explained 6% of the variance in Islamophobia. Distress future 10 years had a direct effect on Islamophobia ( $+0.21, p=.006$ ). C1 did not have a significant direct effect on Islamophobia ( $+0.07$ ); however, C1 had an indirect effect on Islamophobia ( $+0.06, p=.005$ ). Therefore, distress future 10 years mediated the effect of viewing 9/11 (*vs.* neutral or fear video) on Islamophobia. The model explained 6% of the variance in Islamophobia.

### **Restriction of Civil Liberties**

For all of the models with restriction of civil liberties as the dependent variable, C2 had a marginally significant direct effect on attitudes ( $-0.11$  to  $-0.13, ps < .102$ ). There was a significant direct effect of C1 on endorsement of restriction of civil liberties ( $+0.23, p=.001$ ); the indirect effect on attitudes was not significant ( $-0.03$ ). Distress past 10 years had a direct effect on attitudes ( $+0.25, p<.001$ ). Therefore, distress past 10 years was not a significant mediator. The model explained 12% of the variance in endorsement of restriction of civil liberties. C1 had a significant direct effect ( $+0.15, p=.044$ ) and indirect effect on attitudes ( $+0.04, p=.016$ ). Distress past 5 years had a direct effect on attitudes ( $+0.29, p<.001$ ). Distress past 5 years, therefore, was a significant mediator. The model explained 14% of the variance in attitudes. Distress right now

had a direct effect on attitudes (+.30,  $p < .001$ ). Although C1 did not have a significant direct effect on attitudes (+.08), it did have an indirect effect (+.13,  $p = .023$ ). Therefore, distress right now was a significant mediator. The model accounted for 13% of the variance in attitudes.

Distress future 5 years had a direct effect on attitudes (+.33,  $p < .001$ ). C1 did not have a significant direct effect on attitudes (+.10); rather C1 had an indirect effect on attitudes (+.10,  $p = .011$ ). Hence, distress future 5 years mediated the effect of viewing 9/11 (vs. neutral or fear video) on endorsement of restriction of civil liberties. The model explained 16% of the variance in endorsement of restriction of civil liberties. C1 had a marginally significant direct effect on attitudes (+.13,  $p = .087$ ). Distress future 10 years had a direct effect on attitudes (+.30,  $p < .001$ ). C1 also had an indirect effect on attitudes (+.08,  $p = .013$ ). Therefore, distress future 10 years was also a significant mediator. The model explained 14% of the variance in attitudes.

In summary, the greater distress of future terrorism, Islamophobia, and endorsement of restricting civil liberties reported by participants in the 9/11 (vs. neutral and fear) condition was accounted for by higher temporal ratings of distress in the past (5 years), present and anticipated future. Distress past 10 years, however, was not a significant mediator.

### **Discussion**

It is well documented that the September 11<sup>th</sup> 2001 attacks in the U.S fostered adverse and pervasive effects on mental and physical health (Cardeña et al., 2005; Holmes et al., 2007; Schlenger et al., 2002; Schuster et al., 2001; Stein et al., 2004; Silver et al., 2002; Silver et al., 2013), Islamophobic attitudes (Allen & Nielsen, 2002; Fetzer & Soper, 2003; Montieth & Winters, 2002; Sheridan & Gillet, 2005), and endorsement of the restriction of civil liberties attitudes (Huddy et al., 2002; Huddy et al., 2007; see Huddy & Feldman, 2011, Morgan et al., 2011). Research to date, however, has tended to focus on the effects of exposure to 9/11 footage

that is temporally proximal to the attacks. In the present study we investigated the effects of viewing 9/11 footage (vs. neutral and fear videos) 10 years after the attacks. Novel to existing research in this area, we adopted a temporally-expanded approach of 9/11-distress by assessing people's perceptions of 9/11-distress spanning the past, present, and anticipated future.

In the present study, distress associated with 9/11 was perceived of as declining over time. Further, the nature of the distress trajectory varied as a function of experimental condition, as hypothesized. Among participants who watched a neutral or fear video, distress of 9/11 was rated as most distressing at the 10 years past temporal perspective - the temporal perspective mapping onto the time of 9/11. The trajectory was also perceived of as steadily and significantly declining into the present and anticipated future, as predicted. (*Note.* The difference between the ratings for present and 5 years anticipated future was only marginally significant in the neutral condition and non-significant in the fear condition). This downward subjective temporal trajectory mirrors the pattern identified in correlational studies documenting that the adverse effects of 9/11 decline over shorter periods of time (Schlenger et al., 2002; Silver et al., 2002; Stein et al., 2004). Thus, in general, it seems that people experience and envision the adverse effects of 9/11 as diminishing from the past to present to anticipated future.

In contrast to those in the neutral and fear conditions, participants exposed to footage of 9/11 reported an altered subjective temporal distress trajectory that was recalibrated to the present. Specifically, participants in the 9/11 condition envisioned 9/11-related distress as steadily and significantly declining from present to 5 years and 10 years anticipated future (rather than as declining from 10 years past to present to anticipated future, see Figure 1). In fact, ratings of perceived distress in the past 10 years were not significantly affected by experimental condition. In other words, viewing 9/11 footage 10 years after the event did not affect

recollections of distress at the time of the event. Viewing 9/11 footage (*vs.* neutral and fear videos) did, however, lead to greater perceived distress at present and anticipated future (and greater distress past 5 years compared to the fear condition). Therefore, exposure to 9/11 (*vs.* neutral and fear videos) heightened distress at present and postponed the expected decline of distress.

Similar to previous research (Silver et al., 2002), the present study shows that distress produced by viewing 9/11 footage specifically generalizes to concern about future terrorist attacks. Consistent with hypotheses, those who watched footage of 9/11 reported greater distress about future terrorism compared to those who watched neutral or fear videos. Our results showed that viewing 9/11 footage - even 10 years after the attacks - heightens temporal perceptions of distress in the present and anticipated future, and distress about future terrorism. This finding corroborates existing literature indicating that stress-related symptoms, in particular, are connected with exposure to 9/11 (Schuster et al., 2001; Stein et al., 2004). Thus, it seems that exposure to 9/11, proximally or distally, produces adverse outcomes for mental health.

Less positive attitudes toward Muslims were reported by those in the 9/11 condition compared to the neutral condition, as predicted. It is important to note, however, that overall, Islamophobia in the present sample was low. Nevertheless, attitudes toward Muslims were less positive among those who watched 9/11 footage illustrating the potentially destructive effects viewing 9/11 footage can have on intergroup attitudes, even 10 years after the attacks. Indeed, our findings are consistent with related research showing the harmful effects of 9/11 on Islamophobia and anti-Muslim violence (Allen & Nielsen, 2002; Fetzer & Soper, 2003; PEW, 2010; Sheridan & Gillet, 2005).

Also as predicted, we found that viewing 9/11 footage fostered weaker endorsement of civil liberties. This finding is consistent with other research noting that shortly following 9/11 Americans were more likely to endorse the restriction of civil liberties (Huddy et al., 2002; Morgan et al., 2011). Our findings are also in line with research on the ‘conservative shift.’ In particular, exposure to threat including 9/11 threat (and fear) predicts conservative attitudes (Huddy & Feldman, 2011; Jost et al., 2003; Thorisdottir & Jost, 2011). Therefore, exposure to 9/11, proximally or distally, predicts less positive intergroup attitudes and less politically liberal attitudes.

One of our main goals was to evaluate whether adverse outcomes for mental health and sociopolitical attitudes that result from exposure to 9/11 can be explained by temporal distress associated with 9/11. In support of our predictions, viewing footage of 9/11 (vs. neutral and fear videos) fostered greater distress of 9/11 in the past 5 years, present and anticipated future, which in turn predicted heightened distress of future terrorism, less positive attitudes toward Muslims, and weaker endorsement of civil liberties. In other words, exposure to 9/11 might lead to adverse mental health outcomes and destructive sociopolitical attitudes because of the heightened distress that viewing 9/11 footage produces in the past 5 years, present and in the anticipated future.

Generally, the mediation results are consistent with literature suggesting that emotions can impact prejudicial and sociopolitical attitudes. Dasgupta et al. (2009) argued that incidental emotions particularly germane to an outgroup can increase prejudice. Our results show that distress, like fear and intergroup disgust (see Choma et al., 2012; Richardson, 2004), is relevant for understanding prejudice toward Muslims, especially in the context of the September 11<sup>th</sup> 2001 attacks. Further, consistent with research that feeling insecure predicts restriction of civil liberties attitudes (Huddy et al., 2007), temporal ratings of distress at past 5 years, present and

anticipated future had implications for civil liberties attitudes. Thus, emotions like distress arising from exposure to 9/11 footage have negative implications for prejudicial and sociopolitical attitudes.

The present study also revealed that it is perceptions of distress at *past 5 years*, *present* and *anticipated future*, in particular, that explain why viewing 9/11 footage fosters concern of future terrorism and less tolerant and open attitudes. By adopting a temporally-expanded approach we were able to uncover these nuances in the effects of temporal distress perceptions and the implications of perceiving distress associated with 9/11 at various temporal perspectives. Hence, although watching 9/11 footage (*vs.* neutral and fear videos) did not impact recollections of 9/11 distress at the time of the attack, it did affect perceptions of 9/11 distress 5 years past, in the present and anticipated future. Although Figure 1 illustrates the difference in TP ratings, the correlations among the TP ratings, especially the present and future ratings, were strong. Hence, it is possible that participants perceived less of a difference between their ratings in the anticipated future, than their past and present. Findings should be interpreted in light of this pattern. It is our hope that other researchers will consider adopting a temporally-expanded approach to similarly gain a richer understanding of the effects of exposure to 9/11 (especially given the utility of this approach illustrated in other domains; see e.g., Busseri et al., 2009, 2012; Lachman et al., 2008).

In summary, the present study demonstrated that viewing 9/11 footage, even 10 years after the attacks, can have negative repercussions for perceptions of distress, Islamophobia, and sociopolitical attitudes. One implication of the present findings is that showing footage of 9/11 at memorials or remembrances may have unintended negative consequences. Perhaps it is possible that remembering collective tragedies is best done without re-exposing people to traumatic

footage. It is possible that memorials and remembrances that rely on reminders of a tragedy without relying on footage could potentially predict lower (*vs.* higher) levels of distress by encouraging people to perceive their present status as better than at the time of the tragedy. Future research is needed to understand the impact of exposure to footage of collective tragedies in the context of memorials and remembrances.

Conclusions from the present study should be considered in light of limitations. Participants were university students from the UK who were mainly women. Recruiting from a university sample in a nation that is a close ally with the U.S. allowed us to evaluate the implications among a population that was also affected considerably by the 9/11 attacks (see e.g., Holmes et al., 2007). Indeed, our participants would have only been 10 years old at the time of the September 11<sup>th</sup> attacks. For many young people in the western world, they have not known a world without terrorism for much of their lives. Nevertheless, it is unclear whether the findings of the present study generalize to other populations in other countries. Further, participants' familiarity with 9/11 footage was not assessed; it is possible that effects may have varied among those who were more or less familiar with the footage.

**Footnotes**

<sup>1</sup> Participants were randomly assigned to either the 9/11 or neutral video condition. The fear-inducing condition was collected after these two conditions in response to a recommendation by an anonymous reviewer.

### References

- Allen, K. (2011). *Perspective-taking, prejudice, and politics* (unpublished master's thesis). University of Plymouth, Plymouth, UK.
- Allen, C., & Nielsen, J. (2002). Summary report on Islamophobia in the EU after 11 September 2001. *European Monitoring Centre on Racism and Xenophobia*, 34–37.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Bodenhausen, G. V., Mussweiler, T., Gabriel, S., & Moreno, K. N. (2001). Affective influences on stereotyping and intergroup relations. In J. P. Forgas (Ed.), *Handbook of affect and social cognition* (pp. 319–343). Mahwah, NJ: Erlbaum.
- Bonanno, G. A., & Jost, J. T. (2006). Conservative shift among high-exposure survivors of the September 11th terrorist attacks. *Basic and Applied Social Psychology*, 28, 311-323.
- Breckenridge, J. N., & Moghaddam, F. M. (2012). Globalization and a conservative dilemma: Economic openness and retributive policies. *Journal of Social Issues*, 68, 559-570.
- Brown, M. D. (2000). Conceptualizing racism and Islamophobia. In J. ter Wal, & M. Verkuyten (Eds.), *Comparative perspectives on racism* (pp. 79–90). Aldershot: Ashgate Publishing Ltd.
- Busseri, M. A., Choma, B. L., & Sadava, S. W. (2009). Functional or fantasy? Examining the implications of subjective temporal perspective “trajectories” for life satisfaction. *Personality and Social Psychology Bulletin*, 35, 295-308.
- Busseri, M. A., Choma, B. L., & Sadava, S. W. (2012). Subjective temporal trajectories for subjective well-being. *The Journal of Positive Psychology*, 7, 1-15.

- Cardeña, E., Dennis, J. M., Winkel, M., & Skitka, L. J. (2005). A snapshot of terror: Acute posttraumatic responses to the September 11 attack. *Journal of Trauma & Dissociation*, 6, 69-84.
- Choma, B. L., Busseri, M. B., & Sadava, S. W. (2013). Deciphering Subjective Trajectories for Life Satisfaction Using Self-versus-Normative Other Discrepancies, Self-esteem, and Hope. *European Journal of Personality*, 27, 185-199.
- Choma, B. L., Hodson, G., & Costello, K. (2012). Intergroup disgust sensitivity as a predictor of Islamophobia: The modulating effect of fear. *Journal of Experimental Social Psychology*, 48, 499-506.
- Cohrs, J. C., Kielman, S., Maes, J., & Moschner, B. (2005). Effects of right-wing authoritarianism and threat from terrorism on restriction of civil liberties. *Analyses of Social Issues and Public Policy*, 5, 263-276.
- Crowson, H. M., & DeBecker, T. K. (2008). Belief, motivational, and ideological correlates of human rights attitudes. *The Journal of Social Psychology*, 148, 293-310.
- Dasgupta, N., DeSteno, D., Williams, L. A., & Hunsinger, M. (2009). Fanning the flames of prejudice: The influence of specific incidental emotions in implicit prejudice. *Emotion*, 9, 585-591.
- DeSteno, D., Dasgupta, N., Bartlett, M. Y., & Caidric, A. (2004). Prejudice from thin air: The effect of emotion on automatic intergroup attitudes. *Psychological Science*, 15, 319-324.
- Fetzer, J. S., & Soper, J. (2003). The roots of public attitudes toward state accommodation of European Muslims' religious practises before and after September 11. *Journal for the Scientific Study of Religion*, 42, 247-258.

- Holmes, E. A., Creswell, C., & O'Connor, T. G. (2007). Posttraumatic stress symptoms in London school children following September 11, 2001: An exploratory investigation of peri-traumatic reactions and intrusive imagery. *Journal of Behavior Therapy and Experimental Psychiatry, 38*, 474-490.
- Huddy, L., & Feldman, S. (2011). Americans respond politically to 9/11: Understanding the impact of the terrorist attacks and their aftermath. *American Psychologist, 66*, 455-467.
- Huddy, L., Feldman, S., Taber, C., & Lahav, G. (2005). Threat, anxiety, and support of antiterrorism policies. *American Journal of Political Science, 49*, 593-608.
- Huddy, L., Kgatib, N., & Capelos, T. (2002). Trends: Reactions to the terrorist attacks of September 11, 2001. *Public Opinion Quarterly, 66*, 418-450.
- Huddy, L., Feldman, S., & Weber, C. (2007). The political consequences of perceived threat and felt insecurity. *ANNALS, AAPSS, 614*, 131-153.
- Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin, 129* (3), 339-375.
- Kilpatrick, F. P., & Cantril, H. (1960). Self-anchoring scaling: A measure of individuals' unique reality worlds. *Journal of Individual Psychology, 16*, 158-173.
- Lachman, M. E., Roche, C., Rosnick, C., & Ryff, C. D. (2008). Realism and illusion in American's temporal views of their life satisfaction: Age differences in reconstructing the past and anticipating the future. *Psychological Science, 19*, 889-897.
- Lambert, A. J., Scherer, L. D., Schott, J. P., Olson, K. R., Andrews, R. K., & O'Brien, T. C. (2010). Rally effects, threat, and attitude change: An integrative approach to understanding the role of emotion. *Journal of Personality and Social Psychology, 98*, 886-903.

- Landau, M. J. et al. (2004). Deliver us from evil: The effects of mortality salience and reminders of 9/11 on support for President George W. Bush. *Personality and Social Psychology Bulletin*, 30, 1136-1150.
- Lee, S. A., Gibbons, J. A., Thompson, J. M., & Timani, H. S. (2009). The Islamophobia scale: Instrument development and initial validation. *The International Journal for the Psychology of Religion*, 19, 92-105.
- Morgan, G. S., Wisneski, D. C., & Skitka, L. J. (2011). The expulsion from Disneyland: The social psychological impact of 9/11. *American Psychologist*, 66, 447-454.
- Pew (2002). *What the world thinks in 2002: The Pew global attitudes project*. Washington DC: Pew Research Center for the People and the Press.
- PEW Research Centre (2010). *Public remains conflicted over Islam*. Washington DC: Pew Research Centre for the People and the Press.
- Poynting, S., & Mason, V. (2007). The resistible rise of Islamophobia: Anti-Muslim racism in the UK and Australia before 11 September 2001. *Journal of Sociology*, 43, 61-86.
- Richardson, J. E. (2004). *(Mis)Representing Islam: The racism and rhetoric of british broadsheet newspapers*. Philadelphia, PA: John Benjamins Publishing Company.
- Rocke, C., & Lachman, M. E. (2008). Perceived trajectories for life satisfaction across past, present, and future: Profiles and correlates of subjective change in young, middle-aged, and older adults. *Psychology and Aging*, 23, 833-847.
- Rottenberg, J., Ray, R. D., & Gross, J. J. (2007). Emotion elicitation using films. In J. A. Coans, & J. J. B. Allen (Eds.), *Handbook of emotion elicitation and assessment* (pp. 9-28). New York, NY: Oxford University Press.

- Runnymede Trust (1997). *Islamophobia: A challenge for us all*. London: Author.
- Ryff, C. D. (1991). Possible selves in adulthood and old age: A tale of shifting horizons. *Psychology and Aging, 6*, 286-295.
- Sanna, L. J., & Chang, E. C. (Eds.). (2006). *Judgments over time: The interplay of thoughts, feelings, and behavior*. New York, NY: Oxford University Press.
- Schlenger, W.E., Caddell, J.M., Ebert, L., Jordan, B.K., Rourke, K. M., Wilson, D., Thalji, L., Dennis, J.M., Fairbank, J. A., & Kulka, R. A. (2002). Psychological reactions to terrorist attacks. Findings from the national study of American's reactions to September 11. *Journal of the American Medical Association, 288*, 581-588.
- Schuster, M. A., et al. (2001). A national survey of stress reactions after the September 11th, 2001, terrorist attacks. *New England Journal of Medicine, 345*, 1507-1512.
- Sheridan, L. P., & Gillet, R. (2005). Major world events and discrimination. *Asian Journal of Social Psychology, 8*, 191-197.
- Silver, R.C., Holman, E.A., McIntosh, D.N., Poulin, M., & Gil-Rivas, V. (2002). Nationwide longitudinal study of psychological responses to September 11. *Journal of the American Medical Association, 288*: 1235-1244.
- Silver, R. C., Holman, E. A., Andersen, J. P., Poulin, M., McIntosh, D. N., & Gil-Rivas, V. (2013). Mental- and physical-health effects of acute exposure to media images of the September 11, 2001, attacks and the Iraq war. *Psychological Science, 24*, 1623-1634.
- Slone, M. (2000). Responses to media coverage of terrorism. *Journal of Conflict Resolution, 44*(4): 508-523.
- Stabac, Z., & Listhaug, O. (2008). Anti-Muslim prejudice in Europe: A multilevel analysis of survey data from 30 countries. *Social Science Research, 37*, 268-286.

Staudinger, U. M., Bluck, S., & Herzberg, P. Y. (2003). Looking back and looking ahead: Adult age differences in consistency of diachronous ratings of subjective well-being.

*Psychology and Aging, 18*, 13-24.

Stein, B. D. et al. (2004). A national longitudinal study of the psychological consequences of the September 11, 2001 terrorist attacks: Reactions, impairment, and help-seeking.

*Psychiatry, 67*, 105-117.

Thorisdottir, H., & Jost, J. T. (2011). Motivated closed-mindedness mediates the effect of threat on political conservatism. *Political Psychology, 32*, 785-811.

**Table 1**

Means, standard deviations and zero-order correlations among study variables

|   | Mean ( <i>SD</i> ) | 1    | 2    | 3    | 4    | 5    | 6    | 7    |
|---|--------------------|------|------|------|------|------|------|------|
| 1. Distress 10 years past               | 6.75 (2.10)        | --   |      |      |      |      |      |      |
| 2. Distress 5 years past                | 5.18 (2.07)        | .37* | --   |      |      |      |      |      |
| 3. Distress right now                   | 4.88 (2.42)        | .19* | .68* | --   |      |      |      |      |
| 4. Distress 5 years anticipated future  | 4.43 (2.34)        | .19* | .74* | .84* | --   |      |      |      |
| 5. Distress 10 years anticipated future | 4.13 (2.41)        | .18* | .64* | .76* | .95* | --   |      |      |
| 6. Islamophobia                         | 1.60 (0.57)        | .04  | .16* | .25* | .24* | .23* | --   |      |
| 7. Restriction of civil liberties       | 3.71 (0.81)        | .23* | .32* | .34* | .37* | .33* | .41* | --   |
| 8. Distress concerning future terrorism | 6.00 (2.43)        | .35* | .47* | .51* | .52* | .45* | .21* | .41* |

*Note.*  $N=115$ . \* $p < .016$ .

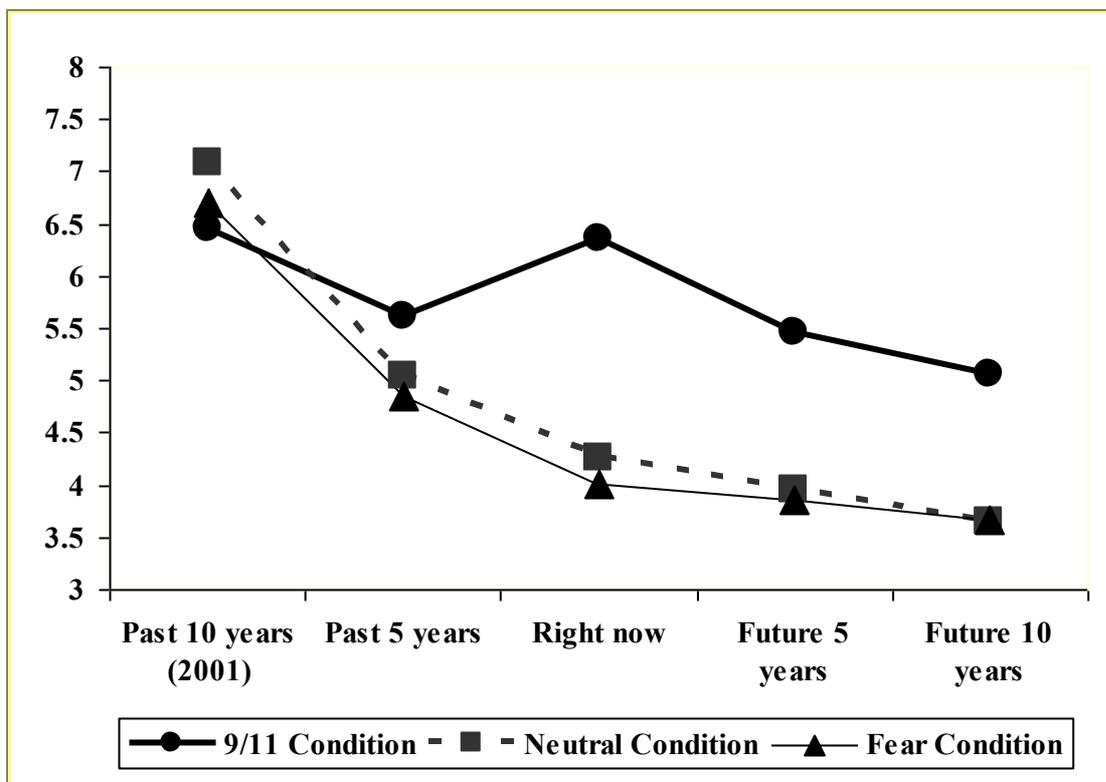
**Table 2**

Means and standard deviations of distress ratings by temporal perspective and condition

|                                      | 9/11 Condition<br>( <i>n</i> =58) | Neutral Condition<br>( <i>n</i> =57) | Fear Condition<br>( <i>n</i> =59) |
|--------------------------------------|-----------------------------------|--------------------------------------|-----------------------------------|
| Distress 10 years past               | 6.45 (2.26)                       | 7.09 (1.98)                          | 6.71 (2.04)                       |
| Distress 5 years past                | 5.62 (1.75)                       | 5.05 (2.32)                          | 4.86 (2.06)                       |
| Distress right now                   | 6.36 (1.98)                       | 4.26 (2.26)                          | 4.02 (2.31)                       |
| Distress 5 years anticipated future  | 5.47 (2.16)                       | 3.96 (2.25)                          | 3.85 (2.28)                       |
| Distress 10 years anticipated future | 5.07 (2.38)                       | 3.65 (2.27)                          | 3.66 (2.33)                       |

**Figure 1**

Mean distress ratings by temporal perspective and condition



*Note.* Mean levels of distress (y-axis) are shown by temporal perspective (x-axis) for those participants in the 9/11 condition (solid line) and those in the neutral condition (dashed line).