

Reactions of Young Adults to September 11, 2001

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Background: Wave III of the National Longitudinal Study of Adolescent Health provides opportunities to describe the reactions of young adults to September 11, 2001, and to increase understanding of the reactions among those who do not directly witness disasters.

Objectives: To compare the feelings, perceptions, and behaviors of respondents interviewed before with those of respondents interviewed within 9 weeks after September 11; and to test the influence of time and distance from terrorist sites on pre-post comparisons.

Design: Cross-sectional study, with comparison groups before and after September 11.

Setting: In-home interviews.

Participants: Seven thousand ninety-five respondents aged 18 to 26 years.

Main Outcome Measures: Sadness, psychological distress, closeness to parents, importance of religion and spirituality, trust in government, and substance use.

Results: Male (adjusted odds ratio [aOR], 1.33; 95% con-

fidence interval [CI], 1.08-1.65) and female (aOR, 1.44; 95% CI, 1.22-1.71) respondents interviewed after September 11 were more likely to report sadness and increased trust in government (aOR range, 2.11-3.30) than those interviewed before September 11. Proportions reporting sadness returned to baseline in 4 to 6 weeks; increased political trust persisted for the 9-week study period. Male respondents interviewed the second week afterwards were more likely to report religious faith (aOR, 2.06; 95% CI, 1.40-3.00) and spiritual life (aOR, 1.75; 95% CI, 1.18-2.60) as important than were those interviewed before the event. Female respondents interviewed afterwards were more likely to report higher levels of psychological distress (aOR, 1.40; 95% CI, 1.08-1.83) and closeness to fathers (aOR, 1.36; 95% CI, 1.08-1.72). There were no pre-post differences in substance use. Respondents closest to terrorist sites were most affected.

Conclusion: Young adults who did not directly witness the events of September 11 experienced reactions that were multifaceted and transient—except for persisting trust in government.

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THE UNITED STATES experienced unprecedented events on September 11, 2001.¹ National response has been difficult to predict because most disaster research²⁻¹² focuses on people who are close to or directly witness disaster events. Some^{13(pp18-19)} would argue that predictions based on previous research is not valid because of the unique features of September 11:

The attack on the World Trade Center killed American civilians, outside of wartime, and it killed them on TV, making most of the rest of us unwilling witnesses to a mass murder, and that places it in a context of its own. We watched the towers burn and collapse, in real time. And we watched the bodies drop from the sky—a sight that most of us will never be able to forget.

Three nationwide surveys¹⁴⁻¹⁶ measuring the reactions of adults to Septem-

ber 11 have been published thus far. All show that adults experienced varying degrees of acute stress or posttraumatic stress symptoms (although the use of different measures precludes comparisons of results), and that women were at increased risk. Responses were influenced by proximity to terrorist sites,^{14,15} previous mental health,^{14,16} and age.^{15,16} One study¹⁴ reported that most adults interviewed within 3 to 5 days talked to someone about what happened and turned to prayer, religion, or spirituality, while another¹⁶ characterized psychological coping strategies.

Fortuitously, wave III of The National Longitudinal Study of Adolescent Health (Add Health)¹⁷ provides an opportunity to increase our understanding of national reactions to September 11 among young adults (those aged 18-26 years). This is valuable for several reasons. First, approximately 3000 respondents were in-

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interviewed within the 2 months before, and an additional 4000 were interviewed within the 2 months after, September 11, providing pre and post comparison data on a large nationally representative sample—unusual in disaster research.¹⁸ Second, the interview measures cover a wide range of potential responses to September 11. Third, reactions of young adults to September 11 are important because they are in a period of developmental transition, would likely play a direct role in any military response, and in one post-September 11 national survey,¹⁵ scored almost 10% higher on a posttraumatic stress disorder–associated symptom scale than did adults older than 60 years.

Disaster research perspectives differ by discipline, and there is no widely accepted theoretical framework.³ Given this context, we use a framework that characterizes disasters as having the potential for negative and positive outcomes, and we focus on symptoms and responses rather than on identifiable disorders. We hypothesize that young adults interviewed after September 11 will report increased feelings of sadness and psychological distress, lower levels of general health, and reduced life expectancy when compared with those interviewed before September 11. We hypothesize that young adults interviewed after September 11 will report increased closeness to parents and mentors, importance of religion and spirituality, trust in government, blood donation, contact with friends, and substance use than those interviewed before September 11. We hypothesize that differences associated with exposure will be influenced by the passage of time, distance from terrorist sites, and previous psychiatric illness.

METHODS

All Add Health procedures have been approved by the University of North Carolina School of Public Health Institutional Review Board on Research Involving Human Subjects.

STUDY POPULATION

This analysis uses data collected in wave III of Add Health. The sampling design for Add Health has been described in detail elsewhere.^{19,20} In brief, it is a panel study of a nationally representative sample of adolescents who appeared on enrollment rosters for grades 7 to 12 early in the 1994-1995 school year.

Wave III in-home interviews began on July 21, 2001, and targeted all wave I respondents living in the continental United States, Hawaii, and Alaska. The sample for our study was limited to those aged 18 to 26 years, interviewed between July 21, 2001, and November 12, 2001. We excluded 87 interviews that occurred at least in part on September 11, 11 that began before and ended after September 11, and an additional 3 because the intervals between their beginning and ending dates were more than 30 days. Our final sample size was 7095 respondents.

INTERVIEW PROCEDURES

After obtaining written consent, interviews lasting approximately 90 minutes were conducted in homes or other locations of the respondents' choice using Computer-Assisted Personal Interview and Computer-Assisted Self-Interview technologies.²¹

INDEPENDENT MEASURES

Exposure to September 11

Exposure was measured by the date of the interview.

Sociodemographic Characteristics and Family Structure

Demographic variables included sex, age, and socioeconomic status. Respondents were coded as having a low socioeconomic status if during the past 12 months they did not have enough money to pay their full rent or mortgage, gas, electricity, or oil bill; if they were evicted or lost gas, electric, or oil service because payments were not made; or if a household member received public assistance or welfare payments before the respondent was 18 years of age. Race and ethnicity were measured by self-identification and coded as Latino (if respondents identified themselves to be at least in part Hispanic or Latino), white, black or African American, American Indian or Native American, or Asian or Pacific Islander. A modified Peabody Picture Vocabulary Test,²² standardized to scores for those 19 to 24 years of age, measured verbal ability. Family structure measures included whether respondents were living with a parent or grandparent, living with at least 1 child they considered their own child, and married.

Past Psychiatric Illness

Respondents were coded as having had a past psychiatric illness if they reported a prior diagnosis of depression, taking prescription medications for depression or stress in the past 12 months, or spending at least 1 day in a facility being treated for a mental illness in the past 5 years.

Distances From the World Trade Center and the Pentagon

Distances from Manhattan, NY, and from Arlington, Va, were calculated from latitude and longitude measurements of the ZIP codes from which respondents were interviewed, adjusting for the curvature of the earth.²³ We also created a variable representing the shorter of these 2 distances, categorized as within 80 (50), from 81 to 200 (51-125), from 201 to 400 (126-250), from 401 to 1200 (251-750), and from 1201 to 4000 (751-2500) km (miles).

DEPENDENT MEASURES

Sadness was measured by the question, "Were you sad during the past 7 days?" Responses were selected from a 4-point scale (from never or rarely to most or all of the time). A modified portion of the Center for Epidemiological Studies Depression Scale²⁴ was used to measure feelings and symptoms associated with psychological distress during the past 7 days (α , .80). General health was measured by the question, "In general, how is your health?" Responses were selected from a 5-point scale (from excellent to poor). Perception of life expectancy was measured by the question, "What do you think are the chances that you will live to age 35?" Five responses were possible (almost certain, a good chance, a 50-50 chance, some chance but probably not, and almost no chance).

Perception of closeness to parents was measured by the question, "How close do you feel to your mother/father?" This was defined as current or most recent residential mother and father, with responses selected from a 5-point scale (from extremely close to not close at all). A similar item measured perception of closeness to an identified living mentor. Respondents rated the importance of their religious faith and spiritual life on 4-point scales (from not important to more important than anything else). Respondents' perceptions of angels were

measured by asking how strongly they agreed with the statement, "Angels are present to help or watch over me." Responses were selected from a 5-point scale (from strongly disagree to strongly agree). Trust in government was measured by respondents reporting how strongly they agreed with statements of trust in federal, state, and local governments on 5-point scales (from strongly disagree to strongly agree).

Respondents were asked if they had donated blood, plasma, or platelets in the past year (yes or no). Contact with friends was measured by asking the number of times respondents "hung out" with friends or talked on the telephone for more than 5 minutes in the past 7 days (0- \geq 7 times). Respondents who said they had ever smoked at least 1 cigarette a day for 30 days were asked if they had smoked in the past 30 days (yes or no); if yes, they were asked if they smoked every day and asked about their average number of cigarettes per day. Respondents with histories of smoking marijuana in the past year were asked how many times they had smoked marijuana in the past 30 days. Respondents with histories of alcohol use in the past year were asked the number of times they had had 4 or more drinks in a row on a single occasion in the past 2 weeks.

ANALYSES

Descriptive frequencies were conducted on unweighted data. All other analyses were conducted on data weighted to reflect a nationally representative sample of young adults aged 18 to 26 years. We constructed sampling weights by adjusting the sum of Wave I weights for our wave III respondents to match wave I population estimates for each age and sex group. We used survey estimation commands in the STATA computer program²⁵ to adjust for clustering and respondents' unequal probability of selection. We conducted separate analyses by sex because of known sex differences in reactions to stressful events, including September 11,^{6,7,10,14,16,26} and sex differences demonstrated in our early analyses. We evaluated tests of significance using a Wald statistic for sets of covariates and *t* statistics for individual covariates. We did not impute missing values. To take into account the many analyses conducted, we defined statistical significance as $P \leq .01$.

Bivariate analyses compared respondents interviewed before with those interviewed after September 11, looking for systematic biases linked to date of interview. These were followed by bivariate and multivariate analyses to identify differences between respondents interviewed before and after September 11 in dependent variables. First, analyses compared all respondents interviewed before with all respondents interviewed after September 11. Second, when sample sizes were sufficient, we compared all respondents interviewed before with those interviewed during each week after September 11 to identify differences in dependent variables during shorter intervals. Third, we investigated potential interactions between distance from terrorist sites and reactions of respondents. Because initial analyses showed similar results for distance to the World Trade Center, the Pentagon, and the closer of the 2, we used the closer distance in final analyses. Finally, we assessed whether reactions varied by self-reported history of psychiatric illness. Because of time intervals specified in measures, tobacco and marijuana analyses excluded respondents interviewed within 30 days after September 11, and alcohol analyses excluded respondents interviewed between September 11 and September 25, 2001.

RESULTS

PARTICIPANTS

Of the 7095 respondents, 2913 were interviewed before and 4182 were interviewed after September 11. They were

55.8% female, on average 21.7 (SD, 1.68) years of age, and predominantly white (57.0% white, 20.3% black, 15.5% Latino, and 7.2% Asian). Approximately one quarter (27.1%) were coded as having a low socioeconomic status. Almost one half (47.6%) were living with a parent or a grandparent, 16.7% were married, and 20.8% were living with a son or a daughter. Previous psychiatric illness was reported by 11.8%. A total of 331 respondents were interviewed within 80 km of the World Trade Center or the Pentagon; 223 were interviewed between 81 and 200 km, 432 were interviewed between 201 and 400 km, 2333 were interviewed between 401 and 1200 km, and 3266 were interviewed between 1201 and 4000 km of these sites.

Comparisons of those interviewed before with those interviewed after September 11 showed no significant differences in age ($P = .54$), race or ethnicity ($P = .89$), verbal ability ($P = .89$), socioeconomic status ($P = .42$), marital status ($P = .32$), residential children ($P = .74$), previous psychiatric illness ($P = .98$), or distance from terrorist sites (range, $P = .42-.49$). Respondents interviewed before September 11 were significantly more likely to live with a parent or a grandparent than were those interviewed afterwards (51.8% vs 42.6%; $P \leq .001$), and this variable was controlled in all multivariate analyses.

SADNESS, PSYCHOLOGICAL DISTRESS, HEALTH, AND LIFE EXPECTANCY

Young adults experienced sadness and psychological distress after September 11 (**Table**). Before September 11, 33.6% of male respondents reported sadness at least some of the time in the past 7 days, compared with 39.0% after September 11. Among female respondents, 43.8% of those interviewed before September 11 reported sadness, compared with 53.3% interviewed after September 11. Comparisons of sadness among respondents interviewed before with those interviewed in weekly intervals after September 11 showed that the risk of feeling sad was higher among male respondents in the 3 weeks immediately after September 11 (adjusted odds ratios [aORs], 2.56, 1.66, and 1.57) and among female respondents interviewed in the first, second, and fifth weeks afterwards (aORs, 2.41, 2.50, and 1.48, respectively) (**Figure 1**). The broader measure of psychological distress showed a similar pattern for female respondents. Female respondents interviewed after September 11 were more likely to score in the higher ranges of the symptom scale compared with those interviewed before September 11 (aOR range, 1.33-1.40), particularly in the first, second, fourth, and fifth weeks (aOR range, 1.77-2.40). There were no differences in perception of general health or life expectancy among those interviewed before and after September 11.

PARENTS, RELIGION, SPIRITUALITY, AND GOVERNMENT

Young adults turned to religion, and even more to the government, after September 11 (**Table**). There was a trend for male respondents interviewed after September 11 to

Sadness, Psychological Distress, Religion and Spirituality, and Trust in the Government Among 7095 Young Adults Before and After September 11, 2001*

Variable	Male Respondents				Female Respondents			
	Population Estimates, %†		Regression Results		Estimates, %†		Regression Results	
	Before	After	aOR (95% CI)‡	P Value	Before	After	aOR (95% CI)	P Value
Sadness ("were you sad during the past 7 days?")								
Never or rarely	66.4	61.0	1.00	NA	56.2	46.7	1.00	NA
Some to all of the time	33.6	39.0	1.33 (1.08-1.65)	.01	43.8	53.3§	1.44 (1.22-1.71)	<.001
Psychological distress score								
0-1	27.9	23.8	1.00	NA	24.8	19.4	1.00	NA
2-3	25.6	26.4	1.28 (0.91-1.81)	.15	23.3	23.1	1.29 (0.98-1.71)	.07
4-6	26.2	27.4	1.29 (0.94-1.77)	.11	25.3	28.0	1.40 (1.08-1.83)	.01
7-27	20.3	22.4	1.39 (0.97-1.99)	.08	26.6	29.6	1.33 (1.01-1.74)	.04
Religion and spirituality								
"How important is your religious faith to you?"								
Not important or somewhat important	54.7	50.4	1.00	NA	45.5	42.6	1.00	NA
Very important or more important than all else	45.3	49.6	1.29 (1.03-1.62)	.03	54.6	57.4	1.13 (0.92-1.38)	.23
"How important is your spiritual life to you?"								
Not important or somewhat important	53.5	49.4	1.00	NA	44.7	43.2	1.00	NA
Very important or more important than all else	46.5	49.6	1.24 (0.98-1.56)	.07	55.3	56.8	1.04 (0.83-1.30)	.73
"Angels are present to help or watch over me"								
Disagree	20.0	18.3	1.00	NA	8.6	8.2	1.00	NA
Neither agree nor disagree	31.7	27.9	1.15 (0.84-1.61)	.40	24.3	21.4	1.05 (0.68-1.64)	.82
Agree	48.3	53.8	1.35 (1.00-1.84)	.05	67.1	70.4	1.21 (0.79-1.88)	.38
Trust in the government								
"I trust the federal government"								
Disagree	31.9	19.9§	1.00	NA	23.6	12.6§	1.00	NA
Neither agree nor disagree	34.0	31.6	1.52 (1.14-2.02)	<.01	42.9	34.2	1.55 (1.21-1.99)	<.001
Agree	34.2	48.5	2.32 (1.67-3.22)	<.001	33.5	53.2	3.30 (2.44-4.47)	<.001
"I trust the state government"								
Disagree	27.5	16.6§	1.00	NA	18.4	10.6§	1.00	NA
Neither agree nor disagree	33.1	30.6	1.58 (1.17-2.12)	<.01	43.3	33.3	1.38 (1.07-1.78)	<.01
Agree	39.4	52.8	2.25 (1.62-3.12)	<.001	38.3	56.1	2.71 (2.08-3.54)	<.001
"I trust the local government"								
Disagree	25.9	15.8§	1.00	NA	16.8	10.0§	1.00	NA
Neither agree nor disagree	32.3	32.4	1.70 (1.26-2.30)	<.001	43.5	34.9	1.45 (1.14-1.85)	<.01
Agree	41.8	51.8	2.11 (1.53-2.92)	<.001	39.7	55.1	2.64 (2.08-3.36)	<.001

Abbreviations: aOR, adjusted odds ratio; CI, confidence interval; NA, data not applicable.

*All analyses use weighted data and take into account the stratified sampling design.

†The sum of percentages for each variable may not total 100 because of rounding.

‡From survey multinomial logistic regression analyses testing for differences in the dependent variable before and after September 11, 2001, while controlling for age, socioeconomic status, race or ethnicity, verbal ability, residential parent or grandparent, residential children, marital status, psychiatric history, and distance from terrorist sites.

§Significant ($P \leq .001$) differences between groups in bivariate analyses by the design-based Pearson F statistic.

rank religious faith and spiritual life as more important, and to be more likely to perceive the presence of angels, than male respondents interviewed before September 11. During the second week after September 11, male respondents were significantly more likely to rank their religious faith (aOR, 2.06; 95% confidence interval [CI], 1.40-3.00; $P \leq .001$) and spiritual life (aOR, 1.75; 95% CI, 1.18-2.60; $P \leq .01$) as very important or more important than anything else. There were no pre-post changes in the reported importance of religious faith or spiritual life, or in the perceived presence of angels, among female respondents in bivariate, multivariate, or weekly interval analyses.

Male and female respondents interviewed after September 11 were more likely to agree with the following statements than were respondents interviewed before Sep-

tember 11: "I trust the federal government," "I trust the state government," and "I trust the local government." These findings were generally constant for male and female respondents for 9 weeks after September 11. Assuming the observed trend persists, we estimate the time for trust in the federal government to decrease to pre-September 11 levels would be 70.6 weeks for male respondents and 54.6 weeks for female respondents.

Before September 11, 41.1% of female respondents reported feeling extremely close to their fathers, compared with 46.2% after September 11 (aOR, 1.36; 95% CI, 1.08-1.72; $P \leq .01$), although there were no pre-post differences in perceptions of closeness to mothers or to mentors. There were no pre-post changes in males' perceptions of closeness to fathers, mothers, or mentors.

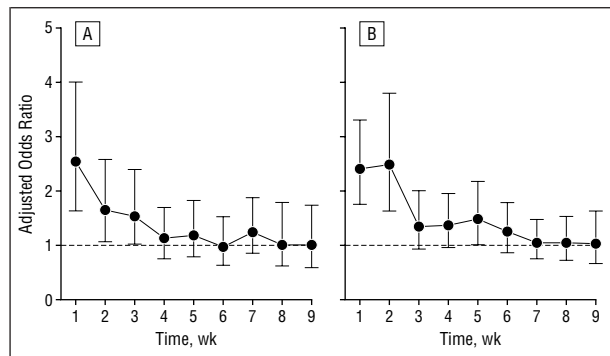


Figure 1. Influence of time on sadness among young adults (aged 18-26 years) interviewed after September 11, 2001. Data shown are the odds of feeling sad in the past 7 days for young adults interviewed weeks after September 11, 2001, vs those interviewed before September 11, 2001. Baseline was an adjusted odds ratio of 1 (dashed line). A, Male respondents. B, Female respondents.

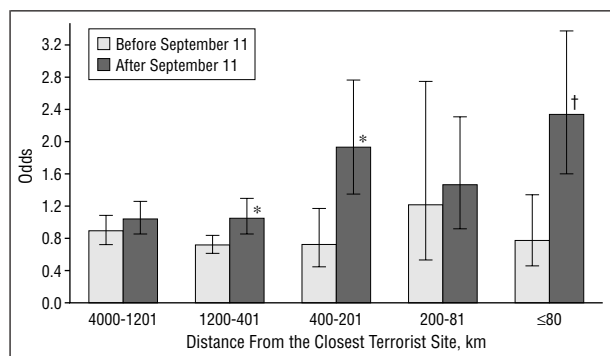


Figure 2. Sadness among female young adults (aged 18-26 years) before and after September 11, 2001, by distance from the World Trade Center or the Pentagon (3959 female young adults). Data are given as odds and 95% confidence intervals for feeling sad in the past 7 days (some to all of the time vs never or rarely). The asterisk indicates $P < .001$ for the pre-post odds ratio; dagger, $P < .01$ for the pre-post odds ratio.

BLOOD DONATION, FRIENDS, AND SUBSTANCE USE

Male respondents were more likely to report donating blood products after September 11 (12.7% before vs 18.7% after; aOR, 1.77 [95% CI, 1.35-2.32]; $P \leq .001$). There were no pre-post differences in blood donation among female respondents. There were no significant pre-post differences in contact with friends and in tobacco, marijuana, or alcohol use.

INFLUENCE OF DISTANCE FROM TERRORIST SITES

We found a gradient increase in risk of sadness among female respondents from west to east, starting at 401 to 1200 km away from terrorist sites, with the greatest pre-post difference in sadness among female respondents within 80 km of the sites (odds pre, 0.78; odds post, 2.33; OR, 2.97 [95% CI, 1.40-6.30]; $P \leq .01$) (**Figure 2**).

For other variables, the influences of distance were most clearly demonstrated when comparing respondents interviewed more than 1200 km away from a terrorist site with those interviewed within 80 km of a ter-

rorist site. There were no pre-post differences in high-range psychological distress scores among female respondents more than 1200 km away, but a nearly 4-fold increase in risk after September 11 among female respondents within 80 km (odds pre, 0.78; odds post, 2.83; OR, 3.62 [95% CI, 1.94-6.73]; $P \leq .001$). There were no pre-post changes in the amount of contact with friends among female respondents living more than 1200 km away, whereas female respondents interviewed within 80 km were more likely after than before September 11 to report hanging out with friends or talking on the telephone (odds pre, 0.39; odds post, 0.95; OR, 2.45 [95% CI, 1.42-4.24]; $P \leq .01$).

Distance from terrorist sites influenced one finding among male respondents. There was a greater increase in trust of local government among those within 80 km of terrorist sites. On average, there was a 5% increase in pre-post scores measuring trust in government among male respondents living more than 1200 km away from a terrorist site, and a 15% increase in scores among those living within 80 km of a terrorist site.

INFLUENCE OF PAST PSYCHIATRIC ILLNESS

We found no interaction between self-reported past psychiatric illness and pre-post differences for all except 1 dependent measure. Male respondents with histories of psychiatric illness were more likely to report increased contact with friends (odds pre, 0.24; odds post, 0.74; OR, 3.03; $P \leq .01$), whereas there were no pre-post changes in contact with friends among male respondents without psychiatric histories (odds pre, 0.50; odds post, 0.54).

COMMENT

Differences among respondents interviewed before and after September 11 suggest that young adults were affected by the events that occurred on this date. The predominant reactions of young adults who did not directly witness events at the World Trade Center or the Pentagon were feelings of sadness and psychological distress, increased importance of religion and spirituality, and greater trust in all levels of government. Most of these reactions were transient. The striking exception to this pattern was persistent trust in government. Our findings are consistent with previous research² on the mental health impacts of disaster, which suggests that most exposed to a disaster do well and have only mild transitory symptoms. The meaning of young adults' increased political trust in the aftermath of September 11, its anticipated duration, and its future implications will likely be debated among social and political scientists,²⁷⁻²⁹ and become an area for ongoing research.

This study highlights the variability in responses to disaster and the critical importance of distinguishing between national and local reactions. Consistent with previous research, we found that young men and women reacted differently^{2,6,14-16} and that close proximity increased the likelihood of being affected.^{2,6,14,15} Distance impacted our findings related to sadness, psycho-

What This Study Adds

The United States experienced unprecedented events on September 11. National response has been difficult to predict because most disaster research focuses on people who are close to, or directly witness, disaster events. Wave III of Add Health provides an opportunity to increase our understanding of national reactions to September 11 among young adults.

After September 11, young adults experienced transient feelings of sadness, psychological distress, and increased importance of religion and spirituality. They also experienced increased trust in all levels of government that persisted for at least 9 weeks. Young adults in close proximity, particularly young women, seem to be most affected, and they should be included in research defining the role of postdisaster interventions.

logical distress, contact with friends, and trust in government, suggesting that variations in national and local reactions to disaster involve domains extending beyond mental health.

We found that young adults with and without previous psychiatric illness reacted similarly to September 11. Other post-September 11 national surveys^{14,16} of adults have found associations between previous mental health and mental health outcomes. Our negative findings may be related to use of general emotional outcome measures instead of traditional diagnosis-oriented measures (eg, symptoms associated with posttraumatic stress disorder), age-cohort differences, or limitations in our measures for self-reported past psychiatric illness. Given the prevalence of psychiatric illness in the United States, further investigation into the potential negative impact and clinical implications of even indirect exposure to disasters such as September 11 may be warranted. Other notable negative findings included similar use of tobacco, marijuana, and alcohol among young adults interviewed before and after September 11, which is in contrast to the increased substance use reported among young adults in Manhattan after September 11.⁹ We did not find decreased life expectancy, as reported by Halpern-Felsher and Millstein.³⁰

This was an opportunistic study. The Add Health data did not include traditional disaster research measures for acute stress or posttraumatic stress disorder, limiting our ability to compare results across studies. Measures for many important reactions are likely absent. Some measures may not capture important variation, limiting the validity of our negative findings. We could not determine whether any of our participants actually witnessed an event, which may have influenced our results. The study was cross-sectional; although differences noted in pre-post comparisons likely reflect reactions to September 11, they do not prove causality. Finally, we cannot determine how other factors, such as seasonal variation, emerging news about anthrax, or military activities, may have contributed to our findings.³¹

Despite limitations, Add Health provides an unprecedented description of the reactions of young

adults in the United States to the events of September 11. In the unfortunate circumstance that our nation faces a similar event in the future, understanding the reactions of young people who do not directly witness a disaster may be useful. Based on this study, we would predict that most will experience transient sadness, young men will turn to religion in the weeks immediately following a disaster, and young men and women will experience increased trust in the government. Young adults in close proximity to a disaster, particularly young women, seem to be most affected, and they should be included in research defining the role of post-disaster interventions.

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