

RESEARCH NOTE

The Conversion of Generational Effects into Collective Memories

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Three conclusions about collective memory are developed from data obtained before and after the September 11, 2001 terrorist attack on the United States. First, generational effects, as predicted by the critical years hypothesis, show that a dramatic new national or world event can have an impact on young cohorts that leads to a lasting collective memory. Second, for the September 11, 2001 attack, that effect was visible almost immediately after the event. Third, once a collective memory is established, it is retained by the affected cohorts as they age, as we show for the Vietnam War. We conceptualize the population as consisting of successive cohorts, each of which carries collective memories arising from major events that occurred during its critical years.

“Inspiration and aesthetic judgment are important in the development of scientific theories, but the verification of these theories relies finally on impartial experimental tests of their predictions,” wrote physicist and Nobel laureate Steven Weinberg (2015, p. xiii). Similarly, the social scientist Duncan Watts (2014, p. 313) urged that “if sociologists want their explanations to be scientifically valid, they must evaluate them...by forcing them to make predictions.” We respond to the challenge raised by these writers by carrying out and reporting the outcome of a predictive test of an important middle-range hypothesis that connects collective memory to a major societal event: the 9/11 attack on the United States that occurred in 2001. We then use the data, plus earlier results on the Vietnam War, to show how the initial impact of an event is converted into a long-term collective memory.

The Critical Years Hypothesis

Stimulated by Karl Mannheim’s classic ([1928] 1952) essay on the formation of generations, Schuman and Scott (1989) provided survey evidence that Americans

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remember as especially important those major national and world events that occur during their late childhood or early adulthood—approximately the ages of 10 to 30 years, which they specified as “critical years” most likely to produce generational effects. Since then, additional work has replicated the findings in the United States and also cross-nationally, and it has extended in other theoretical directions to include attitudes, commemorations, and beliefs. Corning and Schuman (2015) further developed and integrated this research.

National and world events that occur during the critical years should have a lasting impact on individuals because they are usually the *first* major national or world events experienced, and therefore serve as a baseline against which later events are compared. Individuals beyond their late 20s will ordinarily have experienced earlier events that seem to them at least equal or greater in importance, while for those <10 years, limited awareness of the world beyond their own family and neighborhood means that larger national and world events are not likely to have registered sufficiently to be retained strongly in later memory. Still earlier events learned about indirectly from school or media (e.g., World War II for young people today) cannot have the same emotional impact regardless of their objective significance. In sum, individuals <10 or >30 years at the time a major event occurs will be less likely to remember it as especially important compared with those who were in their critical years at the time.¹ The ages of 10 and 30 years are necessarily approximate, but seem to hold well as lower and upper boundaries, with some exceptions that call for special explanation.

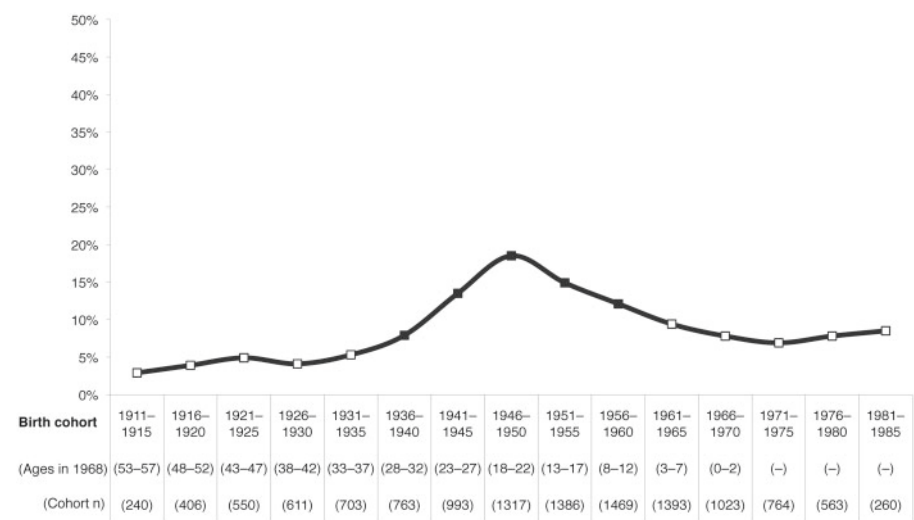
These relationships can be shown graphically by plotting the percentages of individuals who name a particular national or world event as important in direct relation to their age at the time of the event’s occurrence (or indirectly using birth cohorts). The plot should reveal a curvilinear pattern, with the modal mentions of events usually occurring for cohorts in their later teens or early 20s at the time of the event. Instances of such relations have been shown for the United States using data from surveys administered between 1985 and 2010 (Corning & Schuman, 2015). Alternative hypotheses based on the “objective importance” of an event or on its recency cannot account for the curvilinear relationships to cohort.

For example, Figure 1 plots the distribution by birth cohort of Americans who named the Vietnam War as an especially important event in the 1985–2010 surveys.² (In addition to being a major war for Americans, Vietnam is useful for illustrating the critical years effect both because we have data on the event from surveys over several decades, and because our survey samples include not only respondents who were well into adulthood when the war took place, but also those born after the war was over.) The plotted line represents the average of eight independent U.S. surveys (each of which is of course affected by sampling error), taking account of the number of cases in each survey. The Vietnam War extended from 1965 to 1973, but we use 1968 for calculating respondents’ ages at the time of the war. This was the year in which the

¹Using different data, memory psychologists have shown somewhat related findings for autobiographical memory, under the rubric of the “reminiscence bump.” Corning and Schuman (2015) compare the sociological and psychological results and discuss important differences between the two lines of research. Koppel (2013) draws as well on both literatures.

²The base for percentaging is all respondents within a given cohort, including those who said “don’t know” or did not give any event.

Figure 1
Percentages mentioning the Vietnam War (1968) in 1985–2010 surveys, by birth cohort. Filled markers indicate cohorts in their critical years in 1968. Adapted from Generations and Collective Memory, Corning and Schuman, 2015, p. 92



intensity of the war (conveyed to the public by television) was at its height: The early months of 1968 saw the trauma of the enemy’s Tet Offensive, and also the maximum number of U.S. troops and especially of U.S. casualties in Vietnam, leading to President Johnson’s decision to halt bombing of North Vietnam and abandon his own reelection plan. Respondents who were between 10 and 30 years in 1968—whose cohorts are indicated by filled markers—were particularly likely to regard the Vietnam War as especially important, with the peak in Figure 1 located in the cohort born between 1946 and 1950 and thus ages 18 to 22 at the time.³

Investigators have been able to show that collective memories of many events in the United States and also in China, Germany, Israel, Japan, Lithuania, Russia, and Ukraine (reported in Corning & Schuman, 2015) exhibit similar associations with youthful experience of the event. However, in most of the United States and other cases, conclusions were reached once the data were available, and there have also been some exceptions that called for post factum interpretation. For example, those who were as young as 5 to 9 years in 1963 recalled the assassination of President John F. Kennedy as important more frequently than anticipated, apparently because it occurred at mid-day and was often announced in elementary schools by visibly

³The 1985–2010 data come from the Surveys of Consumers conducted by the Survey Research Center (SRC) at the University of Michigan, from other SRC surveys, and from the National Opinion Research Center’s General Social Survey (GSS). Surveys were conducted in eight individual years between 1985 and 2010. All used national probability samples of adults ages ≥18 years, and were administered either by telephone or as face-to-face interviews. Samples were selected mainly from telephone landlines using random digit dialing. Sample sizes ranged from 894 to 3,884, and response rates ranged from 47% to 82% over the years included. See Corning and Schuman (2015) for tests of the critical years hypothesis with respect to many other events.

shocked teachers and principals, thus making a lasting impression even on very young children who had little previous knowledge of the presidency or of President Kennedy himself. A more important type of exception appeared for events that had a direct personal effect on a large part of the population: Lithuanians of a very wide age range tended to recall their recovered national independence in 1990–1991 as especially important, probably because it had a substantial impact on their personal lives, and the consequences of independence continued during later months and years (Corning, Gaidys, & Schuman, 2013). Such post factum explanations are often quite plausible, but they leave the general hypothesis uncertain. Yet, when a single, sudden, well-defined, and dramatic event is experienced by a large population, the critical years hypothesis can be used successfully to predict collective memory of it in the future, as we show here with the September 11, 2001 terrorist attack on the United States.

Predicting Collective Memory of 9/11

The 9/11 attack was regarded as an enormously significant event that could be assumed to have an impact on almost all Americans at the time it occurred—in his address to the nation on the evening of September 11, President George W. Bush (2001) said, “None of us will ever forget this day.” Yet, very few Americans could be said to have been *personally* affected by it, as they might have been in the case of a large-scale war or a catastrophe near their home. Schuman and Rodgers (2004, p. 244) drew on the critical years hypothesis to predict that the attack would have a lasting impact on those between ages 10 and 30 years in 2001, writing that for these cohorts, “September 11 will ‘stick’ most completely. . . [while it] is quite possible that in a few years those who were well beyond their twenties in 2001 will mention September 11 much less frequently than they do now.” Those too young at the time (<10 years old) to have a personal memory of the attacks would also not be expected to mention 9/11 as frequently as those in their critical years.

The prediction could not be tested in 2001 or even in the next decade because only with the passage of time would it become possible to determine whether cohorts <10 years or beyond their 20s in 2001 would tend to recall the 9/11 attack as much as those in their critical years. Individuals who were <10 years in 2001 would become eligible for selection into a survey sample only when they turned 18 years, and so, even the very oldest among this group—those who were age 9 in 2001—became able to participate in surveys only in 2010. A few additional years were required to ensure that sufficient numbers of such younger people would be included in U.S. national samples.

The 9/11 attack is especially appropriate in several respects for testing the critical years hypothesis. The immediate event was extraordinarily graphic, so that it should have made an impression on most Americans alive at the time, including almost all ages. Yet, it directly involved relatively few Americans in a personal way, so that any effect can be interpreted as due to the impact of the event as it unfolded, rather than to direct personal experience of its consequences. It was also brief in duration, so that it should be possible to locate its effect precisely in terms of particular cohorts.

Furthermore, there were many earlier sudden and momentous events that might have come to seem more important than 9/11 as it receded into the past, among them

the Kennedy and King assassinations in the 1960s, the dissolution of the Soviet Union and end of the Cold War in 1991, and the 1990–1991 Gulf War. There were also later events that had not yet occurred in 2001, such as the 2003 Iraq War, the 2007–2009 financial crisis and Great Recession, and the new terrorism perpetrated by ISIS that many in our sample would have seen on television in 2014 and early 2015. Any one of these events might have seemed as, or even more important than, the 9/11 attack.

By 2015, it was possible to carry out a first test of the prediction, using a survey of a national probability sample of U.S. adults ($N = 491$).⁴ The open-ended question that had been developed to elicit collective memories as far back as 1985 (Schuman & Scott, 1989) was adapted in February–March 2015⁵:

There have been a lot of national and world events and changes over the past 80 or so years—*say, from about 1930 right up until today*. Would you mention one or two such events or changes that seem to you to have been especially important?

The question serves as a very general prompt for recall, using as cues “national or world events or changes” and specifying the timeframe as “from 1930 right up until today.” The open-ended format prevents researchers from imposing their own expectations about which events are important, or even about what constitutes an “event.” Survey interviewers recorded respondents’ exact words, and at a later stage, the responses were coded into categories representing specific events, with 95% agreement across two independent coders. No attempt was made to evaluate answers for the accuracy or confidence with which a past event was recalled; we simply accepted responses as reflecting respondents’ judgments about which national and world events seemed most important to them. We assume that the events that come to mind in answer to the question are the ones that are most salient to respondents.⁶

Figure 2 presents a curvilinear relation that fits the prediction of critical years effects very well: respondents born between 1986 and 1990 (who were aged 11–15 years in 2001) were the most likely to recall 9/11 as an “especially important” event,

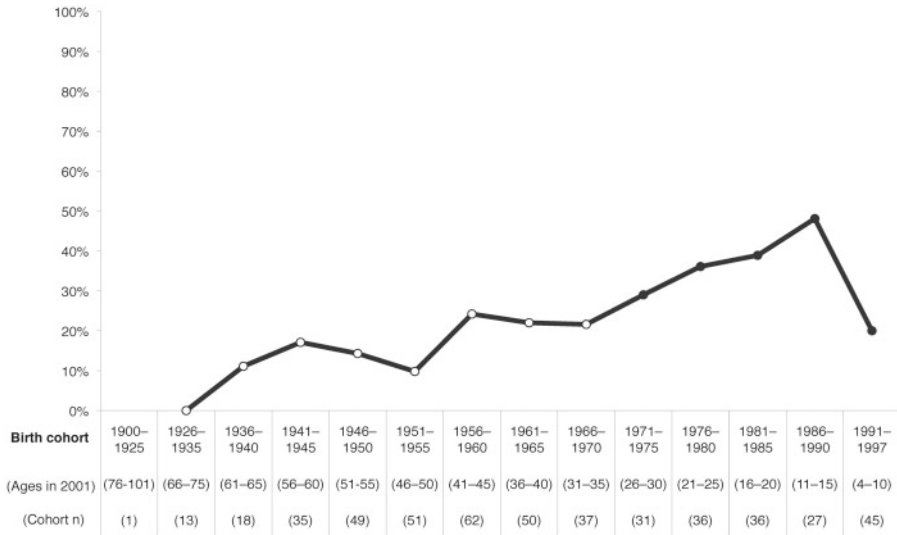
⁴The 2015 data were gathered as part of the University of Michigan Surveys of Consumers, administered by the Survey Research Center from February 26 to March 23, 2015. Respondents were interviewed by telephone, with the national probability sample drawn from cell phone numbers, but some landline numbers were also included in the sampling frame. The response rate was only 7%; as with all recent surveys, response rates to the Surveys of Consumers have declined a great deal, but the consistent finding is that there is no necessary relationship between response rate and nonresponse bias. This is especially the case where the focus is not on univariate results but on associations, as here where the concern is with the relation of event mentions to birth cohort. See the several experiments carried out by the non-profit Pew Research Center (<http://www.pewresearch.org/topics/research-methodology/>), as well as other methodological publications (e.g., Groves et al., 2009).

⁵Question wording has been held constant throughout our research, with 1930 always the starting point. The only adjustment has been to increase the length of the period covered, so that “50 or so years” from 1930 to “today” has increased over time to “80 or so years.”

⁶As in past research using this standard question, up to two events have been coded, though not all respondents give a second event. A dichotomous variable was created to record mentions of each event analyzed. For example, the dichotomous variable showing mentions of 9/11 was coded “1” for any respondent who named 9/11 in response to the open-ended question, regardless of whether the respondent gave 9/11 in first or second place. Respondents who mentioned only other events, said “don’t know,” or gave no answer were coded as “0” on the 9/11 dichotomous variable. Additional analysis has shown that whether only the first event or the first two events mentioned are analyzed does not change relations to cohort (Corning & Schuman, 2015, Appendix D).

Figure 2

Percentages mentioning the September 11 attack (2001) in the 2015 survey, by birth cohort. Filled markers indicate cohorts in their critical years in 2001. Cohorts with fewer than 10 respondents are not plotted



followed by the cohort born between 1981 and 1985 (ages 16–20 years in 2001). (Again, cohorts that include respondents in their critical years in 2001 are indicated by filled markers.⁷) The figure shows that the four cohorts that mention 9/11 at the highest levels are those that were ages 11–30 years in 2001. Cohorts that were >30 or <11 years at the time were less likely to name 9/11 as important.

Using exact birth years to identify critical years respondents, rather than the 5-year cohorts shown in the figure, we find that 36% of respondents born from 1971 to 1991 (all those aged 10 to 30 years in 2001) recalled the 9/11 attack as especially important, as against 17% of those born in 1970 or earlier and 20% of those born in 1992 or later. (The contrast to older cohorts is visually clear in Figure 2 and very reliable at conventional statistical levels [for the contrast of mentions by respondents born 1971–1991 vs. those born 1922–1970: $\chi^2 = 19.47$, $df = 1$, $p < .001$]; the contrast to younger cohorts, where there are fewer cases, is just below conventional reliability [for the contrast of mentions by respondents born 1971–1991 vs. those born 1992–1997: $\chi^2 = 3.65$, $df = 1$, $p = .056$], with only 35 respondents younger than the critical years.) On this basis, the results in Figure 2 conform closely to the predicted effect: It is those who were in their critical years in 2001 who were most likely to mention the 9/11 attack as an especially important event.

⁷Within the youngest cohort in Figure 2, born 1991–1997, just 10 respondents were born in 1991 and thus in their critical years at the time of 9/11. The other 35 respondents in this cohort were younger than the critical years.

Two further points should be noted. First, it may not seem surprising that most respondents who were small children at the time were too young to fully absorb the details of the 9/11 attack and do not mention it as often as cohorts in their teens or 20s—but cohorts >30 years at the time *also* do not mention it as frequently, even though they were presumably following news about the attack with equal intensity and understanding. The figure thus supports the idea that one can be not only too young, but also too old, to remember an event as especially important. Second, the peak cohort for mentions of 9/11 in Figure 2 is somewhat younger (ages 11–15 years in 2001) than that for Vietnam in Figure 1 (ages 18–22 years in 1968). Assuming this is not owing to sampling error, within the broader critical years age range of 10 to 30 years the particular *type* of event and its implications may influence which specific ages are most affected. The graphic quality of the 9/11 attack and the repeated playing of video footage on television may have made it accessible to younger teenagers. The Vietnam War, in contrast, may have made its strongest impression on those in their older teens and early 20s who confronted the prospect of military service for themselves or peers as the war reached its height. Of course, both sets of ages are within the critical years.

The Origin of a Critical Years Effect

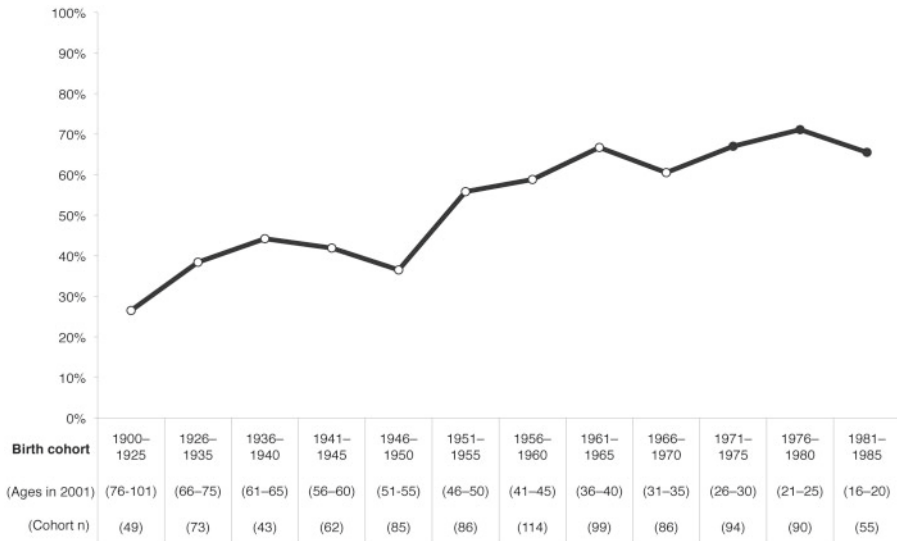
Our measurements of important events have, for the most part, occurred long after the events themselves. For example, our first survey in 1985 occurred some 50 years after the Great Depression, which itself lasted almost a decade, and 17 years after more recent events like the height of the Vietnam War. For most other events, there were also large gaps in time. However, in the case of 9/11, one survey was under way when the attack occurred (the post-9/11 portion extended from September 2001 to November 2002).⁸ Figure 3 shows that younger respondents were more likely than older respondents in this survey to mention the attack as important. A persuasive interpretation of Figure 3 is that even in the months immediately following the attack, those in their critical years at that point already showed the greatest impact of the event—perhaps because most such individuals had not experienced a previous large event. When 9/11 happened, they were available for a strong collective memory to take root in ways that older Americans were not.⁹ We also examined other variables,

⁸Our question on national and world events was included in the 2001–2003 National Comorbidity Survey. Personal interviews were conducted with a U.S. national adult sample by the Survey Research Center at the University of Michigan. The survey's post-9/11 portion took place between September 2001 and November 2002 (response rate was 75%). Surveys of Consumers data gathered slightly later, from November 2001 to January 2002, show results similar to those in Figure 3.

⁹Our research might be seen as related to research on “flashbulb memories,” since the 9/11 attack fits well what Brown and Kulik (1977, pp. 73–99) characterized as “a very surprising and consequential (or emotionally arousing) event.” However, our concern is with 9/11 (and Vietnam) given as responses to a very general open-ended question asking respondents to name especially important events from the past, whereas Brown and Kulik and most later investigators ordinarily start from events as givens and then code characteristics of the memories in a range of complex ways (e.g., Conway, Skitka, Hemmerich, & Kershaw, 2008; Denver, Lane, & Cherry, 2010; Hirst et al., 2015; Kvavilashvili Mirani, Erskine, Schlagman, & Kornbrot, 2010). (Indeed, studies have often centered on specific features of flashbulb memories, such as vividness, accuracy, or consistency, which are not our concern here.) Further work is needed to understand whether and how flashbulb memory of a national or world event might be related to judgments of its importance.

Figure 3

Percentages mentioning the September 11 attack (2001) in the 2001–2002 survey, by birth cohort. Filled markers indicate cohorts in their critical years in 2001



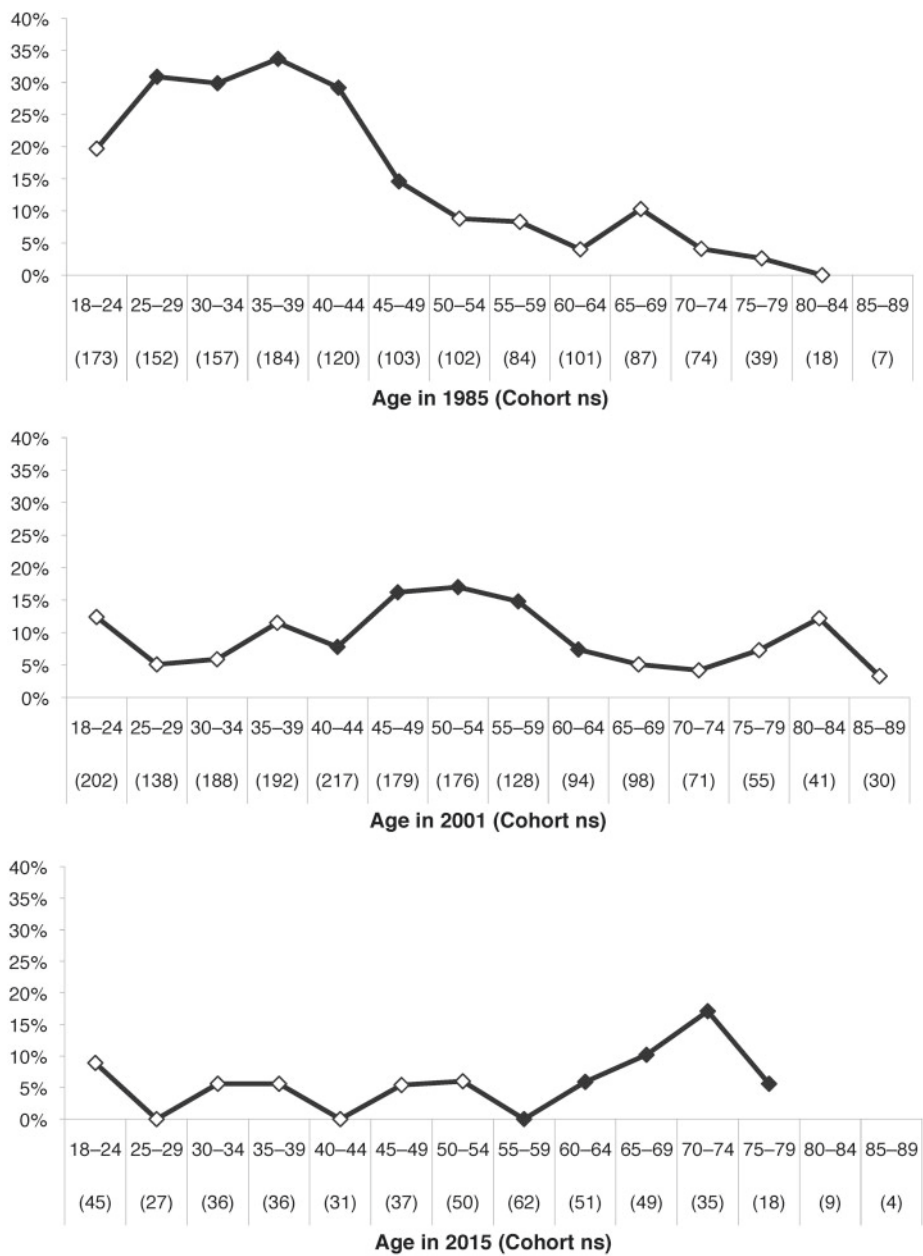
such as education, gender, region, to discover whether they helped indicate who was most affected by 9/11, but nothing clear-cut appeared beyond birth cohort itself.

The Conversion of Critical Years Effects into Collective Memories

The fundamental social importance of the critical years effect stems from its lasting quality. Different historical events are part of the “contemporary social heritage” that cohorts experience during their critical years, and each cohort “carries the impress of the encounter through life” (Ryder, 1965, p. 844). The 2015 sample allowed us to consider mentions of the Vietnam War again in these new data, some years after our earlier investigations of collective memory of that event. What is striking about the 2015 Vietnam results is that they continue to show much the same pattern visible in Figure 1, even though those results include data from as far back as 1985. To illustrate this, Figure 4 presents mentions of the Vietnam War at three separate points in time over a 30-year period: 1985, the date of the first survey we have available; 2001–2002, when a new survey was conducted almost 15 years later; and 2015, the date of our most recent survey.¹⁰ (In Figure 4, the *x*-axis in each chart shows respondents’ ages at the time of the survey, rather than their birth cohorts; for the 2001–2002

¹⁰Data for each time point come from the Surveys of Consumers conducted by the Survey Research Center at the University of Michigan; interviews were carried out by telephone with a U.S. national adult sample in each case. Response rates were 74% in 1985; 55% in 2001–2002; and 7% in 2015. The 2001–2002 survey was conducted after 9/11, from November 2001 to January 2002.

Figure 4
Percentages mentioning the Vietnam War (1968), by age at the time of the 1985, 2001–2002, and 2015 surveys. Filled markers indicate cohorts in their critical years in 1968. Age groups with fewer than 10 respondents are not plotted



survey, we use the year 2001 for calculating ages.) In each of the three surveys, the Vietnam War is most often mentioned by cohorts who had experienced it during their critical years—even though they are much older in 2001–2002 and especially in 2015 than they were in 1985, and had lived through other important national and world events.¹¹ The three charts in Figure 4, viewed in succession, show both the aging of the critical years cohorts and their continued memory of Vietnam over time. Any finding of a critical years effect at successive time points for a particular event necessarily implies that the same cohorts continue to mention the event as they grow older.

Thus a collective memory can be thought of as being carried along, retaining its vitality as cohorts age (Ryder, 1965) and as new events take place. For example, at the time of the 1991 Gulf War, there were veterans alive still of *both* World War II and the Vietnam War, and they engaged in vigorous debate over which of those two past wars should be used to understand what would happen if the United States entered a new war in Kuwait (Schuman & Rieger, 1992). Each of the two different “war generations” used its own wartime experience as a lens for understanding the new threat and the possible costs and benefits of U.S. involvement. (The World War II veterans, led by President George H. W. Bush, prevailed, and the United States entered the Gulf War.)

Once the cohorts that experienced World War II and the Vietnam War during their critical years disappear, collective memory of each of those wars will lose part of its force, though likely each will still be referred to by descendants of those cohorts, by writers of books, and by other carriers of collective memory. Later wars and other events, like 9/11, will increasingly influence the memories of younger cohorts, so that the American population can be thought of as consisting of successive generations, *each* of which carries in its collective memory a distinctive picture of the past. We may already know this in the abstract, but Figure 4 makes that truth readily visible.

Figure 4 also helps to elucidate the meaning of the term “collective memory” in our research. “Collective memory” does *not* imply that all members of a society (or even of a subgroup) remember the same events in exactly same way. Individual memories of events can vary greatly, in part because of how they are learned (e.g., from television vs. reports from friends). Rather, memory is “collective” in the sense of stemming from a shared experience—first, of having lived through an important event with many others, and later, retaining that experience as a memory shared by others of the same generation.

Conclusions

Our evidence from 2015 of a previously predicted critical years effect on Americans’ collective memory of 9/11 provides important support for the critical years hypothesis. As time continues to pass and younger respondents enter the survey samples, more complete tests of the prediction can be carried out that include respondents who were infants or not yet born in 2001. Each of these replications can examine the

¹¹We assume that the increase for the single cohort aged 80–84 years in 2001 (middle chart in Figure 4) is due to sampling error.

relationship between birth cohort and mentions of the 9/11 attacks with a new sample, seeking to determine whether the critical years hypothesis adequately explains the relationship. We expect to see a continued decrease in mentions of September 11 among increasingly younger cohorts, with those born after 2001 the least likely to mention the attack as especially important.

An equally valuable finding was the successful replication over an extended period of time of results for the Vietnam War. A critical years effect on collective memory of the Vietnam War had already been documented in previous studies (Corning & Schuman, 2015), so the importance of the replication of that effect in 2015 is different in nature: the variation lies in the time points at which the measurements took place. Thus, we are able to show that once established, the critical years effect persists and the Vietnam War is retained as a collective memory despite the passage of time—which implies not only the aging of the critical years cohorts but also the occurrence of many other important events, such as 9/11, which itself should show the same pattern as its own critical years cohorts age. In other words, collective memories established during the critical years remain available throughout the lifecourse, to be called on when respondents are asked to consider “especially important events,” or indeed when events become relevant for any reason.¹²

Funding

This work developed from research supported by the U.S. National Science Foundation (grant numbers SES-8410078, SES-8411371, SES-0853381, SES-0001844, SES-0206472).

Acknowledgement

The authors are grateful to Ronald C. Kessler, principal investigator of the U.S. National Comorbidity Survey, for including the national and world events question at the end of the 2001–2003 survey interview.

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¹²In fact, one partial exception to the critical years hypothesis is that the Great Depression of the 1930s was mentioned not only by the oldest Americans in our sample (born in 1900–1910), but also by the youngest (born 1981–1991) at a time when the Great Depression was being used in comparison with the Great Recession (Figure 4.7, p. 100 in Corning & Schuman, 2015). Here, the evidence does not extend the hypothesis to new events, but instead reveals the continued importance in the news of a very old event—a kind of “resurrection.”

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