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EMPIRICAL ARTICLE

Flashbulb Memories and Memories for Personal Events: Their Role in Social Categorization and Identification

Travis G. Cyr, Kayla Toscano, and William Hirst
Department of Psychology, The New School for Social Research, United States

Does the act of remembering or not remembering convey socially relevant information? The present work explored this question by examining the role flashbulb memories (FBMs) and memories for personal (MPEs) events play in social categorization and social identification. Study 1 investigated the extent to which Americans believe FBMs of both domestic and international public events and memories for life-script events should be remembered by an American or a Briton. Study 2 built on Study 1 and examined whether these normative expectations serve as a basis for identifying someone as "American," "American immigrant," "Black American," "female," "religious," or "politically conservative." Results indicate that FBMs and MPEs affect social categorization and identification in distinctive ways. The role of FBMs as markers of social identity is discussed.

General Audience Summary

People will often remember the circumstances in which they learned of a public, emotionally charged event. Often referred to as flashbulb memories (FBMs), they are of intense interest to the general public, as well as the psychological community, with commentators often noting that an event is such that people will never forget where they learned of it. Since Brown and Kulik′s pioneering article on FBMs, psychologists have intensively explored the conditions under which these memories are formed, their accuracy, and their phenomenological features. Less studied are the social functions of FBMs. As Brown and Kulik noted, and have been amply demonstrated since then, FBMs are community-specific and widely held within the affected community. Black Americans, for instance, tend to have FBMs of learning of the assassination of Malcolm X, whereas White Americans do not. The present article explores the possibility that FBMs′ community-specificity and widespread nature within an affected community may allow them to serve as markers of community membership. A person, for instance, might not be viewed as a "good" American if they do not have a FBM of the attack of September 11, 2001. The present article explores this possibility by first investigating the extent to which Americans believe FBMs of both domestic and international public events and memories for life-script events should be remembered by an American or a Briton. It then examines whether these normative expectations serve as a basis for social categorization. Results indicate that FBMs and MPEs affect social categorization and identification in distinctive ways. People may find FBMs of interest, in part, because of their function as markers of social identity.

Keywords: flashbulb memories, life scripts, collective memory, social identity, social categorization

Since R. Brown and Kulik (1977) discussed flashbulb memories (FBMs), they have been a focus of extensive psychological research. The extant research has mainly examined, Brown and Kulik′s claim that FBMs are more accurate than ordinary autobiographical memories over the long term, a difference that argues for a separate mechanism responsible for their formation and retention. An emerging consensus built around this research argues against this claim and posits that, while FBMs are as likely to be distorted or forgotten as ordinary

William Hirst https://orcid.org/0000-0002-8506-6492

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Correspondence concerning this article should be addressed to William Hirst, Department of Psychology, The New School for Social Research, 80 Fifth Avenue, New York, NY 10003, United States. Email: hirst@newschool.edu

autobiographical memories, they are nevertheless remembered with extraordinary confidence and abnormal vividness and elaborateness (Hirst & Phelps, 2016; Talarico & Rubin, 2017). For many scholars, these results suggest that ordinary memory mechanisms might account for the phenomenon (Christianson, 1989; McCloskey et al., 1988; Talarico & Rubin, 2017).

The present research investigates a facet of FBMs that has not received the same level of attention as issues surrounding accuracy and confidence: their role in social categorization. The relation between FBMs and social identity has been well documented (see Berntsen, 2018; Erll & Hirst, 2023; Hirst & Meksin, 2017; Hirst & Phelps, 2016, for reviews). R. Brown and Kulik (1977) entertained this possibility when they showed that members of a community for which the precipitating public event is consequential are more likely to form FBMs than are members of community for which the precipitating event is inconsequential. For instance, they observed that Black Americans were more likely to form FBMs of the assassination of Malcolm X than were White Americans. More recent findings have reinforced their observation, using a wide range of event types and social groups, including gender differences in memory for the confirmation hearings of U.S. Supreme Court Justice Clarence Thomas (Morse et al., 1993), nationality differences for memory of the death of Princess Diana (Kvavilashvili et al., 2003) and the death of President Mitterrand (Curci et al., 2001), and religious-group differences in the memory of the resignation of Pope Benedict XVI (Curci et al., 2015). Berntsen (2018) posited that the activation of a social identity can elicit an emotional response and/or public and private rehearsal, which in turn can account for the improved memory.

One aspect of these results that probably does not get enough attention is that it is not just a few members of an affected community who form FBMs, but rather, at least for the examples dominating the literature, FBMs are often formed by a substantial portion of the affected community, albeit not necessarily accurately. For instance, Hirst et al. (2009, 2015) found in their study of FBMs of 9/11 that 99.5% of their American participants reported remembering where they were they learned of the attack after a delay of 10 years. In their study of memory for the invasion of Denmark during World War II (WWII) and the subsequent withdrawal of the Germans, Berntsen and Thomsen (2005) found that 97.2% of their Danish participants possessed memories of where they were when they learned of the invasion and 95.2% when they learned of the withdrawal, even though over 60 years had passed. R. Brown and Kulik (1977) revealed that 98.8% of their American participants asserted that they remembered where they were when they learned of the assassination of John F. Kennedy (JFK), now after more than a decade had transpired.

If, as the extant research suggests, FBMs are both community-specific and widely held within that community, they could serve as markers of community membership as well as the degree to which a rememberer identifies with the affected community (Hirst et al., 2020; see Berntsen, 2018, for a related claim). That is, they could guide social categorization. More specifically, people might believe that Americans without a widely held FBM might not be "good" Americans and would generally identify less as an American than might those with a vivid and detailed FBM. The line of reasoning is that people may be sensitive to the distributional characteristics of FBMs and, as a result, have normative expectations about what emotionally charged public events are likely to elicit FBMs for a specific community. People may not be adept at assessing their own memory performance (Beaudoin & Desrichard, 2011; Herrmann, 1982); however, they may still have normative expectations about what others might or might not remember (see, for instance, Barnier et al., 2018; Hollingshead, 2000; Meade et al., 2009). These normative expectations might, in turn, be used to predict community membership and the extent to which a remember does or does not identify with the affected community.

After all, people often use performance on tasks and social comparison as markers of group membership. For instance, when someone performs similarly to oneself on a task, one often treats them as similar to the self in other ways (Robbins & Krueger, 2005). Even instances where people are assigned to groups that have no prior meaning and are unrelated to the task at hand, can result in, among other things, ingroup favoritism in the assignment of positive traits (Otten & Moskowitz, 2000), trait inferences about groups (Hamilton, 2015), and alterations in face perception (Ratner & Amodio, 2013). As to memories, using real-world events and groups, Tavani et al. (2017) found that a target who shares common memories, including those involving national historical events, is more likely to be viewed as an ingroup member than someone who does not.

One should extend this work to FBMs cautiously, however. On the surface, the claim that FBMs can serve as markers of group identity might seem peculiar. After all, FBMs are autobiographical, not collective memories. As a result, they should, if anything, bear on personal, not collective identity and membership. R. Brown and Kulik (1977) made a similar point when they wondered why people should have a vivid memory of circumstance of learning of the event when it is the event itself that is consequential for the group and not the personal experience of learning of the event. In this regard, Tavani et al. (2017) found that people used memories for national events, for example, WWII, to classify people as to their national membership only underscores a role for collective, not autobiographical memories. Even Neisser′s (2000) observation that FBMs should be treated as benchmarks, not as snapshots, emphasizes the autobiographical aspect of FBM, not their collective nature (see also Berntsen & Thomsen, 2005; N. R. Brown et al., 2009; Zebian & Brown, 2014). Our claim, however, is about collective identity and membership in a collectivity. That is, we are charting a relation between autobiographical memories and collective identity.

Merck and Hirst (2022) tested at least aspects of our claims about FBM, group membership, and identity by asking participants whether a person with progressive dementia would lose their identity as, for instance, an American if they failed to remember their FBM for events such as the assassination of JFK or the attack of September 11, 2001 (9/11). They found that people believe that the extent to which the person in their scenario might identify as an American weakened when he or she no longer possessed the widely held community-based FBMs they probed for.

Study 1

Study 1 sought to establish (a) that FBMs elicit strong normative expectations among Americans as to whether they should be remembered and (b) that people are sensitive to group variation in these norms. In order to assess the sensitivity of our methodology, we also examined memories of life-script events. Like FBMs, they are autobiographical memories, but, perhaps more critically, the

extant literature emphasizes their normative character (see Berntsen & Rubin, 2004). As a result, if our methodology is sensitive to the normative expectations associated with different autobiographical memories, it should be able to detect the normative expectations associated with different life-script events.

We preregistered several predictions (see Cyr & Hirst, 2022). We predicted that American participants would believe that Americans should remember U.S.-centric events more than international events. We expected that this effect would be reversed when asking American participants to rate the degree to which a British person should remember the same events. We further predicted that participants would have stronger normative expectations about FBMs when they, themselves, reported remembering the circumstances of learning about the event. This effect should be independent of status as a United States or international event.

For life-script events, based on previous research about the norms associated with life-script events (e.g., Berntsen & Rubin, 2004), we predicted that American participants would have stronger normative expectations about high-frequency personal events than about low-frequency personal events for Americans. We did not have a prediction about participants in the British condition, inasmuch as participants might possibly ignore the perspective manipulation because they believe that there is a substantial overlap between American and British cultural schemas. Independent of perspective, we expected that having personally experienced these events would result in greater normative expectations for the events. The aim here is not to compare performance across the two types of events but to underscore that the questions we asked about FBM-eliciting events do indeed tap into normative expectations, as assessed with life-scripts events. This study received the ethical approval of the institutional review board of the New School.

Method

Participants

Based on a power analysis in G*Power (Faul et al., 2007) for a mixed analysis of variance (ANOVA) with a within-between interaction (two groups, two measures), estimating a small effect size ($f = .10$), an α of .05, an estimated repeated measures correlation of $r = .00$, we preregistered that we would collect a sample of 400 individuals to achieve $\approx$ 80% (Cyr & Hirst, 2022). All participants identified as Americans.

Due to an initial randomization and participant quota issue, we collected 11 participants in the British-perspective condition beyond our preregistered sample. We decided to keep the additional participants. Per our preregistration, we resampled 57 individuals who failed at least two of three attention checks or failed to complete the study. Ultimately, 411 Americans were recruited using Amazon Mechanical Turk through the Cloud Research graphical user interface (Litman et al., 2017) and compensated $0.80 for a task that took approximately 8 min. See Table 1 for demographic information.

Table 1
Demographic Information

Demographics	Study 1 Perspective: American	Study 1 Perspective: British	Study 2
n	200	211	498
Age M (SD)	36.9 (11.6)	36.6 (11.9)	39.1
Female (%)	41.5	45	53.8
Ethnicity (%)			
White	76.5	75.8	75.5
Black/African American	8.0	8.1	7.6
Hispanic or Latino	7.5	7.1	6.4
Asian or Asian American	6.5	6.6	7
Native American/Alaskan Native	0.5	0.5	0.4
Indian	0.5	0	0.6
Other	0.5	1.9	2.4
Education (%)			
High school	13.0	11.8	8.6
Some college	25.5	25.1	24.3
Associate's degree	5.0	16.6	14.5
Bachelor's degree	39.5	35.1	32.1
Some graduate school	2.5	1.9	2.0
Graduate degree	11.0	9.5	18.3
Other	0.5	0	0.2

Note. One participant's age was coded as missing due to the provided number exceeding the average life span of a human by roughly three times.

Materials

Participants viewed two sets of events categorized as public or personal. The 12 public events were selected from events featured in the FBM literature. Six were "domestic," in that they were grounded in American public life. The other six were considered "international," in that they involved events that occurred outside of the United States. That they were not all British makes it, if anything, less rather more difficult to find the predicted dissociation.

Life-script events were selected from the cultural life-script template detailed by Berntsen and Rubin (2004). We selected the six most frequently cited events (e.g., having children) and the six most infrequently (e.g., empty nest) identified life events in their list of 35 categorized events. Although these events might be viewed as general in nature, for each participant, they referred to a specific event, just as the public events did. For instance, the query, "remember the first child you had," referred to a specific event, at least for those who had a first child.

Participants did not have to have had a first child they only had to "imagine" a person who had a child. See Table 2 for a complete list of public and personal events used in this study.

Procedure

Participants first read an informed consent form explaining that the study was focused on understanding perceptions of public and personal events.

Participants viewed 12 public and 12 personal events in a randomized blocked design. For each event, participants rated the events in response to one of two randomly assigned prompts, one associated with the American-perspective condition, the other with the British-perspective condition: "Should an American [Briton] remember the circumstances in which they learned about or experienced each of the events listed below?" Participants provided their responses on 6-point Likert scales with response options ranging from definitely yes to definitely no. For public events, participants were provided a 7-point labeled "Do not know this event." Given the nature of the life-script events, the "Do not know this event" response option was not provided. Participants then

Table 2
Public and Personal Event Mean "Should Remember" Ratings by Perspective

Events	Perspective					
	American			British		
	% n	M	SD	% n	M	SD
Public events						
Domestic						
Assassination of JFK	100	5.17	1.05	100	4.36	1.27
September 11 Terror Attack	99.5	5.45	0.9	99.5	5.04	1.12
Election of Barack Obama	99	4.8	1.22	100	3.95	1.29
Death of Michael Jackson	100	4.14	1.33	99.1	3.7	1.32
The Miracle on Ice	74	3.34	1.23	76.3	2.97	1.15
Oklahoma City Bombing	94	4.68	1.14	96.2	3.57	1.2
Mean	—	4.55	0.85	—	4.12	1.02
International						
Lockerbie Bombing	59.5	3.43	1.24	72	4.11	1.21
Nice, France Terror Attack	88	3.97	1.21	89.1	4.38	1.22
Assassination of Rabin	60	3.08	1.19	68.2	3.2	1.21
Death of Princess Diana	99	4.32	1.11	99.1	4.96	1.24
Death of Pope John Paul II	94	3.62	1.15	97.2	3.9	1.28
Hillsborough Soccer Disaster	52.5	3.08	1.14	65.9	3.79	1.26
Mean	—	3.54	.99	—	3.90	0.87
Life-script events						
High frequency						
Having children	—	5.63	0.73	—	5.56	0.82
Marriage	—	5.67	0.66	—	5.53	0.89
Falling in love	—	5.19	0.86	—	5.29	0.91
Retirement	—	4.85	0.97	—	4.98	0.99
Leaving home	—	4.76	1.00	—	4.84	1.07
Parent's death	—	5.56	0.79	—	5.48	0.99
Mean	—	5.28	0.71	—	5.28	0.73
Low frequency						
Settle on career	—	4.47	0.98	—	4.56	1.01
Enter adulthood	—	4.28	1.09	—	4.54	0.97
Empty nest	—	4.28	1.24	—	4.46	1.24
Grandchildren	—	5.41	0.78	—	5.39	0.83
Puberty	—	3.99	1.25	—	4.26	1.07
Finding the "Right" job	—	4.51	0.99	—	4.62	1.06
Mean	—	4.64	0.71	—	4.49	0.73

Note. The % n rating columns correspond to the percentage of participants in the condition that provided a rating rather than stating that they do not know the event. JFK = John F. Kennedy.

ranked the events within each block in the order they believed an American [Briton] should most likely to remember the reception event to those they believed an American [Briton] should least likely to remember.

Following the ranking exercise, participants then saw the same blocks of public and personal events, this time indicating whether they, themselves, remembered the circumstances in which they learned of or experienced the listed events. Responses were provided on the same 6-point Likert scale as before (definitely yes to definitely no) with slight differences to account for the self-referential quality of the ratings. For public events, participants were again given the option to indicate that they did not know the event, but were also given the option to specify "Was Not Alive/Old Enough for This Event." For life-script events, participants were provided an additional response option in order to indicate that they have not experienced the event in question. Finally, participants provided demographic information, which asked about age, ethnicity/race, and education, were debriefed, and thanked for their time.

Results

Inasmuch as we do not seek a direct comparison between FBM-eliciting events and life-script events, we analyzed and present the results for each separately.

FBM-Eliciting Events

We first examined whether Americans believed an American or Briton should remember the circumstance of learning of public events, which we will refer to as their "should remember" ratings. In calculating mean scores of the "should remember" ratings for domestic and international events, we did not include those instances where participants indicated that they did not know the event, thus participants' mean scores are not necessarily based on rating the same combination of items. The item-level response rate is listed in Table 2 (in the % column).

In order to test our primary, preregistered hypotheses, we conducted a 2 (location: domestic vs. international) × 2 (perspective: American vs. British) mixed model ANOVA, with location as a repeated measure and perspective as a between-participant variable. We found a significant main effect of location, $F(1, 409) = 70.00$, $p < .001$, $\eta_p^2 = .146$, but not an effect of perspective, $F(1, 409) = 0.15$, $p = .696$, $\eta_p^2 < .001$. There was also a significant location by perspective interaction, $F(1, 409) = 168.05$, $p < .001$, $\eta_p^2 = .291$. Bonferroni-corrected post hoc comparisons demonstrated that participants in the American-perspective condition believed that the circumstances of learning of the domestic events should be remembered to a greater extent than the circumstances of learning of the international events, $t(409) = 14.89$, $p < .001$, $d = 0.77$, whereas participants in the British-perspective condition believed that the circumstances of learning of the international events should be remembered to a greater extent than the circumstances of learning of the domestic events, $t(409) = 3.30$, $p = .001$, $d = .16$. That is, our participants, who were all Americans, could take the perspective of their fellow Americans or of Britons and identify the domestic (American-related) events as more likely to elicit FBMs for Americans than for Briton and the international events as more likely to elicit FBMs for Britons than for Americans (see Table 2).

As a check on our Likert ratings, we also asked participants to rank order all 12 events in terms of their likelihood of remembering the circumstances of learning of the events, as they believed the average American or Briton would rank them. Using the average rank of domestic events as our dependent measure (the effects are mirrored for the international events because the rank scores are dependent on one another), we conducted a Mann–Whitney U test (due to violation of equality of variances, $p < .001$) comparing the average ranks provided by American and British condition participants. Consistent with the Likert ratings, we found that participants, who were all Americans, ranked domestic events significantly higher in the American condition ($M = 8.10$, $SD = 0.91$) than in the British condition ($M = 6.18$, $SD = 1.32$; $U = 5,023$,

$Z = -13.33$, $p < .001$, $d = 1.69$). The ranks, in other words, produced results similar to the Likert ratings.

We also examined whether participants' responses depended on whether they themselves had FBMs for the given events. Specifically, we were interested in comparing the average "should-remember" scores assigned to an event for which participants indicated that they themselves remembered the circumstance of learning of the event with the average "should-remember" score when participants indicated that they themselves did not remember the circumstance in which they learned of the event. We classified participants as to whether they remembered or did not remember the reception event using their 1–6 ratings as to how certain they were that they remember it. They were treated as remembering the events if their rating was 4 or more (memory-present). They were treated as not remembering the event if the rating was less than 4 (memory-absent). We also included in this latter group participants who indicated that they did not know the event or were not born/too young to have experienced the FBM-eliciting event.

We then conducted a 2 (location: domestic vs. international) × 2 (memory status: memory-present vs. memory-absent) × 2 (perspective: American vs. British) mixed model ANOVA, with location and memory status as repeated measures and perspective as a between-subject variable. The dependent variable was the average "should-remember" scores. We again found a main effect of location, $F(1, 240) = 25.32$, $p < .001$, $\eta_p^2 = .095$. We also found a main effect of memory status, $F(1, 240) = 220.08$, $p < .001$, $\eta_p^2 = .478$, and, as before, a nonsignificant effect of perspective, $F(1, 240) = 1.23$, $p = .269$, $\eta_p^2 = .005$. These main effects were qualified by a number of interactions. There was a significant interaction between location and perspective, $F(1, 240) = 84.52$, $p < .001$, $\eta_p^2 = .260$, with domestic events ($M = 4.53$, $SE = .07$) receiving higher ratings than international events, $M = 3.65$, $SE = .08$; $t(240) = 9.82$, $p < .001$, $d = .63$, in the American perspective condition and international events ($M = 4.12$, $SE = .08$) receiving higher ratings than domestic events in the British perspective condition, $M = 3.86$, $SE = .07$; $t(240) = 3.02$, $p = .003$, $d = .19$.

There was also a significant interaction between location and memory status, $F(1, 240) = 5.35$, $p = .022$, $\eta_p^2 = .022$. When events were not remembered, domestic events ($M = 3.87$, $SE = .07$) received higher ratings than international events, $M = 3.45$, $SE = .06$; $t(240) = 4.96$, $p < .001$, $d = .32$. When events were remembered, the difference was again significant, though the magnitude of the difference was smaller, with domestic events ($M = 4.53$, $SE = .06$) again receiving higher ratings that they should be remembered than international events, $M = 4.32$, $SE = .07$; $t(240) = 2.99$, $p = .003$, $d = .19$. However, it is noteworthy that, for domestic events, should-remember ratings were significantly higher when the circumstances of the event were remembered by the participant themselves ($M = 4.53$, $SE = .06$) than when they were not ($M = 3.87$, $SE = .07$). This was also true for international events, remember: $M = 4.32$, $SE = .07$; no memory: $M = 3.45$, $SE = .06$; $t(240) = 13.14$, $p < .001$, $d = .85$. The three-way interaction was not significant, $F(1, 240) = 1.80$, $p = .181$, $\eta_p^2 = .007$. Overall, the results suggest that people's normative expectations were affected by their own experience, that is, whether or not they themselves possess the referred to FBM.

Life-Script Events

Our interest here is whether our assessment procedure tapped into the normative expectations outlined in the literature on life scripts (Berntsen & Rubin, 2004). Specifically, we expected that the higher frequency events associated with life scripts would garner higher should-remember ratings than lower frequency events. We conducted a 2 (frequency: higher vs. lower) × 2 (perspective; American vs. British) mixed model ANOVA, with frequency as a repeated measure and perspective as a between-participant condition. We included perspective, given the possible culturally variable nature of British and American life scripts. We found a significant main effect of frequency, $F(1, 409) = 540.28$, $p < .001$, $\eta_p^2 = .569$, and a nonsignificant main effect of perspective, $F(1, 409) = 1.69$, $p = .194$, $\eta_p^2 = .004$. These effects were qualified by a significant interaction, $F(1, 409) = 5.23$, $p = .019$, $\eta_p^2 = .013$, such that for the high-frequency events, American and British perspective ratings did not differ, $t(409) = 0.09$, $p = .993$, $d = .01$, whereas for the lower frequency events, British perspective ratings were significantly higher than American perspective ratings, $t(409) = 2.13$, $p = .034$, $d = .21$; see Table 2). The within-participant comparisons, where perspective is held constant, revealed a relatively unsurprising set of results: higher frequency events received higher should-remember ratings than lower frequency events. This was true of the American perspective condition, $t(409) = 17.86$, $p < .001$, $d = 0.88$, and the British condition, $t(409) = 14.98$, $p < .001$, $d = 0.74$.

Turning again to the event rankings, we conducted a Mann–Whitney U test on the average rank of high-frequency events (low-frequency event rankings are dependent on these scores and thus not tested). Here we find that, once again, there is no difference between the American perspective condition ($M = 8.00$, $SD = 0.89$) and the British perspective condition ($M = 8.02$, $SD = 0.87$; $U = 20{,}884$, $z = -0.009$, $p = .993$, $d = .02$).

Following the same procedure as outlined when working with public events, for the self-referential ratings, we conducted a 2 (frequency: higher vs. lower) × 2 (experienced: yes vs. no) × 2 (perspective: American vs. British) mixed model ANOVA. We found a significant main effect of frequency, $F(1, 301) = 385.45$, $p < .001$, $\eta_p^2 = .562$, and a main effect of experience, $F(1, 301) = 74.65$, $p < .001$, $\eta_p^2 = .199$, both of which were qualified by a frequency by experience interaction, $F(1, 301) = 97.03$, $p < .001$, $\eta_p^2 = .244$. Bonferroni-corrected post hoc comparisons revealed that for high-frequency events, there was no difference in ratings between personally experienced events ($M = 5.41$, $SE = .03$) and those not personally experienced, $M = 5.38$, $SE = .04$; $t(301) = 1.13$, $p = .260$, $d = .07$. For lower frequency events, there was a significant difference in experience, such that personally experienced events ($M = 4.51$, $SE = .05$) were given significantly lower should-remember ratings than those events not personally experienced, $M = 4.90$, $SE = .04$; $t(301) = -12.42$, $p < .001$, $d = .71$.

Neither perspective, $F(1, 301) = 0.28$, $p = .600$, $\eta_p^2 = .001$, frequency by perspective, $F(1, 301) = 0.03$, $p = .866$, $\eta_p^2 < .001$, experience by perspective, $F(1, 301) = 3.37$, $p = .068$, $\eta_p^2 = .011$, nor the three-way interaction were significant, $F(1, 301) = 2.72$, $p = .110$, $\eta_p^2 = .009$.

Discussion

The overall findings of this study provide evidence in support of normative expectations about which public and personal events ought to be remembered. Further, they demonstrate that participants (Americans in this case) adjust their normative expectations on the basis of who is doing the remembering and on the basis of what is being remembered. Of note, these expectations appear to operate somewhat differently when comparing FBM-eliciting and life-script

events. With FBMs, we observed a strong cross-over interaction effect, with domestic American events having greater normative expectations from an American perspective and international events having greater normative expectations from a British perspective. This underscores the community-specific nature of FBMs. Although varying by perspective when it came to lower frequency events, life-script event did not differ for higher frequency events. That is, at least as it relates to high-frequency cultural life-script events, taking an alternative national perspective will not necessarily result in an adjustment to normative expectations. We suspect this result reflects the cultural similarities of the two nations we examined rather than a more general claim about similarity of normative expectations across cultures.

Study 2

Given the variation observed in Study 1 in the extent to which participants held normative expectations about what ought to be remembered, in the present study, we examined whether violations of these normative expectations can lead to differences in social appraisal of the rememberer. We predicted that violating norms of remembrance would impact judgments of the norm violator's belonging to the national ingroup and could lead to differences in inferences about groups to which the rememberer might belong. We also posited that the norm violator would be judged as less similar to the self (who was always American) than a person who is able to provide a memory for the queried events.

Inasmuch as Study 1 showed that having personally experienced a public event can influence normative expectations, we included an additional layer to this experiment by manipulating the temporal distance of the to-be-remembered event. People may have different view of the social role of FBMs for more distant events. Moreover, as in Study 1, although our main interest was in FBMs, we wanted to determine whether the same pattern we are predicting for FBMs held for "personal memories" more generally. Study 1 drew from the cultural life-script, but personal events are not necessarily life-script events. With this caveat in mind, in this study, we used personal memories that might not necessarily be featured in a life script.

Method

The present study was embedded as a task during a delay in an unrelated study exploring retrieval-induced forgetting and shared attention. The method reported here pertains only to the experiment conducted during the delay period. The study received the ethical approval of the institutional review board of The New School.

Participants

American participants were recruited through Cloud Research (Litman et al., 2017) for a study examining memory for news events. Participants were compensated $4.00 for the overall study, which, in total, required approximately 35 min to complete. In total, 537 participants completed the study. Thirty-nine participants were excluded for failing multiple attention checks embedded in scale measures and in the directions, leading to a final sample of 498 participants. See Table 1 for demographic information for the final sample. Because the study was powered for the main study in which this study was embedded, we conducted a sensitivity power analysis in G*Power (Faul et al., 2007, which revealed that with the present sample size, we have approximately 80% power to detect an interaction with effects as small as $f = .013$ with an α of .05.

Materials

All materials are available at Cyr and Hirst (2022). The primary materials in this study consisted of four scenarios, two corresponding to public event memories (the assassination of John F. Kennedy assassination [JFK] and the terror attacks on September 11, 2001 [9/11]) and two corresponding to memories for personal events (MPEs; enlisting in the military and family dinner). Each scenario was written in a question-answer format, with each scenario having two different answers per scenario. In what we refer to as the "memory" status condition, the interviewee participants heard about responded with a detailed memory to a prompt, whereas in the "no memory" status condition, the interviewee responded in a way that indicated that they did not have a memory. See Table 3 for full vignettes.

Memories were written in a manner so as to convey that the interviewee was old enough to be alive and be aware of the event in question. In the JFK scenario, both the remembered and not remembered vignette included the interviewee stating that they were at a work function or "probably at a work function," respectively, conveying that the interviewee was of working age. In the 9/11 scenario, for both the "memory" and "no memory" vignettes, the interviewee stated that they were at the gym or "maybe at the gym," respectively. In the enlisting scenario, there was an implicit age range, inasmuch as very young people are generally not permitted to enlist in the military. In the family dinner scenario, although an age cue was not explicitly provided, family dinners are not bound by time and can occur during many points in a life course, including an age for which it can be reasonably inferred that they are able to form memories.

Design and Procedure

Participants were randomly assigned to conditions in which they saw, in a randomized order, one personal and one public event. The memory status (memory or no memory) of the public event memories was also randomly assigned. Because we did not want a situation in which participants responded to "no memory" vignettes for both public and personal memories, rather than randomly assigning the personal event memory status, we opted to present the opposite memory status of the personal memory relative to the public memory. Upon consenting to participate, participants were provided with a cover story, telling them that they were going to be presented with two short transcripts from two different interviews of individuals that the researcher of this study had previously collected. Participants were told that interviewees had been asked to remember the circumstances surrounding a number of life events. After being told about this interview, participants were further told that the experimenters were interested in their impressions of the people providing the memories. Participants were then presented with a short vignette structured in a question and answer format:

> Q: "Please tell us how you learned about the terror attacks on the United States on September 11, 2011."
>
> A: (no memory condition): "I'm honestly not sure what I was doing at the time. Maybe at the gym?"

Table 3
Memory Vignettes

Event scenario	Memory status
Memories for personal events	
Family dinner	I was sitting in my grandparent's dining room with all my relatives—we have a pretty large family. The smell of whatever was cooking was spread throughout the house. I remember there was soft music playing in the background. My uncles were laughing at an old inside joke and my aunts were in the kitchen gossiping. A few of my cousins and I tried to sneak some dessert before the actual meal.
	I cannot think of a memorable family dinner. Nothing comes to mind.
Enlisting	I clearly remember the day I walked into the recruiting center to join the army. It was sunny and humid. I felt very happy and confident but some self-doubt too, I guess. When I was sitting in the center waiting to be interviewed, I remember other people there trying to hide their smiles and excitement. Honestly, I was too. I had been waiting for that day for a long time. Nothing is more important to me than protecting my nation, the ones I love, and the things I believe in.
	I do not really remember that day in particular.
Flashbulb memories	
John F. Kennedy Assassination	I was at a work function the day he was shot. My company was celebrating a deal we had closed. My coworker arrived late, around 5:00 p.m. or so. I remember thinking that it was unusual for this guy. Anyway, after he came in he shouted to get everyone's attention and announced to all of us that the President was dead. He did not really know much else and we were all sort of in disbelief, so we found a radio and tuned in to ABC Radio Network and remember hearing them say "The President of the United States, John Fitzgerald Kennedy, is dead. The president is dead. Let us pray."
	I do not have a clue. Maybe at a work function?
September 11, 2001, terror attacks	I was at the gym doing my regular morning cardio. There were TVs in front of all the treadmills. I was not watching anything, but down the row from me an older guy was watching some morning talk show. At first I was thinking the guy was having a heart attack or something, but he was pointing up to the TV showing the two towers on fire. I stopped and went over so I could get a better view and see what was going. He said they were reporting that planes had hit the Twin Towers and the Pentagon.
	I am honestly not sure what I was doing at the time. Maybe at the gym?

After reading the question-and-answer portion, participants were told that they would be answering a series of questions about the person whose memory they just read and were encouraged to keep the interviewee's response in mind when answering the questions. The question-and-answer text was made available for reference when participants were answering questions. Probes to assess the participant's impression then followed. Participants first completed a four-item measure of perceived similarity of the interviewee to themselves, responding on a 6-point Likert scale ranging from 1 (definitely no) to 6 (definitely yes) in response to the following statements: "This person has values similar to my own," "This person shares experiences similar to my own," "This person belongs to groups similar to my own," and "In general, this person is similar to me." Cronbach's α for both personal memories (α = 0.939) and public event memories (α = 0.929) indicated that the measure evidenced sufficiently high reliability. Participants then completed a social categorization task where they were shown a list of various groups (i.e., American, American-immigrant, Black, conservative, female, religious, and, as an attention check, human) and asked to select whether the person whose memory they just read "probably" or "probably [does] not" belong to each group. These categories were selected so as to capture a variety of prominent ones in contemporary public life.

Participants then filled out the "National Ingroup Identification Measure" (Lyons et al., 2013) on behalf of the interviewee. That is, they rated the interviewee on qualities related to identification with the American ingroup (e.g., "This person sees their self as an American," "This person values being an American.").

Finally, participants responded to a question asking them, regardless of how the interviewees responded to the memory prompt, whether they should have had a memory of the event they were asked about. Responses were on a 1 (definitely should not) to 6 (definitely should) scale. Participants were then asked to explain, in a few sentences, why they selected the option that they chose.

This process was repeated twice, once for each presented memory. After responding to both memories, in order to replicate findings from Study 1, participants were then presented with a list of 12 notable public events (and one attention check event) from the past—the same list of public events used in Study 1 (see Table 2)—and asked to rate the extent to which a person old enough to have been alive at the time of each event should remember the circumstances in which they learned of the event. Ratings were on a 1 (definitely no) to 6 (definitely yes) scale, with an additional option to indicate that participants did not know the event in question. As in Study 1, participants then responded to a series of demographic questions, were debriefed, and compensated.

Results

As with Study 1, we analyze the results of FBMs and memories of personal events separately. Our interest was about the generality of our claims about the pattern of performance associated with FBMs rather than a direct comparison of the level of performance across different types of life events.

Flashbulb Memories

Normative Expectations. We start by expanding on the results of Study 1, examining the extent to which the factors memory status (possessed a memory or did not) and event (9/11 or JFK assassination)

impacted participant's assessments of whether the interviewee should have had a memory. As indicated in the Methods section, after the initial phase of the experiment, we asked participants, regardless of how an interviewee responded to the memory prompt, whether the interviewee should have been able to provide a memory. We conducted an ANOVA on these "should remember" ratings, treating them as the dependent variable and the public event scenario (JFK vs. 9/11) and the memory status (memory vs. no memory) as factors. Both main effects of memory status and event were significant, $F(1, 494) = 47.78$, $p < .001$, $\eta_p^2 = .088$, and $F(1, 494) = 32.03$, $p < .001$, $\eta_p^2 = .061$, respectively. These effects were qualified by a significant interaction, $F(1, 494) = 8.18$, $p = .004$, $\eta_p^2 = .016$. Bonferroni-corrected post hoc tests revealed that "should remember" ratings were significantly higher in the JFK memory condition ($M = 5.05$, $SE = 0.09$) than in the JFK no-memory condition, $M = 4.15$, $SE = 0.10$; $t(494) = 6.62$, $p < .001$, $d = 0.88$. This pattern was also observed with the 9/11 condition, memory condition: $M = 5.31$, $SE = .09$; no memory condition: $M = 4.93$, $SE = .09$; $t(494) = 3.00$, $p = .012$, $d = 0.37$. Comparing across events, "should remember" ratings did not differ for the two events in the memory conditions, $t(494) = -2.04$, $p = .168$, $d = 0.25$, but did in the nonmemory condition, $t(494) = 5.85$, $p < .001$, $d = 0.77$. The results indicate that when making normative judgments about whether or not the person they were reading about should have formed a FBM, participants were sensitive to this person's actual performance (i.e., whether or not they did have a memory) and what the event in question was. This sensitivity to the event may have reflected the difference in temporal remoteness of the events in question, as well as the fact that a majority of the present sample was alive at the time of 9/11 but not the assassination of JFK.

American Ingroup Assessments. We were chiefly interested in the consequence of possessing or not possessing a FBM on social categorization. Using the same model specified above, this time with assessments of the interviewee's American ingroup identification as the dependent variable, an ANOVA revealed a main effect of memory status, $F(1, 494) = 477.63$, $p < .001$, $\eta_p^2 = .492$, as well as of event, $F(1, 494) = 13.67$, $p < .001$, $\eta_p^2 = .027$. There was no interaction, $F(1, 494) = 0.97$, $p = .326$, $\eta_p^2 = .002$ (see Figure 1). The memory condition received higher ingroup ratings ($M = 4.62$, $SE = 0.05$) than the no memory condition, $M = 3.10$, $SE = 0.05$; $t(494) = 21.86$, $p < .001$, $d = 1.97$. We also found that participants in the JFK condition assigned higher average ingroup ratings ($M = 3.99$, $SE = .05$) than did the 9/11 condition participants, $M = 3.73$, $SE = .05$; $t(494) = 3.70$, $p < .001$, $d = 0.33$. Clearly, those who possessed an FBM were more likely to be identified as an American than those who did not have a FBM.

Group Categorization. We also assessed how differences in memory status affected perception of identity of different social categories, specifically, in addition to American, we examined American-immigrant, Black, conservative, female, and religious. We analyzed participants' dichotomous categorization as to whether the interviewee belonged to different groups. For each category type, we conducted a binomial logistic regression with event scenario, memory status, and an interaction term as the predictors. All analyses treated "no memory," "probably does not belong," and "JFK" as reference groups. The odds ratio in the case of the social category Black is the probability of identifying the protagonists as probably Black over the probability of identifying him or her as probably not Black as a function, in this case, of either memory status or event scenario. A value greater than 1 means that the social categorization will increase as a function of the predictor variables and a value less than 1 means that the probability of social categorization will decrease as a function of the predictor variables. The results revealed several significant effects for each group, except for the social category "Black," for which there were no main effects, nor interaction (see Figure 2).

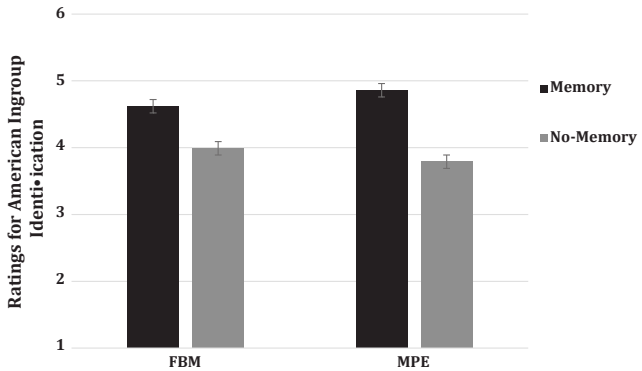
With categorization as American, we observe a highly significant effect of memory status, such that participants in the "memory" condition ($M_{prob} = 0.99$, $SE = .01$) were significantly more likely to identify the interviewee as American than were participants in the "no memory" condition ($M_{prob} = 0.77$, $SE = .03$; $p < .001$). There was no effect of event scenario ($p = .127$), nor an interaction ($p = .213$).

"American immigrant" evidenced a similar main effect of memory status, but in the opposite direction. Now participants in the "no memory" condition ($M_{prob} = 0.18$, $SE = .03$) were significantly more likely to say that the interviewee belonged to this category than participants in the "memory" condition ($M_{prob} = 0.07$, $SE = .02$; $p = .002$; as indicated by an odds ratio value below 1.00). There was again no effect of event scenario ($p = .152$), nor an interaction ($p = .515$).

For the "politically conservative" categorization, we found a significant effect for memory status, with participants in the "memory" condition being significantly more likely to estimate that the interviewee was conservative ($M_{prob} = 0.55$, $SE = .03$) than the participants in the "no memory" condition ($M_{prob} = 0.31$, $SE = .03$; $p < .001$). We also found a small but significant effect of event scenario, with participants in the JFK condition being significantly more likely to identify the interviewee as conservative ($M_{prob} = 0.54$, $SE = .04$) than those participants in the 9/11 condition ($M_{prob} = 0.33$, $SE = .03$; $p = .044$).

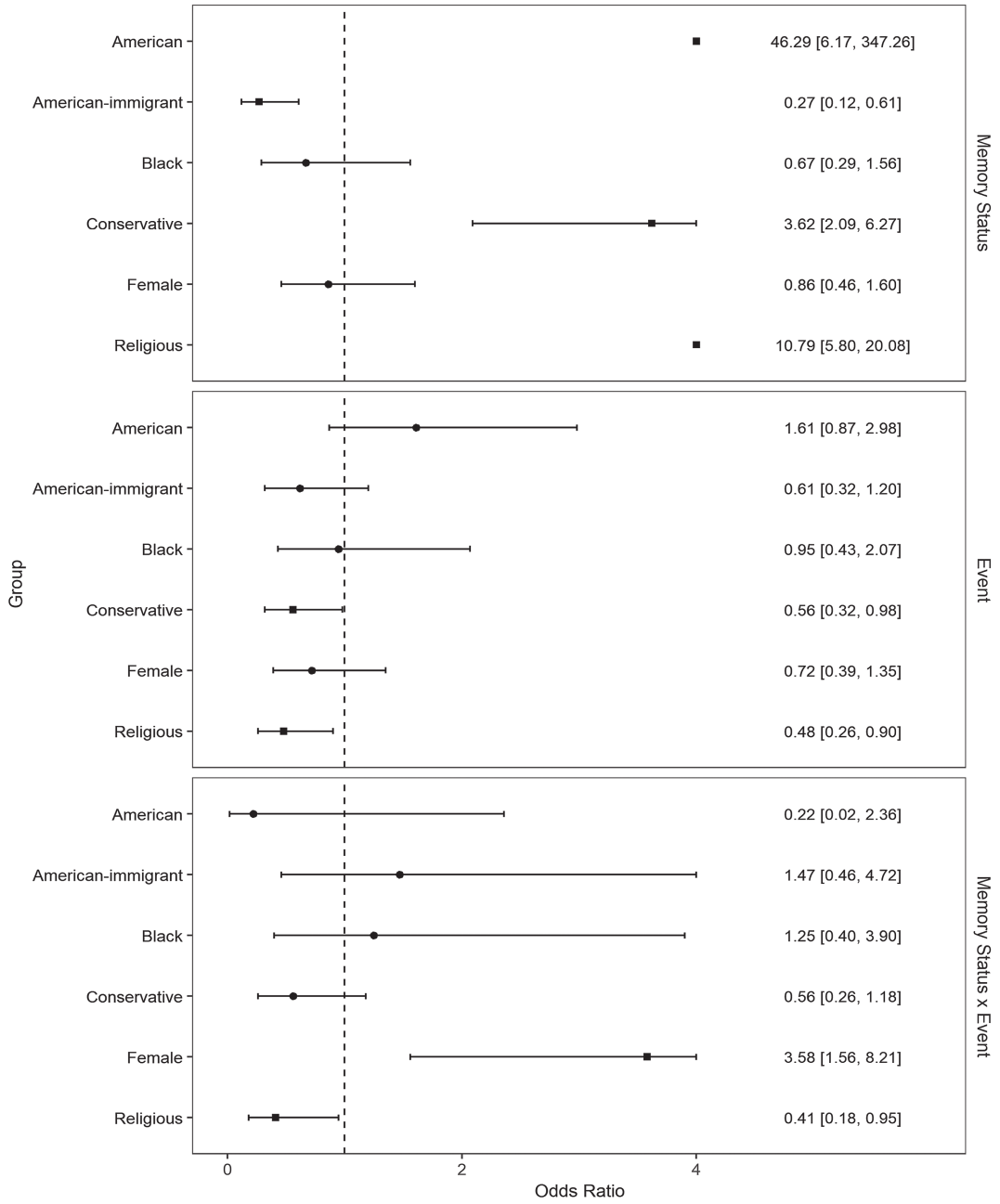
As for categorization as a female, there was no main effect of memory status ($p = .632$) or event ($p = .308$), but there was a significant interaction ($p = .003$). A series of column proportion z-tests, used to decompose the interaction, revealed that for participants in the 9/11 condition, the "memory" condition (Prop = 0.42) and the "no memory" condition (Prop = 0.19) differed significantly, $z = 4.08$, $p < .001$, 95% CI_{Diff} [0.12, 0.33]. There was no difference in the JFK condition (memory: Prop = 0.22; no memory condition: Prop = 0.24;

Figure 1
American Ingroup Identification as a Function of Presence of Memory and Memory Type



Note. Memory types are flashbulb memories (FBMs) and memories for personal events (MPEs). Error bars are standard errors.

Figure 2
Odds of Identifying Interviewee as Belonging to Various Groups by Memory Status, Event, and Memory Status × Event



Note. Dotted line denotes an odds ratio of 1.00. Odds ratio values exceeding 4 are truncated. Values greater than 1 indicate a positive identification with the social category as a function of reference groups, "no memory," "probably does not belong," or "JFK." The right-hand column contains the true values and 95% confidence intervals. JFK = John F. Kennedy.

$z = -0.48$, $p = .632$, 95% CI_{Diff} [−0.24, 0.08]). There was a significant difference between JFK and 9/11 participants in the memory condition ($z = -3.47$, $p < .001$, 95% CI_{Diff} [−0.31, −0.09]), but not in the no memory condition, $z = -1.02$, $p = .307$, 95% CI_{Diff} [−0.05, 0.16].

As for the category "religious," it evidenced a significant effect of memory status (memory $M_{prob} = 0.66$, $SE = .03$; no memory $M_{prob} = 0.22$, $SE = .03$; $p < .001$) and of event (JFK $M_{prob} = 0.57$, $SE = .04$; 9/11 $M_{prob} = .29$, $SE = .03$; $p = .022$), as well as a significant interaction, $p = .038$. Follow-up z-tests revealed that in the

"memory" condition, JFK condition participants were more likely to categorize the interviewee as religious (Prop = 0.81) than were participants in the 9/11 condition (Prop = 0.31; $z = 5.85$, $p < .001$, 95% CI_{Diff} [0.24, 0.46]). This was also true of the "no memory" condition, with the JFK condition participants being significantly more likely to categorize the interviewee as religious than (Prop = .29) than the participants in the 9/11 condition (Prop = .17; $z = 2.31$, $p = .021$, 95% CI_{Diff} [0.02, 0.23]). The memory and no memory JFK participants significantly differed in their categorization of the interviewee as religious, $z = 7.99$, $p < .001$, 95% CI_{Diff} [0.41, 0.64], as did the 9/11 participants, 532, $p < .001$, 95% CI_{Diff} [0.20, 0.41].

To summarize, whether or not one possesses a FBM of 9/11 or the JFK assassination affected the extent to which one was categorized as American, American immigrant, politically conservative, and religious. It had no bearing on whether one was Black or not and only applied to gender for 9/11. The failure to find any effect when categorizing someone with or without a FBM as a Black American may have occurred, at least in part, because people view Black Americans as similar to Americans more generally, at least when it comes to possessing a FBM for 9/11 or the assassination of Kennedy. As to the reverse pattern we found for immigrant Americans, this may have arisen for a variety of reasons, including the possibility that our participants considered the likelihood that an immigrant might have been living abroad when the FBM-eliciting event occurred.

Similarity to Self. Did the participants in this study, who were all Americans, think the protagonists in the scenarios were similar to themselves? Mean ratings of the interviewee's similarity to the participant were calculated and used as the dependent variable in an ANOVA. The public event scenarios (JFK vs. 9/11) and the memory status (memory vs. no memory) were included as fixed factors. We found no effect of the event, $F(1, 494) = 0.001$, $p = .974$, $\eta_p^2 < .001$. There was a significant effect of memory status, $F(1, 494) = 207.97$, $p < .001$, $\eta_p^2 = .296$, and a significant interaction, $F(1, 494) = 4.36$, $p = .037$, $\eta_p^2 = .009$. Bonferroni-corrected post hoc tests revealed that in the 9/11 condition, similarity was rated higher in the memory condition ($M = 4.01$, $SE = 0.08$) than in the no memory condition, $M = 2.63$, $SE = 0.08$; $t(494) = 12.23$, $p < .001$, $d = 1.49$. This was true of the JFK condition as well, memory condition: $M = 3.84$, $SE = .08$; no memory condition: $M = 2.81$, $SE = .09$; $t(494) = 8.36$, $p < .001$, $d = 1.11$. There was no difference between the JFK and 9/11 condition ratings in the memory condition, $t(494) = -1.50$, $p = .540$, $d = -0.19$, nor in the no memory condition, $t(494) = 1.46$, $p = .584$, $d = 0.19$. Although the interaction between event and memory status was significant, given these post hoc tests, that effect should be interpreted with caution. The general finding is that participants thought that they were more similar to the protagonist when the protagonist possessed a FBM of either 9/11 or the JFK assassination.

Memories for Personal Events

American Ingroup Assessment. An analysis of variance with assessment of the interviewee's American ingroup identification as the dependent variable and event scenario, memory status, and an interaction term as predictors revealed several significant effects (see Figure 1). Both the main effect of event, $F(1, 494) = 178.60$, $p < .001$, $\eta_p^2 = .266$, and memory status were significant, $F(1, 494) = 186.42$, $p < .001$, $\eta_p^2 = .274$. These effects were qualified by a significant interaction, $F(1, 494) = 23.99$, $p < .001$, $\eta_p^2 = .046$.

Bonferroni-corrected post hoc tests indicate a number of significant effects. In the family dinner condition, participants seeing the "memory" vignette rated the interviewee as significantly higher in American ingroup identification ($M = 4.15$, $SE = .08$) than in the "no memory" condition, $M = 3.46$, $SE = .08$; $t(494) = 6.46$, $p < .001$, $d = 0.79$. This effect was also observed with the enlist vignette, memory condition: $M = 5.58$, $SE = .09$; no memory condition: $M = 4.12$, $SE = .08$; $t(494) = 12.61$, $p < .001$, $d = 1.67$. In the "memory" condition, participants rated the enlisting interviewee as significantly higher in American ingroup identification than the family dinner condition participants, $t(494) = 12.54$, $p < .001$, $d = 1.65$. This same effect was also observed in the "no memory" condition, $t(494) = 6.18$, $p < .001$, $d = 0.76$. These later findings suggest that participants were inferring that the mere act of enlisting suggested a greater degree of national ingroup identification than a person remembering or not remembering a family dinner.

Group Categorization

We followed an analysis similar to the one conducted for FBMs. All analyses treated "no memory," "probably does not belong," and "family dinner" as reference groups (see Figure 3).

We found main effects of memory status in categorization of the interviewee, with all significant effects indicating that the category was more probable in the "memory" condition than in the "no memory" condition (means listed respectively): American-immigrant ($M_{prob} = 0.15$, $SE = .03$ vs. $M_{prob} = 0.11$, $SE = .02$, $p = .048$), Black ($M_{prob} = 0.21$, $SE = .03$ vs. $M_{prob} = 0.16$, $SE = .02$, $p = .004$), politically conservative ($M_{prob} = 0.74$, $SE = .03$ vs. $M_{prob} = 0.43$, $SE = .03$, $p < .001$), female ($M_{prob} = 0.27$, $SE = .04$ vs. $M_{prob} = 0.11$, $SE = .02$, $p < .001$), and religious ($M_{prob} = 0.80$, $SE = .03$ vs. $M_{prob} = 0.29$, $SE = .03$, $p < .001$). The only variable for which there was not a significant effect was in the categorization of the interviewee as an American, though the direction of the effect trended in the same direction as the other groups and the absence of significance may be reflective of a ceiling effect: $M_{prob} = 0.98$, $SE = .01$ versus $M_{prob} = 0.93$, $SE = .02$, $p = .089$. This trend should be viewed in conjunction with the significant findings using the American ingroup assessment.

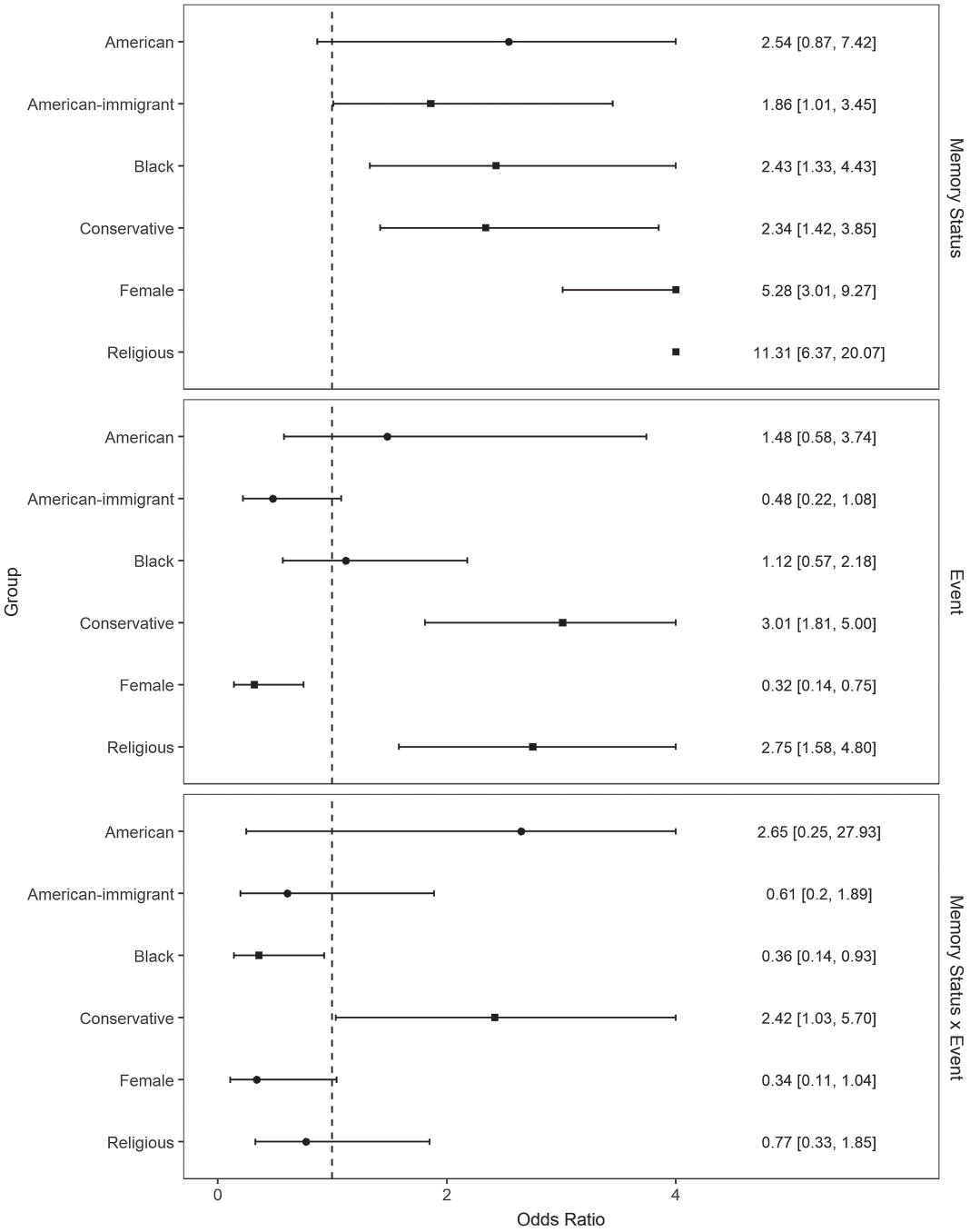
There were also several significant effects of event scenario, with categorization of the rememberer as female being significantly more likely in the dinner condition ($M_{prob} = 0.32$, $SE = .03$) than in the enlist condition ($M_{prob} = 0.08$, $SE = .02$, $p = .009$). The effects were reversed for categorization as conservative ($M_{prob} = 0.76$, $SE = .03$ vs. $M_{prob} = 0.40$, $SE = .03$, $p < .001$) and as religious ($M_{prob} = 0.80$, $SE = .03$ vs. $M_{prob} = 0.29$, $SE = .03$, $p < .001$), with both categorizations being more likely in the enlist condition than the family dinner condition.

Similarity to Self. An analysis of variance with similarity to self as the dependent variable and event scenario, memory status, and an interaction term as predictors revealed significant main effects of event, $F(1, 494) = 40.90$, $p < .001$, $\eta_p^2 = .075$, and memory status, $F(1, 494) = 125.38$, $p < .001$, $\eta_p^2 = .202$, as was an interaction, between the two $F(1, 494) = 12.91$, $p < .001$, $\eta_p^2 = .025$.

Bonferroni-corrected post hoc tests indicate that, consistent with observations from the public memories, participants on average see themselves as more similar to the interviewee in the memory condition than the no memory condition. This was true in the family dinner scenario, memory condition: $M = 4.35$, $SE = .09$; no memory condition: $M = 2.95$, $SE = .09$; $t(494) = 10.92$,

Figure 3

Odds of Identifying Interviewee About Memories for Personal Events as Belonging to Various Social Categories by Memory Status, Event, and Memory Status × Event



Note. Dotted line denotes an odds ratio of 1.00. Odds ratio values exceeding 4 are truncated. Values greater than 1 indicate a positive identification with the social category as a function of reference groups, "no memory," "probably does not belong," or "JFK." The right-hand column contains the true values and 95% confidence intervals. JFK = John F. Kennedy.

$p < .001$, $d = 1.33$, as well as in the enlisting condition, memory condition: $M = 3.41$, $SE = .10$; no memory condition: $M = 2.70$, $SE = .09$; $t(494) = 5.17$, $p < .001$, $d = 0.69$. We also found that participants in the memory condition provided higher similarity ratings when they saw the family dinner memory than when they saw the enlisting memory, $t(494) = 6.81$, $p < 001$, $d = 0.90$. This difference is not present in the "no memory" condition, $t(494) = 2.00$, $p = .184$, $d = 0.25$.

General Discussion

Information about membership in a social category may be conveyed by normatively expected, community-held autobiographical memories, in particular, by FBMs. In Study 1, we demonstrated that Americans have normative expectations as to whether people will form FBMs of different public events, sensitive both to the events themselves and their domestic or international character. Moreover, participants could adjust their normative expectations as a function of the perspective from which they estimated those norms (American or British). We verified the sensitivity of our methodology by showing similar results for life-script-based personal events. For both FBMs and life-script events, participants assigned greater normative force to remember an event if they themselves remembered it.

Study 2 built on Study 1 and addressed the central question: does someone's possession of or failure to possess a normatively expected memory, in particular, a FBM, bear on the way people think about that person's social identity? Are people socially categorized, in part, by the memories they hold and, in particular, whether they possess an FBM of certain public events? Although some of the effect sizes associated with some of the interactions are small, underlying the need for some degree of caution when applying these results, overall, the results are clear: people use the possession of FBMs to guide their social categorization. Interviewees with detailed normatively expected FBMs were more likely to be rated higher on an American Ingroup Identification scale than those without an FBM. The same was true for MPEs, but unlike FBMs, possession of these memories did not limit one's membership to one or a few of social categories we explored. Participants were more likely to identify a person with a memory of a family dinner or, to almost the same extent, enlisting as not just American, but an American immigrant, Black, politically conservative, female, and religious than those without such personal memories. The situation was much more idiosyncratic when it came to FBMs. For instance, the JFK vignette may provide more information about the religious status of the interviewee than the 9/11 scenario because of JFK's status as the first Catholic to serve as President of the United States. Overall, possession of an American-related FBM led participants to classify as American rather as one of many different social categories. This finding is consistent with the community-specificity of FBMs, but not many other categories of autobiographical memories. The results on social categorization are also consistent with Berntsen's (2018) model of FBM formation and maintenance. Not only did she posit that social identification enhanced emotional reactions and rehearsal, but she also indicated that having a flashbulb memory itself reinforced social group membership.

It is taken for granted that one's personal identity is shaped in part by one's autobiographical memories (Conway, 2005; Rubin, 1999) and that collective identity rests in part on the memories shared by that collectivity (Hirst & Manier, 2008; Liu, 2022; Wertsch, 2021). FBMs occupy a space somewhere in the middle of this taxonomy. They are not collective memories, in that individual FBMs differ across a community. Nor are they memories of what one might view as chiefly personal events, in that the event triggering the formation of an FBM is public. As Neisser (2000) observed, they are those instances in one's life in which personal history intersects with History writ large. The present results underscore how these distinctive autobiographical memories can bear not just on personal identity, but collective identity. In the present study, they serve as means of classifying people as members of a social category or as identifying with that category.

Of course, the possession of a FBM may shape not just how people view others but how they view themselves. The finding that the similarity-to-self ratings were related to the effect of memory status on identification would be consistent with the possibility that the results apply not just to social categorization of others, but also to one's own self-categorization. That is, whether one is aware of it or not, one may identify as being American, in part, because one possesses a FBM of 9/11, whereas the failure to meet normative expectations of having a 9/11 FBM may lead one to feel less American. Our findings, however, need to be approached cautiously, in that we did not have a large sample of, for instance, Black Americans or Americans practicing Islam. They may have felt differently about their similarity to the protagonist who did or did not have clear FBMs of 9/11 and the JFK assassination. The same concern could also apply to participants' responses to the group categorization question.

FBMs are, of course, not the only autobiographical memories that bear on collective identity. For instance, the extent to which one identifies as a Jew or a Christian may depend, in part, on how detailed one's memories of past Seder services or Christmas celebrations are. The role of autobiographical memories in shaping collective memory is only beginning to be explored. It is somewhat surprising that in the 45 years since R. Brown and Kulik's (1977) groundbreaking article, the focus of FBM research has been almost exclusively on the accuracy and phenomenological characteristics of the memory. No doubt a critical undertaking, but, as the present study makes clear, there is much more to say about FBMs and indeed the many other autobiographical memories that represent the intersection between personal history and History with a capital H.

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