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How we have fallen: implicit trajectories in collective temporal thought

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ABSTRACT

Memory may play a critical role in the ability to imagine events in the future. While most work on this relation has concerned episodic memory and simulated episodic events in the future, the current study examines how collective memories relate to imagination for the collective future. Two thousand American participants provided events for (1) America's origins, (2) normative events that all Americans should remember, and (3) events in America's future. Each event was rated for emotional valence. Whereas collective memories – particularly origin events – showed pronounced positivity biases, there was a negativity bias in collective future thought, indicating an implicit trajectory of decline in Americans' representations of their nation across time. Imagination for the social future may not be simulated based on the template of collective memories, but may rather relate to the past in a way that is mediated by cultural narrative schemata.

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The psychology of collective remembering is a relatively new and generative field of research. It examines how people remember events important in their group's history, cognitive factors allowing communicating groups to converge on shared memories, and the social identity functions that such memories serve (Hirst, Yamashiro, & Coman, 2018; Roediger & Abel, 2015). Collective memory is not just what lay people know about history (Wertsch & Roediger, 2008). It concerns, among other things, how shared frameworks and narrative templates coordinate shared remembering and forgetting across members of the group (Hirst & Yamashiro, 2017; Moscovici, 1988; Wertsch, 2002). After all, a social identity as, say, an American or a Russian, is not merely an atemporal conceptual category, to which one may belong or not, although that may be part of the story. People perceive their groups as entities extending through time, from charter events represented in the collective memory, to events imagined in the collective future (Hilton & Liu, 2011; Merck, Topçu, & Hirst, 2016; Szpunar & Szpunar, 2016). How people construct these temporally extended images of the groups to which they belong is of central interest in the current study. We selected Americans and their image of America as a test case. We will argue that a cultural narrative template of decline structures Americans' image of their nation's past and future.

Collective temporal thought

A burst of recent research has suggested that the cognitive and neural mechanisms underlying memory also support

imagination for the future (Schacter & Addis, 2007; Schacter, Benoit, & Szpunar, 2017; Szpunar, 2010; Szpunar, Watson, & McDermott, 2007). Amnesic patients with medial temporal lobe damage tend to show deficits in episodic memory and are unable to imagine specific episodes in the future (Tulving, 1985). Likewise, the phenomenological qualities of episodic memory and episodic future thought tend to be symmetrically correlated. Vividness and detail are greatest when simulating events relatively close in time to the present and decrease as the event recedes further into the past or future (Szpunar & McDermott, 2008). To account for this tight link between memory and imagination for specific future episodes, Schacter and Addis (2007) proposed the *constructive episodic simulation hypothesis*, according to which people imagine specific future episodes by retrieving and creatively recombining elements of episodic memories.

We are concerned here with how collective memory relates to collective future thought. As we use the term, *collective memory* refers to individually held memories and knowledge, shared by group members, which bear on group identity (Hirst & Manier, 2008). Szpunar and Szpunar (2016) coined the corresponding term *collective future thought* for imagined events concerning the group's future. As fruitful as the constructive episodic simulation hypothesis has been for research on personal memory and future thought, evidence suggests that the processes underlying temporal personal thought differ from those underlying representations of social groups across time, or *collective temporal thought*. Klein, Loftus, and Kihlstrom (2002), for instance, demonstrated that the

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amnesic patient D.B. could imagine events in his community's past and future, but could not simulate or remember specific episodes from his own life. They argued that "impersonal" thought on behalf of one's community does not depend on hippocampal binding and draws largely from semantic rather than episodic memory.

Emotional biases in future thought also differ depending on whether people are thinking about their personal future or their group's future (Shrikanth, Szpunar, & Szpunar, 2018). In a timed fluency task, Shrikanth et al.'s (2018) participants listed events for which they were worried, in either their personal future or their country's future, and events for which they were excited, again in their personal future or their country's future. Separately for the two referents, personal or collective future, they calculated emotional bias as the ratio of worries to positively anticipated events. Across six experiments, there was an interaction between referent and emotional valence. Whereas people reliably demonstrated a positivity bias in personal future thought by more fluently imagining events in their own lives for which they were excited than events for which they were worried, they showed the opposite pattern when imagining the collective future. When imagining their country's future, they showed a persistent negativity bias, which was replicated in both American and Canadian samples.

Positivity biases in personal future thought tend to mirror corresponding positivity biases in autobiographical memories, with positive memories more accessible than negative memories, at least in non-clinical samples (MacLeod, 2016, 2017). Pertinent to the current study, Shrikanth et al. (2018) conjectured that, just as personal future thought and autobiographical memory tend to show correlated positivity biases, the negativity bias in collective future thought might be correlated with a negativity bias in collective memory. At face value, this seems plausible, given the salience in collective memory of such negative events as wars, genocides, etc. However, they did not test this prediction.

The correlation hypothesis presupposes a particular relation between the collective past and future. Namely, it posits that when people think of their groups across time, they imagine that the future recapitulates the past, at least in its broad themes. In what we will call the *repetition model* of collective temporal thought, people imagine the collective future as a continuation or repeat of general events in collective memory. Novick (1999) describes an example of one such symmetrical set of collective temporal representations. He examined Zionist rhetoric in which a Jewish collective memory of pogroms and the Holocaust provides a model for an imagined future of renewed persecution; this mirroring of the past in the future is used to justify the necessity of Israel as the Jewish state. In this case, a correlation between collective memory and collective future thought – that is, a correlated negativity bias in both domains – is deployed with significant political consequences. However, as we argue

next, the relation of collective memory to collective future thought may not always be so symmetrical. Shared narrative schemata may mediate different perceived trajectories between the collective past and the future.

National narratives

Members of a nation may share national narratives, which are implicit schemata through which they recall and imagine a wide range of events in national history (Cyr & Hirst, 2019; Wertsch, 2002). For example, a Russian national narrative provides a basic plot in which a peaceful Russia is attacked viciously and without provocation by a foreign force, is nearly defeated, and against all odds expels the foreign invader to rebuild and re-establish peace (Wertsch, 2002). This basic narrative structure is used to tell and interpret many episodes throughout Russian history – invasions by Tatars, Swedes, French, Poles, Germans, and even communists all being told through this basic narrative structure.

We are particularly interested in national narratives that suggest a particular valenced trajectory across history – progress, decline, or repetition. A schema of progress might have a positive slope, beginning with a past characterised by brutality and oppression, which is slowly overcome as society works its way toward a brighter and freer future (e.g. Pinker, 2011; Topçu & Hirst, 2019). A schema of decline, in contrast, might begin with a golden age in the past and proceed to a fallen present and future. Both of these trajectories would deviate from the repetition model proposed by Shrikanth et al. (2018), in which we would expect the emotional valence of collective memories and collective future thought to be positively, rather than negatively, correlated (see also Topçu & Hirst, 2019). That is, if collective future thought is negatively biased, collective memory should also be negatively biased to a comparable extent. Represented schematically in terms of emotional qualities, these three models suggest three potential trajectories in social representations of the nation across time: a positive slope for a schema of progress, a negative slope for decadence/decline, and a flat slope in the repetition model, where the relative distribution of positive and negative events in the future more or less replicates the distribution of such events in the past.

The nature of the trajectory between collective memory and collective future thought likely depends on the frame of reference. *Origin events* play a special role in collective memory, in that they serve to establish a cohesive group in the minds of its members (Yamashiro, Van Engen, & Roediger, 2019), frequently serving as societal charters (Hilton & Liu, 2011). Given that an origin story exemplifies the values on which a society is founded, we would expect origin stories in general to be perceived as strongly positive. In the narrative of decline from a golden age touched on above, the origin story may provide the

standard by which “golden” is measured. For instance, American social identity may be defined by the values espoused in the American Revolution (Bercovitch, 1978). In contrast, *normative memories* that society members have a duty to remember likely represent a more mixed set of events. Group members are enjoined to remember their “common glories” (Renan, 1882/1990), but they also may feel a duty to remember consequential defeats and humiliations so as not to experience them again, or to motivate the correction of past injustice. We might expect the trajectory between collective memory and the collective future to differ depending on whether the collective future events are evaluated relative to idealised origins or normative collective memories.

Our American participants listed (1) *origin events* important in the foundation of America, (2) *normative memory events* that all Americans should remember from their nation’s history, and (3) events imagined in the nation’s future. We first aimed to replicate Shrikanth et al.’s (2018) collective future thought negativity bias. If the repetition model is correct, such a negativity bias in collective future thought should be associated with a negativity bias in national collective memory. Alternately, one of two directional schemata might underlie American temporal collective thought. If a schema of decline structures American collective temporal thought, we would expect a strong positivity bias in the collective memory, particularly for national origins, rather than the negativity bias in collective memory predicted by the repetition model. A schema of progress would be manifest if collective future thought were more positive than collective memory, aside from the absolute degree of emotional bias in collective future thought. We test the competing models using a straightforward measure of emotional bias, the ratio of positive to negative events volunteered for each domain of collective temporal thought.

Methods

Participants

Participants were 2000 anonymous MTurk workers, drawn from across the United States. Participants ranged in age from 18 to 81, with a mean age of 36 years old, 95% CI [35.78, 36.78]. Forty seven percent of participants identified as women. The sample was 77% White, 7.7% Black, 6.5% Asian, 5.2% Latino, 1.4% Mixed, with other groups below 1% each. Eighty two percent of participants endorsed the statement “America is exceptional among nations”. When rating “How important being an American is to [their] personal identity” on a five-point scale from “Not important at all” to “Extremely important”, participants estimated an average of 3.54, 95% CI [3.49, 3.59], between Moderately and Very important. For 82% of participants, being an American was at least moderately important to their personal identity, and for 54%, it was Very or Extremely important.

Procedures

Data are drawn from a larger 32-item survey on collective memory for American Origins. The full set of survey questions is presented in Appendix I. The Qualtrics survey and dataset, as well as analyses not presented here, are publicly available on the Open Science Framework (OSF) at the American Origins Collective Memory Project, <https://osf.io/kr567/>. All of the data presented here are published for the first time, except the origin story emotional valences (described below), which were presented in Yamashiro et al. (2019). The Qualtrics survey was posted on Amazon’s Mechanical Turk during a two-week period in September 2017. Inclusion criteria were self-identification as American, residence in the United States, and fluency in English (although we did not require English to be their first language). The survey took approximately 30 min to complete, with \$3 compensation. Participants were notified that participation was voluntary, and the anonymous survey was granted exemption from IRB review.

Data in the current report were drawn primarily from four items on the survey. In the first item, participants were asked, “What are the origins of America? List the top five most important events that brought about America as a nation”. They then typed five events, one each into separate dialogue boxes, and rated each item as being a positive event or a negative event in a binary forced choice. In the same format, for the second item they provided ten events that “all Americans should remember about their history. These events may [have] come from any point in America’s history, from the origins to the present day”. Again, they rated each item as positive or negative. We will refer to these two sets of events as the Origin Events and the Normative Memory Events. Third, we administered the future thought fluency task described by Shrikanth et al. (2018). In this task, participants were given one minute to type all of the events they could think of in response to four probes: (a) Personal worries for their own future, (b) positively anticipated events in their personal future, (c) events for which they were worried in America’s future, and (d) events for which they were excited in America’s future. The probe for each question was phrased, “What are you [worried/excited] about in [your personal future/your country’s collective future]? Please list all the events in [your/the country’s] future that you are [worried/excited] about”. The order of the four future thought probes was randomised for each participant, and each participant responded to all four probes. Participants typed their responses into a dialogue box under the question and were automatically advanced to the next page after 1 min. They were not allowed to auto-advance. Participants always answered the collective memory questions prior to the future thought task. Finally, participants responded “yes” or “no” to the question, “Is the United States exceptional among nations?” Other questions on the survey

asked about participant demographics or were not relevant to the current inquiry (e.g. free associates to the word “patriotism”, the year when America began, questions about America’s role as a “city on a hill”) and so are not discussed.

Results

Future thought manipulation check

We first conducted a manipulation check to ensure that participants provided negative thoughts for the worries fluency tasks and positive thoughts for the excited future thought tasks. We used the Linguistic Inquiry Word Count programme (LIWC; Pennebaker, Booth, Boyd, & Francis, 2015) to count for positive and negative words in each of the four classes of future thought – worries and positively anticipated events in the personal or collective futures – and found that the targeted emotional valence was dominant in each, see Table 1. All following means and mean differences are presented with 95% confidence intervals in brackets.

Replication of collective future thought negativity bias

Shrikanth et al. (2018) operationalised future thought fluency as the number of discrete events a participant could imagine in response to a given domain probe – e.g. worries for one’s personal future – in the space of one minute. For the event counts, two human coders independently counted the number of discrete events mentioned in each protocol. Ten percent of the future thought protocols were dual coded. The coders showed good inter-rater reliability in each of the four domains, Cohen’s $K_{PFW} = .88$, $p < .001$; $K_{CFW} = .84$, $p < .001$; $K_{PFE} = .89$, $p < .001$; and $K_{CFE} = .88$, $p < .001$. A list of categories of events is presented in Appendix II of the supplemental online materials. Controversial coding choices were resolved through discussion. There were 19 participants who explicitly stated that they either had no events for which they were worried or for which they were excited, so they are not included in the following analyses. For additional analyses on two different measures of fluency (total word count and words-per-item, a measure of elaboration), see SOM, Appendix III. The pattern of results using

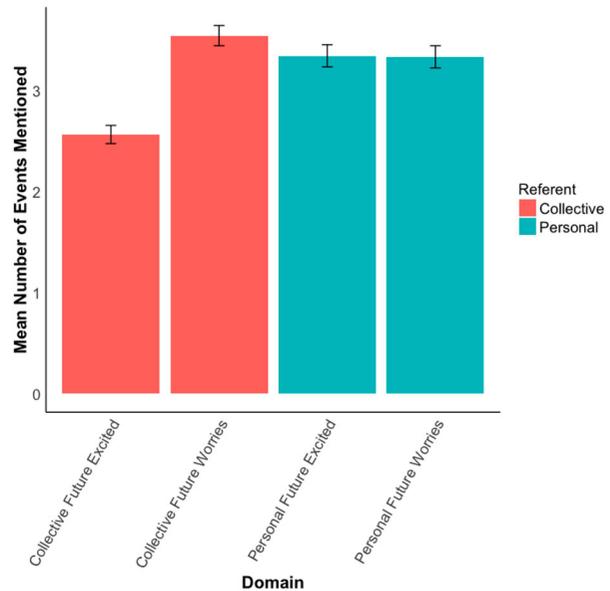


Figure 1. Future thought fluency on events for which participants were worried or excited in their personal or the nation’s collective future, as measured by mean number of events mentioned from each domain within the space of one minute. Error bars represent 95% confidence intervals.

the other two fluency measures was largely the same as analyses reported here for event count.

In examining whether fluency differed depending on whether participants thought about worries or positively anticipated events in their personal or collective future, we found a main effect of referent, $F(1,1980) = 93.65$, $p < .001$, $\eta^2 = .05$. People imagined more events in their personal futures ($M = 3.34$ [3.25, 3.44]) than in the nation’s future ($M = 3.06$ [2.98, 3.14]), $M_{diff} = .28$ [.23, .34], $p < .001$, $d = 0.29$. There was a main effect of emotion, $F(1,1980) = 210.6$, $p < .001$, $\eta^2 = .1$, with people producing more events for which they were worried ($M = 3.45$ [3.35, 3.54]) than events for which they were excited ($M = 2.96$ [2.87, 3.04]), $M_{diff} = .49$ [.42, .56], $p < .001$, $d = 0.32$. Finally, there was a referent by emotion interaction, $F(1,1980) = 295.42$, $p < .001$, $\eta^2 = .13$, as shown in Figure 1. People produced a comparable number of worried and excited events in their personal future, $M_{diff} = .01$ [−.08, .09], $p = .84$, $d = 0.005$, but fewer events for which they were excited than worried in the collective future, $M_{diff} = .99$ [.90, 1.08], $p < .001$, $d = 0.49$. We thus found a dissociation in emotional biases between personal and collective future thought,

Table 1. Mean positive and negative word count for future thought protocols, with paired-samples t -tests.

Target	Mean Word Count		M_{diff} (Pos-Neg)	t	p	d
	Positive	Negative				
CFW*	3.47 [3.09, 3.86]	14.77 [13.91, 15.63]	−11.30 [10.32, 12.28]	22.64	<.001	0.50
CFE	8.56 [7.95, 9.18]	1.59 [1.27, 1.90]	+6.98 [6.27, 7.68]	19.45	<.001	0.43
PFW	5.18 [4.68, 5.68]	7.04 [6.47, 7.60]	−1.86 [1.07, 2.65]	4.60	<.001	0.10
PFE	8.68 [8.02, 9.33]	0.43 [0.26, 0.60]	+8.25 [7.58, 8.92]	24.01	<.001	0.54

Note: 95% confidence intervals in brackets.

*CFW = Collective Future Worries; CFE = Collective Future Excited; PFW = Personal Future Worries; PFE = Personal Future Excited.

partially replicating Shrikanth et al. (2018). In particular, we replicated the collective future thought negativity bias, which was the phenomenon of primary interest.

Collective temporal thought

The primary purpose of the current research was to address a question on the relation between collective memory and collective future thought. Detailed content analyses of the origin memories drawn from the American Origins Survey are presented elsewhere (Yamashiro et al., 2019). We examine here the emotional valence ratings for the origin and normative memory events. Emotional valence ratings for origin events have been previously presented in Yamashiro et al. (2019); valence ratings for the normative events spanning all of American collective memory are presented here for the first time. In order to compare emotional biases across temporal referents, we calculated proportion of events from each temporal thought domain that were positive. That is, for each temporal thought domain (origin, normative memory, collective future), $\text{Proportion Positive} = \text{Count}_{\text{Positive}} / (\text{Count}_{\text{Positive}} + \text{Count}_{\text{Negative}})$.

Valenced bias in collective memory

Several clear patterns emerged. First, while we successfully replicated the collective future thought negativity bias, this negativity bias in collective future thought was not associated with a negativity bias in collective memory (see Figure 2). We define a valenced bias as a proportion

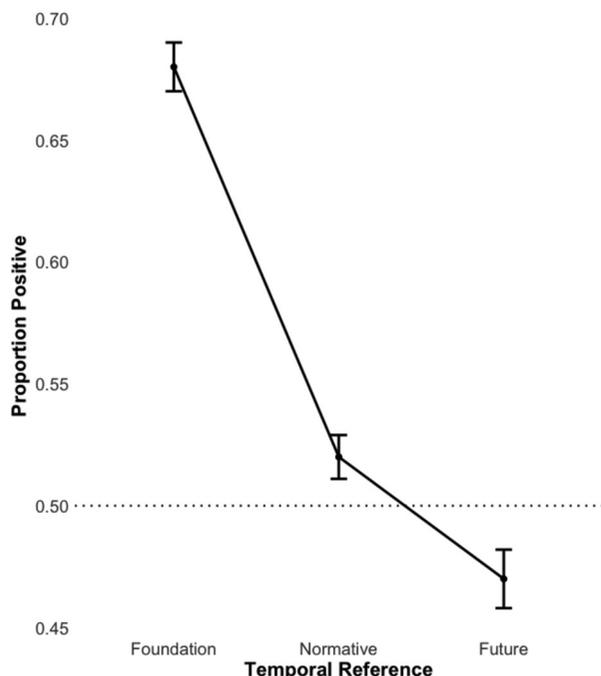


Figure 2. Average emotional valence of events suggested for America's origins, events that all Americans should remember about their history, and events in the nation's future. Points above the dotted horizontal reference line at .5 indicate positivity biases, points below represent negativity biases. Error bars represent 95% confidence intervals.

positive differing significantly from a test value of .5 (i.e. an equal number of positive and negative events). Collective memory for national origins showed strong positivity biases, $M = .68$ [.67, .69], M_{diff} from test value of .5 = .18 [.17, .19], $p < .001$. Although more moderate, normative collective memory also showed a positivity bias, $M = .52$ [.51, .52], M_{diff} from test value of .5 = .02 [.001, .03], $p = .001$.

Thus, both domains of collective memory, origins and normative collective memories, demonstrated positivity biases, with origins pronouncedly more positive than normative collective memories. In order to determine that the different degree of positivity bias between origin and normative collective memories was not a procedural artifact (our survey collected five origin events and ten normative memory events) we examined the first five normative events separately from the last five. The first five normative events ($M = .54$ [.53, .55]) were more frequently positive than the last five normative events ($M = .49$ [.48, .5]), $M_{\text{diff}} = .05$ [.04, .07], $p < .001$, $d = 0.14$. It seems when people listed events that all Americans should remember, they tended to begin with positive events, suggesting these sorts of events might be more accessible. The first five normative events showed a positivity bias differing statistically from the test value of .5, $M_{\text{diff}} = .04$ [.03, .05], $p < .001$. The last five normative events did not statistically differ from .5, $M_{\text{diff}} = .01$ [-.02, .001], $p = .09$. The proportion positive of the first five normative memory events differed from the mean of the full set of ten by 3%, and normative memory events showed a positivity bias regardless of whether only the first five or the full set of ten events were analyzed. The difference in the degree of positivity bias observed between origin and normative events therefore seems unlikely to be strongly influenced by the different number of events provided for these two domains of collective memory. As discussed above, collective future thought showed a negativity bias by our criterion, $M = .47$ [.46, .48], M_{diff} from test value of .5 = $-.03$ [-.04, -.02], $p < .001$.

Trajectory across temporal thought domains

We next tested more directly for the three potential trajectories outlined above: progress, decline, or repetition. To reiterate, a progress trajectory would predict that collective memory is more negative than collective future thought, decline would predict that collective memory is more positive than collective future thought, and repetition would predict that collective memory and collective future thought have comparable distributions of positive and negative events. We further expected the trajectory from collective memory to collective future to differ depending on the collective memory referent – origins or normative collective memory. A repeated measures ANOVA with temporal thought domain (origin, normative memory, and future thought) as the independent variable and proportion positive as the dependent variable indicated significant differences in the relative accessibility of negative and positive events across temporal thought domains, F

(2, 3992) = 416.6, $p < .001$, $\eta^2 = .17$. Origin events were significantly more likely to be positive than normative collective memories (using the full set of ten events), $M_{diff} = .16$ [.15, .18], $p < .001$, $d = 0.6$ and than collective future events, $M_{diff} = .21$ [.19, .22], $p < .001$, $d = 0.52$. Normative collective memories were also more likely to be positive than collective future events, $M_{diff} = .04$ [.03, .06], $p < .001$, $d = 0.12$.

It seems clear, then, that the repetition model for the relation of collective memory to collective future thought is not supported, at least concerning Americans' image of their nation across time. Indeed, rather than the positive correlation between collective memory and collective future thought such a model would predict (i.e. a linked negativity bias in both domains), participants' emotional evaluations of origin events and collective future thought were negatively correlated, significantly even if rather weakly, $r(1998) = -.06$, $p = .009$. The more positive the nation's origin events were perceived to be, the more negative the collective future was. There was no correlation between normative memory and collective future thought, $r(1998) = -.02$, $p = .38$. Emotional valence of the two domains of collective memory, origins and normative memories, were positively correlated, $r(1998) = .31$, $p < .001$. Additionally, as indicated in the above reported pairwise comparisons, the progress trajectory was also not supported. Rather, we observed an implicit trajectory of decline, from an origin story with positive events strongly accessible, through a normative memory with a moderate positivity bias, to a collective future in which worrisome events predominated.

Endorsement of American exceptionalism

We examined whether another prominent cultural schema, belief in American exceptionalism, moderated this trajectory of decline. According to American exceptionalist ideology, America is not merely another nation, but a new type of nation, having a historically unique mission to bring about ever-expanding liberty and freedom to humanity, a City on a Hill (Van Engen, 2019; Winthrop, 1630/1892). As a schema structuring collective temporal thought, we might expect people who endorse American exceptionalism to produce more positive representations overall, and perhaps to show an eliminated or reversed negativity bias in collective future thought. In order to examine how endorsement of American exceptionalism impacted implicit temporal trajectories in collective temporal

thought, we entered endorsement of American exceptionalism – a binary yes/no between-subjects factor – into the ANOVA on temporal referent. The majority of our American sample, $N = 1629$, endorsed the statement that “America is exceptional among nations”, while 367 participants indicated disagreement. Sixty-six participants did not answer the question on American exceptionalism and are excluded from the following analyses. Data are presented in Table 2. The above reported main effect of temporal referent continued to obtain, $F(2, 3988) = 150.61$, $p < .001$, $\eta^2 = .07$. There was, expectedly, also a main effect of endorsement of American exceptionalism, $F(1, 1944) = 73.48$, $p < .001$, $\eta^2 = .04$. Those who endorsed American exceptionalism, $M = .57$ [.56, .58], produced more positive events overall than those who did not endorse American exceptionalism, $M = .5$ [.48, .51], $M_{diff} = .07$ [.06, .09], $p < .001$, $d = 0.18$. There was also a significant interaction between endorsement of American exceptionalism and temporal referent, $F(2, 3988) = 38.61$, $p < .001$, $\eta^2 = .02$, indicating that this ideological frame was associated with different implicit trajectories from national origins, through normative memory, into the collective future. While endorsement of American exceptionalism was associated with greater positivity in national representations overall, this benefit disproportionately impacted collective memory; the benefit to collective future thought was relatively small, and was not sufficient to reverse the numerical negativity bias in collective future thought.

Interestingly, because of their relatively rosier collective memory, those who endorsed American exceptionalism showed a steeper implicit trajectory of decline in their representations of the nation than non-endorsers (See Figure 3). In the non-endorsers, the proportion of events that were positive decreased by 7% from national origins to the collective future, $M_{diff} = .07$ [.03, .11], $p = .001$, $d = 0.07$. Among those who believed in American exceptionalism, on the other hand, proportion positive decreased by 24%, $M_{diff} = .24$ [.22, .26], $p < .001$, $d = 0.6$. Although slightly less extreme, a decline also occurred between normative collective memory and the collective future for endorsers, $M_{diff} = .06$ [.04, .07], $p < .001$, $d = 0.16$. There was no difference between normative collective memory and the collective future in non-endorsers, $M_{diff} = .03$ [-.06, .009], $p = .15$, $d = 0.03$.

Political affiliation

One possible objection to interpreting our data in light of an implicit schema of decline concerns the historical moment in which our data were collected, shortly after a surprising and, for some, deeply disheartening presidential election (the data were collected in Fall of 2017). Such an explanation, however, is not strongly supported by our data; both Republicans ($N = 424$; $M = .45$ [.43, .47]), whose candidate won, and those of other political orientations ($N = 1572$; $M = .48$ [.47, .49]) showed negativity biases in collective future thought (Republican M_{diff} from test value of $.5 = .05$ [.02, .07], $p < .001$; Other political orientation

Table 2. Proportion of events rated positively across origin events, normative collective memory, and collective future thought, by endorsement of American exceptionalism.

Exceptional?	Temporal Referent			OVERALL
	Origin	Normative	Future	
Yes ($N = 1629$)	.71 [.70, .72]	.53 [.52, .54]	.47 [.46, .49]	.57 [.56, .58]
No ($N = 367$)	.55 [.52, .58]	.46 [.44, .48]	.48 [.46, .51]	.50 [.48, .51]
OVERALL	.63 [.61, .64]	.49 [.48, .50]	.48 [.46, .49]	

Note: Numbers in brackets represent 95% confidence intervals.

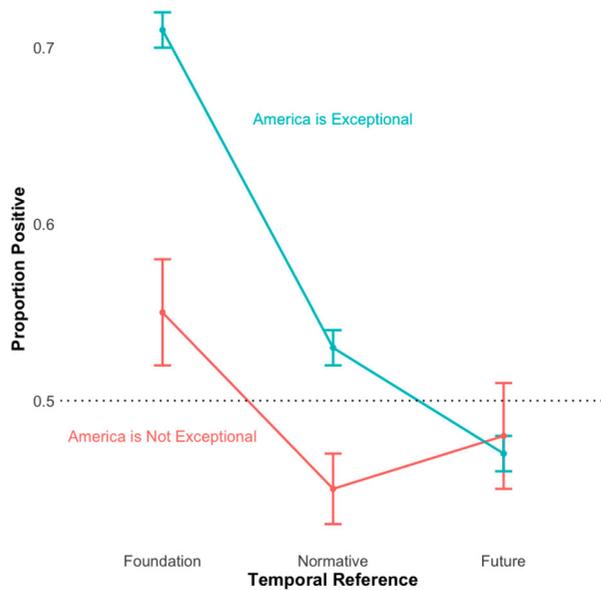


Figure 3. Average emotional valence of events suggested for America's origin events, normative collective memory, and collective future thought, with separate lines for endorsement of American exceptionalism. Points above the horizontal reference line at .5 indicate positivity biases, points below represent negativity biases. Error bars represent 95% confidence intervals.

M_{diff} from test value of .5 = .02 [.01, .03], $p = .002$). Although numerically Republicans actually showed a slightly greater negativity bias toward the collective future, they did not differ statistically from non-Republicans, $M_{diff} = .03$ [−.002, .06], $p = .07$, $d = 0.07$. Longitudinal follow-up studies would be necessary to ascertain how stable the implicit trajectories we describe are in the face of changing political contexts.

Discussion

In a large survey of Americans, we examined the relation between collective memory and collective future thought. Specifically, we proposed three different trajectories that could underlie Americans' social representations of their nation: progress, decline, and repetition. A clear implicit trajectory of decline emerged, with positivity biases in collective memory, which were particularly pronounced in collective memory for national origins, and a negativity bias in collective future thought. Such schemata of decline are well-represented in American political and religious rhetoric. For instance, in one such narrative template, the jeremiad, an idealised foundation is contrasted unfavourably with a present and future in decline (Bercovitch, 1978; Murphy, 2009). Importantly, our participants were not explicitly asked whether they believed the nation to be in decline, experiencing progress, becoming great again, or maintaining past states of affairs into the future. Rather, the trajectory was implicit, in that it emerged from measures of the relative accessibility of events in collective memory and in imagination for the collective future. Future research might examine the relation

between such implicit trajectories and declarative attitudes or explicit beliefs about progress or decadence.

A clear trajectory of decline in Americans' representations of their nation across time contrasts with two alternate models for the relation between collective memory and collective future thought proposed in prior literature. One of these models was what we called the repetition model, in which imagination for the collective future draws on collective memory as a template. Shrikanth et al. (2018) proposed a version of this model when they suggested the negativity bias in future thought might be associated with a correlated negativity bias in collective memory. Contrary to this prediction, we discovered a strong positivity bias in collective memory, particularly in collective memory for America's origins, events which may serve as one of America's charters (Hilton & Liu, 2011).

Somewhat surprisingly, we also failed to find any indication of implicit trajectories of progress, even in participants who endorsed American exceptionalism, which is a set of beliefs concerning America's mission to spread democracy, economic liberty, and human rights. While endorsers of American exceptionalism – the majority of our sample – did indeed produce overall more positive representations of the nation, this boost was entirely limited to collective memory, and did not extend to collective future thought. Indeed, the implicit temporal trajectory that emerged from endorsers' representations actually showed a steeper trajectory of decline than was seen in non-endorsers. While our results were quite robust and appeared to be independent of demographic factors such as political affiliation, some research has suggested that when belief in group agency is high – that is, when people believe their group can exert control over its future – progress trajectories can be observed (Topçu & Hirst, 2019). Future work may help determine what factors alter the implicit trajectory of collective temporal thought, and to what extent the method of soliciting collective memories and collective future thought impacts emotional biases in collective temporal thought.

While it was not the primary focus of the current inquiry, our failure to find a positivity bias in personal future thought is curious, given how well established this bias has been in prior research (MacLeod, 2016, 2017; Shrikanth et al., 2018). One possibility arises from the fact that we used an MTurk sample. MTurk workers are twice as likely to meet the criteria for depression as controls (Walters, Christakis, Wright, & Alamian, 2018), which would reduce their likelihood of showing positivity biases in personal future thought. Given that we did not administer a depression scale, this explanation must remain in the realm of speculation. The finding of strong positivity biases in our measures of collective memory, however, would suggest that our participants did not find positive events inaccessible in all domains of thought.

The current research represents a foray into a relatively unexplored aspect of memory – how people construct

social identities as members of groups with temporal depth. Such social representations of the nation's history are particularly interesting to contrast with more objective measures of progress – e.g. mean life expectancy, likelihood of violent death, extension of voting rights and other human and civil rights, material standard of living – essentially all of which have improved demonstrably since the nation was founded (Pinker, 2011). This dramatic dissociation between social representations of the nation, on the one hand, and more objective measurements, on the other, emphasise the role that cultural narrative schemata can play in structuring people's images of the groups to which they belong. Such narratives are not necessarily “designed” to represent the past or future accurately; they serve a different purpose. Jeremiad narratives, for instance, have the rhetorical purpose of leveraging anxieties about the present and future to exhort a return to foundational ideals, however those idealised collective memories are constituted by the speaker. As argued by Wertsch (2002), group members internalise these national narratives, and use them to structure collective remembering across many contexts. If it is the case that Americans have internalised a schematic narrative of decline as a tool with which they think about their nation's temporal trajectory, the current work demonstrates for the first time that such narratives can structure collective temporal thought, both collective remembering and collective future thought, not as models of one another, but in relation to one another. The venerable tradition of castigating the nation's decline and calling for a return to greatness, begun by the Pilgrim preachers and continued by subsequent political and religious speakers, has propagated into Americans' collective temporal thought and shapes cognitive representations of the nation to which they belong.

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Data availability statement

The data that support the findings of this study, along with supplementary online material, are openly available at the

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