Breaching of the U.S. Capitol: Memory and moral judgment

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Abstract

The U.S. Capitol Building was breached on January 6, 2021 by citizens who were concerned about the validity of presidential election results. We examined the association between liberal and conservative participants' explicitly retrieved memories of the breach and their moral judgments of Senators, based on Senators' stated intentions and actual behaviors for the certification of Joe Biden as U.S. President. These certification intentions and actions are morally ambiguous because the intervening breaching cast Senators' stated intentions in a more negative light, but allowed them to change their minds. Data were collected via Amazon's Mechanical Turk between April and May 2021 from a sample of predominantly white individuals, who self-identified as liberal or conservative, and resided in the United States. Participants retrieved the first event that came to mind when prompted to recall the events leading up to and during the breach (termed "prioritized memory" because it was the most accessible). Next, they recalled other connected events (termed "general event memory" because these details were cued by the originally-prioritized memories). Prioritized memories contained more neutral than negative content. Liberals' prioritized memories included more details overall than conservatives', and the more details liberals retrieved, the more they differentiated evaluations of Senator groups. Liberals and conservatives showed a positive correlation between prioritized memory details and the number of general event memories retrieved, but general event memories were not associated with subsequent evaluations of Senators.

Keywords: Memory, Morality, Judgment, Emotion

Introduction

When individuals change their mind about future decisions, they can sometimes impact the livelihood of others, rendering these decisions morally relevant. These types of decisions were on display on January 6, 2021, the day the electoral college votes in the 2020 U.S. Presidential elections were slated to be certified. Prior to this day, many Republican Senators made statements that they were going to object to the electoral college votes from several states (Lange, 2020). Some Senators followed through with these decisions, while others changed their mind after protesters breached the U.S. Capitol building. The Senators who followed through with their decisions claimed they did so to shed light on what they believed were irregularities in the ways that votes had been cast in the 2020 Presidential election.

The objections raised by the Senators on January 6, 2021 can be seen from at least two perspectives. First, many of the Senators suggested they had a responsibility to represent the Americans who had concerns about widespread voter fraud (Canipe & Lange, 2021). In contrast, Mitch McConnell (Republican), the Senate Majority Leader at the time stated, “It would be unfair and wrong to disenfranchise American voters and overrule the courts and the states… I will not pretend such a vote would be a harmless protest gesture, while relying on others to do the right thing.” (McConnell, 2021).

The opposing points of view render the decisions of these Republican Senators morally ambiguous. These Senators claimed they intended to defend the United States’ system of government and the voice of the people. Yet, as individuals in positions of power promoting theories that had no factual basis at the time (McConnell, 2021), these

decisions may have assisted the protesters' attempts to undermine the United States government via disruption of the electoral vote certification process.

Following the breach of the Capitol Building, a subset of the original Republican Senators raised objections to the certification of the electoral college votes. These decision changes, or the lack thereof, place Republican Senators into four different categories: 1) Those who intended to object and did object to the electoral college votes; 2) Those who intended to object but did not object to the electoral college votes; 3) Those whose intentions were unclear, and did not object; 4) Those who established that they did not intend to object to the electoral college votes, and did not object. Given the moral ambiguity of objecting to the electoral college votes in the context of the breaching, it is possible that these groups of senators could be judged to varying degrees.

Social evaluation in ambiguous morally contexts

In the lab, third-party evaluations of agents in ambiguous moral contexts (*e.g.*, moral dilemmas) are less stable and more open to reevaluation compared to straightforward moral contexts (*e.g.*, explicitly moral or immoral intentions and behaviors; Kim et al., 2022). In the absence of additional information, an agent who intends to commit and also commits an immoral behavior tends be rated as more immoral than those who do not intend to commit or actually commit those behaviors (*e.g.*, Frank plans on stealing food; Cushman, 2015). When additional information is presented following an agent's intended or enacted behavior, moral evaluations of these agents are updated. This updating can be made based on disparate pieces of information about an agent (*e.g.*, Frank plans on stealing food; Frank saved a puppy;

Monroe et al., 2019); however, these evaluations can also be updated in narrative contexts following the presentation of multiple pieces of information relevant to a larger narrative (*e.g.,* Frank needs to feed his family; Frank steals food; Frank is planning to sell some of the food to buy himself a watch; Kim et al., 2022). Together these findings suggest that evaluation of agents in moral contexts can be made based on unrelated pieces of information about the agent, as well as particular interconnected details related to a larger narrative event.

The events leading up to and during January 6th, 2021, highlight another context in which agents may be differentially evaluated. The groups of Republican Senators stated their intended certification behaviors, the breaching of the U.S. Capitol building occurred, and then Senators changed their minds related to the certification (or not). More generally, these events occurred in the following way: An agent intends to engage in a behavior that has moral implications (*e.g.*, Senator intentions related to certification of the U.S. President); An intervening event occurs related to the agent's intended behaviors (*e.g.*, U.S. citizens breach the Capitol Building in protest of the certification of the U.S. President); And the agent changes their mind related to their behavior *or* follows through with their intended behavior (*e.g.*, actual certification behaviors engaged by Senators). The intervening event is a key source of moral ambiguity – it recasts Senators' initial intentions to object to certification in a more negative light, and it provides an opportunity for those Senators to change their minds.[1] If third-person evaluations additionally hinge on whether an agent changed their mind in response to

[1] This moral ambiguity can be distinguished from the immoral behaviors of the U.S. citizens who breached the Capitol Building. That is, regardless of whether an individual agrees with U.S. citizens' protesting during this event, vandalizing a public building is an immoral action.

an intervening event, then processing the intervening event via memory retrieval may be associated with third-person evaluations.

Memory and social evaluation

The value-based decision-making literature highlights a potential role for memory retrieval during third-person evaluations (Duncan & Shohamy, 2016; Duncan & Shohamy, 2020; Shohamy & Daw, 2015). Specifically, individuals use episodic memory details in service of value-based decisions in social contexts (i.e., choices during the Dictator Game; Murty et al., 2016). Episodic memory retrieval for positive and negative traits are also associated with subsequent approach or avoid decisions respectively (Kadwe et al., 2022). These decisions are consistent across memory for agents' beliefs and behaviors (Sklenar et al., 2022). They are also consistent with hippocampally-dependent episodic memory retrieval impacting subsequent value-based decisions (Bakkour et al., 2019; Palombo et al., 2015).

Explicitly retrieved content may impact moral evaluations; however, previous findings connecting memory and social evaluation primarily rely on models of associative memory, whereby participants form value associations with a given stimulus. Amodio (2019) highlights that although associative models of memory play an integral role in our understanding of social decisions, for the large part, memory models that focus on intentional recollection are underexplored in this domain. The examination of autobiographical memory – memory for the personal past – in relation to the events leading up to and during January 6th may provide further insight into the association between memory and social evaluation. Importantly, it may reveal memory-evaluation associations beyond the domain of approach versus avoid decisions.

Autobiographical memory retrieval serves learning functions related to past experiences and helps to guide future behavior, as in the case of problem solving (Duff et al., 2024; Pillemer, 2003). These directive functions of autobiographical memory may additionally assist third-person social evaluations. There is some precedent for examining the role of explicitly retrieved autobiographical memory content in relation to moral evaluations. This work, however, primarily focuses on first-person evaluative contexts, whereby autobiographical memory retrieval is related to moral evaluations of the self (Stanley et al., 2017, 2019; Stanley & De Brigard, 2019). The connection between intentionally retrieved autobiographical memory content and subsequent third-person moral evaluations has yet to be examined.

Considering the role of explicitly retrieved autobiographical memory, here we distinguish between two types of memory content that may be relevant for third-person social evaluations in ambiguous moral contexts. "Prioritized memory," in the context of the present study, refers to the *first* memory that participants retrieve when prompted for the events leading up to and during the day of January 6th. Rehearsed memories become more readily accessible during subsequent retrievals, as do memories that contain salient emotional qualities (Fan et al., 2022). Relatedly, goals engaged prior to memory retrieval can impact the quality of memory content reported (Kensinger & Ford, 2020). As a result, when individuals are prompted with the specific goal of retrieving the *first* memory that comes to mind in relation to the aforementioned time period, these memories will reflect prioritized memories related to the event in question. Subsequent elaboration over the next few minutes will reflect additional salient details associated with this prioritized memory.

This prioritized memory can be distinguished from what we refer to as “general event memories,” or additional recalled events, related to the prioritized memory. According to the spreading activation theory of semantic processing, when a word is retrieved from memory, this content acts as a node that is connected to semantically related content within a larger memory network (Collins & Loftus, 1975). When the node is activated via retrieval (*e.g.*, Frank), it renders closely related nodes (*e.g.,* food, steal, puppy, save) more easily accessible for memory retrieval. This theory appears to extend beyond semantic content, such that retrieval of episodic memory content can activate related autobiographical memories (Mace & Petersen, 2020). Moreover, this prior work demonstrates that the related autobiographical memories can be retrieved via intentional search processes. As such, general event memories in the context of the present study are those additional events that participants intentionally retrieved when prompted to recall events that they remembered as being related to their prioritized memory. Presently it is unclear whether, or how, prioritized or general event memories are related to third person evaluations. As a result, the events leading up to and during January 6, 2021 provide the opportunity to examine the following question: How do prioritized memories associated with January 6, 2021 and the general memory networks associated with this day relate to subsequent evaluations of the different groups of Republican Senators?

The present study

In order to assess the relationship between memory content and third-person social evaluations in an ambiguous moral context beyond the laboratory, we first characterized the emotional memory content associated this event. Although previous

research examined memory for this event, to our knowledge, the emotional valence of these memory narratives have yet to be characterized (Calvillo et al., 2023; Cheriet et al., 2023). We had two hypotheses based on the episodic and autobiographical memory literature (for review see: Kensinger & Ford, 2020). First, we hypothesized that participants would recall more emotional details than neutral details for the first memory that comes to mind when they are asked about the events between the November, 2020 election and the breaching of the Capitol Building on January 6, 2021 (prioritized memory). This would be consistent with previous literature demonstrating emotional memory biases in favor of negative information for public events (Liu & Szpunar, 2023). We additionally hypothesized a positive association between the number of details reported for the prioritized memory and the number of associated events additionally retrieved (general event memory). This hypothesis builds on prior work that posited spreading activation models of memory retrieval (Collins & Loftus, 1975; Mace & Petersen, 2020). That is, those individuals who have a stronger memory for the prioritized event may be able to more readily activate a memory network of related events. Although potentially unsurprising, to our knowledge, this finding would be the first to demonstrate that the number of details associated with the first-retrieved autobiographical memory is associated with the number of additional events retrieved from a memory network.

Next, we sought to determine whether the prioritized details or general event memory could explain more of the variance in evaluations of the groups of Republican Senators as previously described. We hypothesized that memory for prioritized details would have a stronger association with evaluations of the groups of Senators compared

to memory for the general details. This would suggest that particular details from the event are more closely associated with the evaluations of the members involved in the event. Alternatively, we hypothesized that general event memories may have a stronger association with judgments of the groups of senators compared to memory for prioritized details. This hypothesis would suggest that a general memory network may provide a closer association with evaluations of the individuals involved in the event as compared to particular details about actual event.

Finally, although political affiliation would typically play an important role in the current investigation, given the widespread negativity reported across the political spectrum in the weeks following this event, we did not expect individuals to retrieve memory content and make judgments along partisan lines as typically observed in the U.S. That said, if the way that individuals process past experiences is associated with third-person evaluations, it remains possible that political affiliation may play a role in the current study. Given these ambiguities, we did not have specific *a priori* hypotheses related to political affiliation, but included it in our statistical models. Any investigation therein will reflect exploratory analyses.

Methods

Participants

Data were collected from 997 online participants, who identified themselves as conservative (*n* = 498) or liberal (*n* = 499) through Amazon's Mechanical Turk (i.e., "US Political Affiliation – Conservative" and "US Political Affiliation – Liberal" respectively). This sample size was collected in order to allow for the specificity to detect effects associated with multiple three-way interactions for the age-related hypotheses included

in our preregistration.[2] Due to the nature of the event in question, participant enrollment was restricted to the United States. In order to further classify political affiliation, participants were provided with a series of questions (see Supplementary Materials for specific questions). Using responses to these questions in conjunction with their reported political affiliation through Amazon's Mechanical Turk, the sample political affiliations included 442 conservatives and 555 liberals. Of the 997 participants that completed the study, 8 participants (6 conservatives, 2 liberals) were excluded because they did not properly follow the memory instructions, 9 participants (4 conservatives, 5 liberals) were removed because their memory performance for the prioritized memory was greater or equal than three standard deviations above the mean, and 4 participants (2 conservatives, 2 liberals) were excluded because they did not report any details for the prioritized memory question. The demographic breakdown of the final sample (n = 976) can be found in Table 1. Participants completed an informed consent form approved by the Boston College Institutional Review Board prior to enrolling in the study.

Procedure

The breaching of the U.S. Capitol Building occurred on January 6th, 2021. All data for the present study were collected online using the QualtricsXM platform via Amazon's Mechanical Turk between April 28, 2021 and May 9, 2021. Following the consenting procedure, participants completed the survey questions, in the same order as they are listed in the Materials section below. Following completion of the study

[2] The analyses and results associated with these hypotheses generally did not provide further clarification on memory performance or memory-evaluation associations. As a result, theses hypotheses, analyses and subsequent discussion are reported in the Supplementary Materials.

participants were compensated with $9. On average it took participants 24 minutes (*S.D.* = 11 minutes) to complete the survey.

Materials

Memory Questions

Participants were first presented with the following description of the events between the U.S. presidential election on November 3, 2020 and the breaching of the U.S. Capitol Building on January 6, 2021:

> *"United States citizens voted for the President on November 3, 2020. On January 6, 2021, the United States Congress was meeting in a joint session to count the electoral votes to confirm the next President. This meeting was interrupted as United States citizens breached the Capitol building where Congress resided. During this survey you will be asked several questions about the details leading up to and during these events."*

On the next page, participants were then asked to respond to the following prompt:

> *"When you think about the time window from November 3, 2020 to the breaching of the Capitol building on January 6, 2021, what is the first thing that comes to mind? Please describe in a sentence or two*."

Following the self-paced completion of this question participants were then provided with 3 minutes to respond to the following open-response prompt:

> *"Describe in as great detail as possible the event you listed in the previous question. Include what you remember seeing and what you remember hearing about. Please write as much as you can. You have 3:00 minutes to complete this question."*

A timer occurred on the screen to indicate how long participants had to respond to the question. Moving forward, memory from this 3-minute memory elaboration will be referred to as "prioritized memory."

Upon completion of the prioritized memory question, participants were provided with an additional 3 minutes to respond to the following prompt:

> *"In the previous section you described the first thing that came to mind when thinking about the time window between November 3, 2020 and the breaching of the Capitol building on January 6, 2021. Now please describe how you see that event as being connected to other political events between November 3, 2020 and January 6, 2021 in the United States. This can include things that happened before, during and after the breaching. Please write as much as you can. You have 3:00 minutes to complete this question*."

Similar to the prioritized memory question a timer occurred on the screen to indicate how long participants had remaining to respond to the question. Moving forward participant responses to this prompt will be referred to as "general event memory."

Senator Questions

Senator Motivations. Participants were then asked to respond to the following prompt:

> *"The senators in the Republican party were can be divided in to four different groups based upon their intended and actual behaviors in relation to objecting to the certification of the electoral college votes on January 6, 2021. First there are the senators who initially indicated that they would object to the certification of the electoral college votes, and indeed raised objections following the breaching of the Capitol building. Why do you think these Senators objected? (Rank Order: 1 = highest priority; 4 = lowest priority):*
>
> *1. To defend the rights of United States citizens*
> *2. To garner support from their constituents*
> *3. To appease their political allies*
> *4. To get re-elected*

Moving forward this group of Republican Senators will be referred to as the "object-object" group. That is, they intended to object to the certification of the electoral college votes before the breaching, and they indeed objected after the breaching. The same question was also asked for three other groups of Republican Senators including: 1) Those who initially indicated that they would object to the certification of the electoral college votes, but did not raise objections following the breaching of the Capitol building ("object-approve" group); 2) Those whose initial intentions were unclear, but they did not

raise objections following the breaching of the Capitol building ("unclear-approve" group); 3) Those who vocally opposed the objections following the breaching of the Capitol building, and maintained this opposition following the breaching following the breaching of the Capitol building ("approve-approve" group). For those senators who did not object, the question listed above was changed to, "Why do you think these senators did not object?", but the possible responses remained the same.

These questions were included to contextualize participant beliefs about Senator Group motivations. Rank-order responses for each Senator Group's motivations, broken down by participant political affiliation are presented in Figure 1. There are some differences between conservative and liberal participants with regard to their beliefs about the motivations of each Senator Group. For the most part, however, the distribution of rank order scores is qualitatively similar across the two groups. This finding suggests that the two groups had relatively similar beliefs about the motivations of each Senator Group based on the response options provided. Responses to these questions will not be discussed further, but are presented to characterize the sample.

Senator Evaluations. Following the motivation questions, participants were asked to respond to the following questions about each group of senators:

"Think about what you remember about the group of senators who <intention> to the certification of the electoral college votes and <outcome> following the breaching of the capitol building."

1. *Were this group of senator's <u>actions</u> moral? (1 = not at all; 7 = completely)*
2. *Is this group of senators composed of moral people (1 = not at all; 7 = completely);*
3. *How much do you identify with the intentions of this group of senators? (1 = not at all; 7 = completely)*
4. *How much do you identify with the actions of this group of senators? (1 = not at all; 7 = completely)*

5. *How much do you identify with this group of senators (1= not at all; 7 = completely)*
6. *How invested are you in the success of this group of senators (1 = not at all; 7 = completely)*
7. *Based on the information provided, have you learned more about this group of senators or about the situation? (1 = only about the senators; 7 = only about the situation)*

Data Cleaning

Evaluations

Upon examining the descriptive statistics for the Senator Questions (see Supplementary Materials), the distribution of participant responses within each level of political affiliation looked similar across all questions with the exception of the following: *Based on the information provided, have you learned more about this group of senators or about the situation? (1 = only about the senators; 7 = only about the situation)*. Given this finding, participant responses to these 6 questions were submitted to separate exploratory factor analyses (EFA) for each group of senators (i.e., object-object, object-approve, unclear-approve, approve-approve), using OBLIMIN rotation and the minimum residual factoring method. Each EFA was computed using the 'fa' function in the '*psych*' (v.2.5.5) package in R (version = 4.2.1).

All EFAs appeared to converge on a two-factor solution with, '*Were this group of senator's <u>actions</u> moral?'* and *'Is this group of senators composed of moral people?'* loaded onto one factor, and the remaining questions loaded onto the second factor. Factor loadings and scree plots for each EFA can be found in the Supplementary Materials. These two factors will be labelled as "Moral Judgment Composite" and "Identify Composite" respectively. These labels are going to be used because the questions that loaded onto the Moral Judgment Composite required participants to

make moral judgments about the Senators in question, whereas the questions loading onto the Identify Composite require participants to indicate how much they identify with a characteristic of each group of Senators.

To compute the two factor scores for each participant, first each question was z-scored by political affiliation. Given the apparent discrepancy between conservatives and liberals in their evaluations of the different groups of Senators, we chose to z-score by political affiliation after examining the distribution of evaluation scores. Next, an average z-score was computed for the questions contributing to each composite score for each participant. For example, to compute the Moral Judgment Composite, first the participant responses to the questions, *'Were this group of senator's <u>actions</u> moral'* and, *'Is this group of senators composed of moral people?'* were z-scored by political affiliation. Next, the average z-score for these two questions were computed for each participant. This method was also computed for questions that loaded onto the "Identify" Composite.

Memory

Prioritized Memory Scoring. Prioritized memories were first segmented into clauses. Next, clauses were identified as memory details if they reflected retrieved information from the time of the event reported. Finally, each clause was also assigned an emotional valence label: negative, neutral, or positive (e.g., negative = "…hearing about someone dying"; neutral = "…posting pictures on social media"; positive = "…if not for the heroics of a few individuals").

Four independent raters scored the prioritized memory content. All four raters were trained on clause segmentation and emotion assignment. Following training, raters

independently scored the same 41 prioritized memories. In order to assess interrater reliability, the 'alpha' function from the 'psych' package (v.2.2.5) in R, was used to compute Cronbach's α for memory details. Raters demonstrated good reliability for total prioritized details, α = .90.

To determine whether raters reliably scored emotional content in the memory narratives, Cronbach's α was separately computed for negative, neutral, and positive details. Raters had sufficient internal consistency for both negative (α = .85) and neutral details (α = .91), but not positive details (α = .51). Given the poor rater reliability for positive prioritized details, only negative and neutral prioritized details will be discussed moving forward.

Once it was determined that raters demonstrated sufficient internal consistency for scoring prioritized memories, they scored the remaining narratives independently. When a given rater completed the scoring of a prioritized memory, another scorer checked their work. Any disagreements were discussed to consensus.

General Event Memory Scoring. Raters scored the general event memories by tallying number of events recalled by participants. Unlike the prioritized memories, participants clearly delineated between each general event at recall. As a result, interrater reliability was not evaluated for general event memories. Similar to prioritized memories, however, after a given rater completed the scoring of a prioritized memory, another scorer would check their work. Any disagreements were discussed to consensus.

Data Analysis

Memory

To characterize prioritized memory performance, a 2(negative, neutral) * 2(conservative, liberal) repeated measures mixed ANOVA was conducted on prioritized memory using the '*afex*' (v.1.3-0) package. Relatedly, to characterize potential differences in political affiliation on general event memory, a Welch's independent sample's *t*-test was computed.

In our preregistration we also hypothesized a positive association between prioritized memory details and the number of general event memories retrieved. This hypothesis was made independent of political affiliation and the emotional valence of the prioritized memories. As a result, a Pearson r correlation was computed on prioritized memory and general event memory, collapsed across political affiliation and emotional valence. To further explore these associations, Pearson r correlations between the number of general event memories and prioritized details, broken down by emotional valence, were also computed.

Finally, although not listed here, our preregistration included age-related hypotheses. As a result, we added age as a variable of interest to all of our memory models. Including age as a variable of interest did not impact interpretation of the prioritized or general memory results. As a result, all of the models that include age as a variable of interest are included in the Supplementary Materials and will not be discussed further.[3]

Evaluations

[3] There was a significant age difference between conservatives (M_{years} = 45.08, SE_{years} = .59) and liberals (M_{years} = 39.23, SE_{years} = .51), $t(905.43) = 7.51$, $p < .001$, $d = .49$. For all subsequent analyses reported in the manuscript, we additionally reported control analyses in the that include age as a covariate in the Supplementary Materials.

Repeated measures ANOVAs were computed separately for conservatives and liberals with Senator Group (object-object, object-approve, unclear-approve, approve-approve) as a within-subject factor on each evaluation score. Given that our primary hypotheses for evaluations were in relation to memory performance, results from these repeated measures ANOVAs are not reported here. Rather, these analyses are reported in the Supplementary Materials to provide further context for the associations between memory performance and evaluations.

Memory-Evaluation Associations

To evaluate whether the prioritization of retrieved details about the breaching of the Capitol Building or the general availability of associated events could explain more of the variance in evaluations of the groups of Republican Senators, a series of linear mixed effects models were estimated on each evaluation (i.e., Judgment Composite, Identify Composite, and Learn)[4], including participant as a random intercept. These models were estimated using the '*lme4'* (v.1.1-33) package. Separate models were estimated for conservative and liberal participants. Although we found a significant main effect of valence on prioritized memory as indicated in the results below, to reduce the number of comparisons in our models, we only report total prioritized memory details (i.e. negative + neutral details), general events, Senator group, and interactions between these terms in our models. As a result, each series of models were estimated to determine the best model fit for the memory-evaluation associations using the following steps:

[4] Models examining Identify Composite and Learn evaluations are listed in the Supplementary Materials.

Model X.1: *evaluation ~ Senator Group* + (1 | participant)

Model X.2: *evaluation ~ Senator Group* + *Prioritized Details* + (1 | participant)

…

Model X.n: *evaluation ~ Senator Group * Prioritized Details * General Event Number* + (1 | participant)

If a given variable did not improve overall model fit, it was dropped from subsequent models. Given that participant was the only random intercept term included in the models, and that the present analyses are concerned with differences between models in relation to fixed effects, all models were estimated using the Maximum Likelihood method. Models that provided the best overall fit are discussed.

Transparency and Openness

We report how we determined our sample size and data all data exclusions. We report all measures used in the current manuscript in the methods section. All other measures collected in the study can be found in the Supplementary Materials. The study preregistration, data, and analysis code are available on the Open Science Framework at: https://doi.org/10.17605/OSF.IO/QK8MU.

Results

In the sections below, we first report participants' memory performance, followed by the association between participants' memory performance and their moral judgment composite scores.

Memory

Results from the repeated measures ANOVA on prioritized memory performance indicated a main effect of emotional valence, $F(1, 974) = 210.51$, $p < .001$, *partial eta*^{2} =

.18, with participants retrieving more neutral prioritized details (*EMM* = 8.65, *SE* = .17) than negative prioritized details (*EMM* = 5.71, *SE* = .13; Figure 2a).[5] There was also a significant main effect of political affiliation, $F(1, 974) = 11.71$, $p < .001$, *partial eta*^{2} = .01, with liberal participants retrieving more prioritized details (*EMM* = 7.54, *SE* = .14) than conservatives (*EMM* = 6.81, *SE* = .16). There was no significant interaction between emotion and political affiliation $F(1, 974) = 1.19$, $p = .28$, *partial eta*^{2} = .001.

Results from the Welch's independent sample's *t*-test on general event memory indicated no significant differences between conservatives (*M* = 1.51, *SE* = .04) and liberals (*M* = 1.44, *SE* = .03), $t(869.78) = 1.53$, $p = .13$, $d = .10$ (effect size computed using the *'effectsize'* [v.0.8.9] package), on the number of general events retrieved (Figure 2b).

The correlation between prioritized details and general event memory indicated a positive correlation between prioritized details and the number of general event memories retrieved, $r = .25$, $p < .001$, (Figure 2c). Further exploration of this association indicated that both neutral ($r = .23$, $p < .001$) and negative ($r = .12$, $p < .001$) prioritized details showed significant positive correlations with the number of general events retrieved (Figure 2d).[6] Despite significant correlations between general event memories and both neutral and negative valence, the magnitude of the correlation between general event memories and neutral prioritized details appeared to be significantly greater than the magnitude of the correlation between general event memories and

[5] All post-hoc pairwise comparisons reported in this manuscript reflect Tukey adjusted p-values, as computed by the '*emmeans'* (v.1.7.5) package.
[6] Given that there were no significant differences between conservatives and liberals on general event memory, we did not break these analyses down by political affiliation.

negative prioritized details, $z = 2.52$, $p = .01$, 95% CI [.02 .19] (Diedenhofen & Musch, 2015; Dunn & Clark, 1969; Zou, 2007).

Memory Summary

These findings demonstrate that the emotional quality of the memories for the breaching of the U.S. Capitol Building was similar in liberals and conservatives. Contrary to our hypothesis, both groups retrieved more neutral prioritized details than negative details. Yet, the positive correlation between prioritized memories and the number of general events, and specifically the higher magnitude of the correlation between neutral details and general event memories compared to negative memories further suggests that the strength of these neutral prioritized details may be associated with the activation of broader memory networks. Finally, although both groups recalled more neutral than negative prioritized details, liberals recalled more prioritized details overall compared to conservatives.

Memory-Judgment Composite Analyses

To examine the memory-evaluation associations for the Judgment Composite in liberal participants, a model was fit with Senator Group on Judgment Composite. For liberal participants, inclusion of Senator Group on Judgment Composite provided better overall model fit than the intercept only model, $X^2(3) = 278.98$, $p < .001$, as did a model that additionally included prioritized memory details, $X^2(1) = 32.52$, $p < .001$. The inclusion of general event memory did not improve overall model fit, $X^2(1) = .13$, $p = .72$. Finally, the addition of a term for Senator Group by prioritized memory detail interaction significantly improved overall model fit, $X^2(2) = 19.81$, $p < .001$. Models that included Senator Group by general event memory interactions, and a three-way interaction

between Senator Group and both memory variables, did not improve overall model fit (*ps* > .20). As a result, the model examining the Senator Group by prioritized memory detail interaction and terms for their main effects will be discussed.

Liberals demonstrated a main effect of Senator Group, $F(3, 1638) = 102.63$, $p < .001$. *partial eta*^{2} = .16, and prioritized memory details, $F(1, 546) = 33.51$, $p < .001$, *partial eta*^{2} = .06. These main effects were qualified by a significant Senator Group by prioritized memory detail interaction, $F(3, 1638) = 6.69$, $p < .001$, *partial eta*^{2} = .01. Post-hoc pairwise comparisons revealed that Senators in the object-object condition were rated as significantly more immoral than those in the unclear-approve condition, *estimate* = -.03, *SE* = .01, $t(1638) = -3.65$, $p = .002$, and the approve-approve condition, *estimate* = -.03, *SE* = .01, $t(1638) = -3.93$, $p < .001$, for liberal participants who recalled more prioritized memory details than those who recalled fewer details (Figure 3). All other post-hoc comparisons were non-significant (*ps* > .13).

For conservative participants, inclusion of Senator Group on Judgment Composite provided better overall model fit than the intercept only model, $X^2(3) = 185.33$, $p < .001$. Adding a term for prioritized memory details did not improve overall model fit, $X^2(1) = 2.21$, $p = .14$. This was also the case for general event memory, $X^2(1) = 1.08$, $p = .30$. These findings suggest that for conservative participants neither prioritized memory details, nor general event memory were associated with Judgment Composite scores above and beyond the differences indicated by Senator Group.[7]

Memory-Judgment Composite Summary

[7] Given that neither of the memory measures improved overall model fit, the results of the final Memory-Judgment Analyses are redundant with the Judgment Composite analyses for conservative participants in the Evaluations section of the Supplementary Materials.

For the Memory-Judgment Composite associations, liberal participants showed an association between prioritized memory details and Judgment Composites, but not between general event memory and Judgment Composites. More specifically, the more prioritized details that liberal participants retrieved, the more they differentiated their moral Judgments of the different groups of Senators. Memory content was not associated with Judgment Composite scores in conservative participants.

Discussion

The current study tested whether the content people explicitly retrieve when they think about an event is related to how they subsequently evaluate actors' morally ambiguous behaviors. We distinguished the content people retrieve in a prioritized manner – that is, the content that comes to mind first when cued to think about an event – with the content people can recall when specifically asked to broaden their memory search. Results revealed an association between memory and moral evaluations only in liberal participants. Amongst the liberal participants, the more prioritized details they recalled, the more they differentiated their evaluations of the Republican Senators, rating object-object Senators as most immoral. While the memory-evaluation associations differed for liberals and conservatives, there were similarities in the memories of the two groups: Both recalled more *neutral* than *negative* details, and those who recalled more details within their prioritized memory also reported more general event memories.

Prioritized memory modulated Senator Group evaluations in liberal (not conservative) participants

The memory-evaluation results demonstrated a divergence in liberal and conservative participants. One possible interpretation is that liberal and conservative participants utilize different cognitive approaches to social evaluation (Burger et al., 2020; but see: Jost & Amodio, 2012). Liberals may take more details into account than conservatives when making these types of evaluations. We suspect a more likely interpretation is that political affiliation acted as a proxy for the effect of group membership on memory-evaluation associations. Conservative participants may have ignored details when evaluating ingroup members. If the breaching of the U.S. Capitol Building had been perpetrated by supporters of a liberal politician, liberal participants may have ignored memory details instead, and conservatives may have used those details, when making evaluations about groups of Senators.

Differences in political affiliation may not reflect inherent differences between liberal and conservative cognitive styles, but motivated information processing supporting memory-evaluation associations. This is consistent with theories positing that familiar contexts (*e.g.,* an outgroup member engaging negative social behaviors) actually enhance retrieval of associated memory content during value-based decisions (Duncan & Shohamy, 2016; Shohamy & Daw, 2015). It is also consistent with previous work highlighting harsher blame judgments for outgroup members that commit the same behaviors as ingroup members (Monroe et al., 2019).

Finally, the present work demonstrates that autobiographical memory retrieval is associated with social evaluations beyond mere approach/avoid decisions (Kadwe et al., 2022; Sklenar et al., 2022). Specifically, memory-evaluation associations occur in the context of self-generated memory details as opposed to forced-choice recognition

alone. These findings also extend prior work showing that retrieval of autobiographical memory details are used in self-evaluative moral contexts (Stanley et al., 2019; Stanley & De Brigard, 2019, 2019), by demonstrating that autobiographical details can be used in the context of third-person evaluations. Together these findings suggest that self-generated memory details may be used in social evaluative contexts, depending upon the group-membership relationship between the individual and agent(s) in question.

This latter interpretation may also be consistent with a form of belief maintenance via non-rational discounting on behalf of conservative participants in the present sample. When individuals are faced with inconsistent information about ingroup members, they may choose to ignore this information in service of relationship-maintenance and subsequent material benefit (Kim et al., 2020). Participants were not asked to evaluate and re-evaluate the groups of Senators in the present study; however, apparent disregard for memory details by conservative participants when evaluating the groups of Senators, suggests motivated belief maintenance.

Memory for the breaching of the Capitol Building primarily contained neutral content

Retrieval of more neutral details than negative details may reflect the semantic nature of the memories reported. The autobiographical memory literature examining negative events (e.g., Boston Marathon Bombings) often distinguishes between episodic memory versus semantic memory (Ford et al., 2018). The present study prompted participants to report what they remembered seeing and hearing about the event, rather than what they experienced. This memory prompt may have led participants to retrieve memories that were more semantic in nature, due to the second-

hand ways they learned about the events (e.g., watching T.V., listening to the radio, or viewing social media).

Although we did not have specific hypotheses about the association between political affiliation and emotional memory performance, the finding that liberal participants had better memory compared to conservative participants is consistent with previous literature demonstrating negative memory biases toward outgroup members (Hoewe, 2014; Howard & Rothbart, 1980; Ybarra et al., 2000). This event was initially reported as a negative public event by the media, rendering retrieval of neutral details as a bias toward memory for a negative event. Future research should compare memory quality for public events when ingroup members are the perpetrators of negative events compared to outgroup members.

Prioritized memories were associated with larger general event memory networks

The positive association between the number of prioritized memory details, or details for the first event retrieved from memory, and associated general events retrieved is consistent with the spreading activation theory of semantic processing (Collins & Loftus, 1975; Mace & Petersen, 2020). Prior research demonstrates that memory retrieval of a particular event is associated with additional retrieval of related events (Mace & Petersen, 2020). To our knowledge this was one of the first studies demonstrating that the quantity and quality of the details retrieved for the initial memory are associated with the number of related events that are subsequently retrieved. Specifically, the more neutral prioritized details that were reported, the stronger the activation of a broader memory network, as indicated by the number of general events reported. Although both negative and neutral details are associated with the activation

of broader memory networks, neutral content may more effectively activate memories within these networks.

Constraints on Generality

There were several characteristics that potentially limit the generalizability of the findings from the present study. First, the presentation of prioritized memory detail, general event memory and subsequent evaluation questions were not counterbalanced. As a result, specific claims about the causal role of explicitly retrieved memory content on evaluation of the Senator groups cannot be determined. The findings in all of the memory-evaluation models should be interpreted as mere associations. Nonetheless, the findings from these models do indeed provide memory-evaluation associations that should be examined in future research.

A related methodological limitation is that the groups of Senators were not balanced with regard to intended behaviors and actual behaviors, a balance typically built into the design of laboratory studies with intentions and outcomes (for review see: Cushman, 2015). This limitation reflects the difficulty of mapping naturally occurring events onto previously established laboratory paradigms. Future research should examine memory-evaluation associations with balanced intended and actual behaviors, to further elucidate these relationships.

This study recruited participants via Amazon's Mechanical Turk. This approach yielded a predominantly white sample of liberal and conservative participants. Work seeking to replicate these findings should intentionally vary participant demographic background in order to enhance claims of generalizability. Relatedly, future research should seek to replicate these findings in relation to other public events. It is presently

unclear whether the way that liberal and conservative participants use memory in relation to moral evaluations are specific to individuals in the particular political climate that this study was collected, or whether these findings would extend to similar public events.

Finally, it is possible that the positive association between prioritized memory details and general event memory merely reflects participant response tendencies. That is, those individuals who reported more prioritized details and general event memories may have done so because they would respond more to *any* open-ended prompt. If this is true, then "better" memory performance would have less to do with actual memory performance for the events in question, and more to do with participant willingness to share the details of the memories retrieved.

Conclusions

To our knowledge, this was the first study to examine associations between explicit memory and social evaluations during a morally ambiguous national event. We demonstrated that the content that comes to mind first when prompted to think about an event can be associated with subsequent moral evaluations. Importantly, the relation did not extend to other content that was brought to mind through a more iterative search process, suggesting that the memories accessed most readily (what we have termed "prioritized memory") may play an outsized role in influencing moral evaluations. We also found evidence that group membership may affect the utilization of explicit memory content when making social evaluations.

Authors' Note

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Table 1
Participant Demographics

Political Affiliation	**Conservative**, N = 430[a]	**Liberal**, N = 546[a]
Sex		
Female	248 (58%)	251 (46%)
Male	182 (42%)	295 (54%)
Ethnicity		
Hispanic	25 (5.8%)	38 (7.0%)
Not Hispanic	405 (94%)	508 (93%)
Race		
African-American, Black	15 (3.5%)	61 (11%)
American Indian or Alaskan Native	2 (0.5%)	5 (0.9%)
Asian	12 (2.8%)	47 (8.6%)
Native Hawaiian or other Pacific Islander	2 (0.5%)	2 (0.4%)
Other	6 (1.4%)	15 (2.7%)
White	393 (91%)	416 (76%)

[a]n (%)

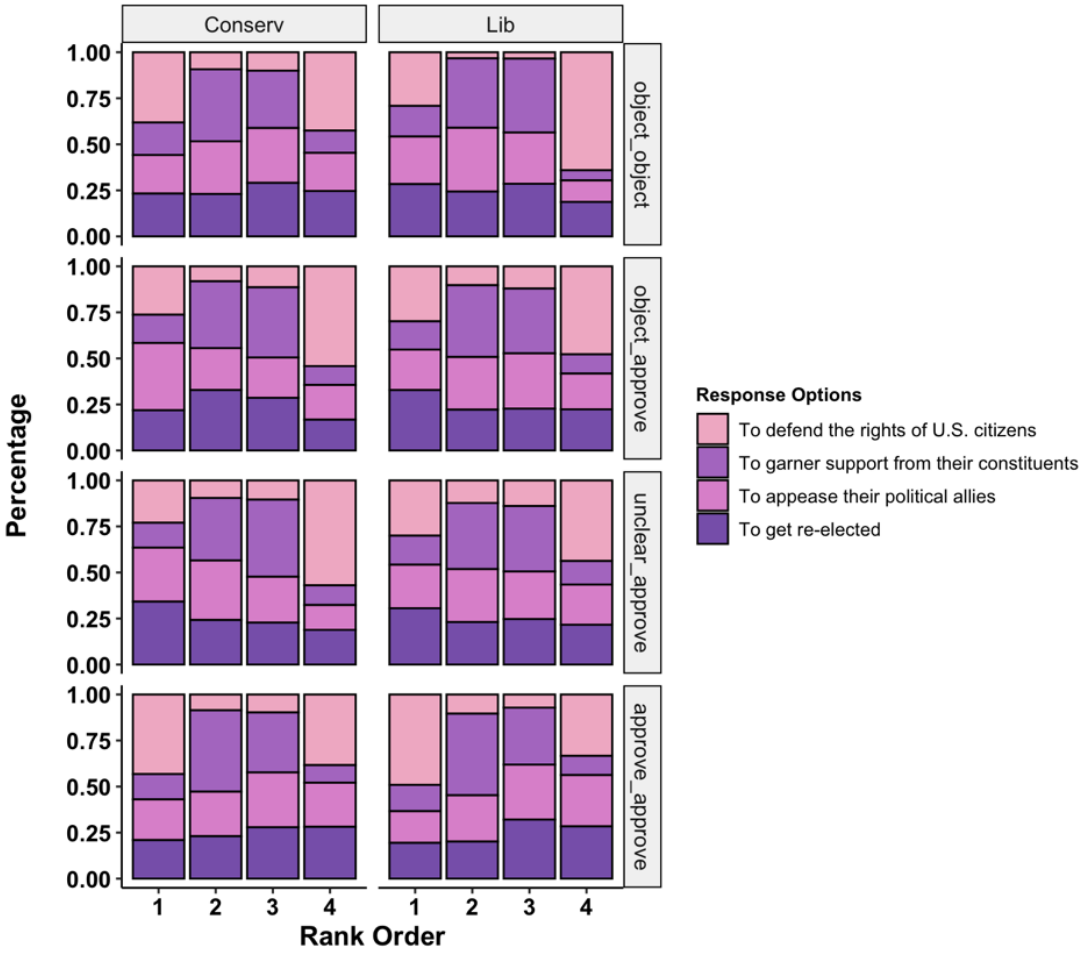

Figure 1. Beliefs about Senator Group Motivations. This figure represents participant beliefs about Senator Group motivations. Possible responses are color coded and indicated in the "Response Options" legend. These Response options were rank ordered. The rank order is listed along the x-axes. Percentage of Response Option for each rank is presented on the y-axis. Responses are broken down by conservative and liberal participants Conserv = Conservative; Lib = liberal.

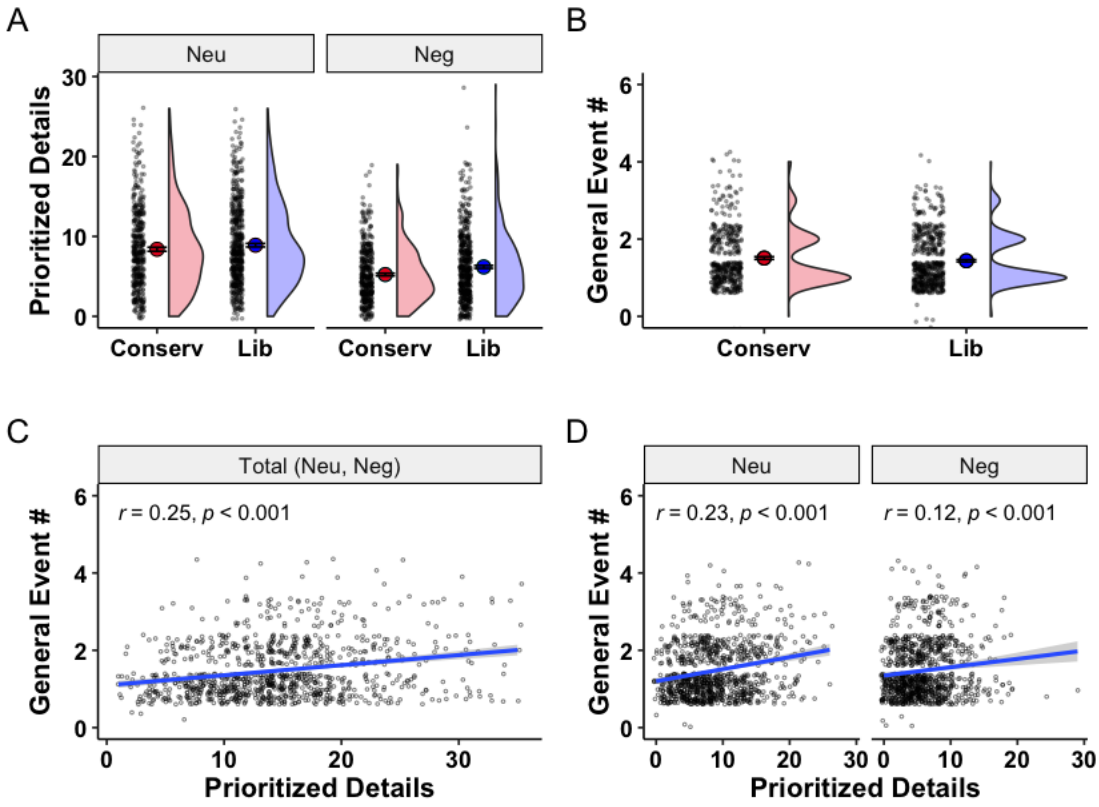

Figure 2. Memory Performance. (A) Shows Prioritized Details broken down by political affiliation and emotional valence. The large circles represent mean performance, the error bars represent standard error of the mean. The smaller dots represent individual participant performance; (B) Shows general event memory broken down by political affiliation; (C) Shows the correlation between prioritized detail memory collapsed across emotional valence. (D) Shows the correlation between prioritized detail memory broken down by emotional valence. Conserv = conservative; Lib = liberal; Neg = Negative; Neu = Neutral

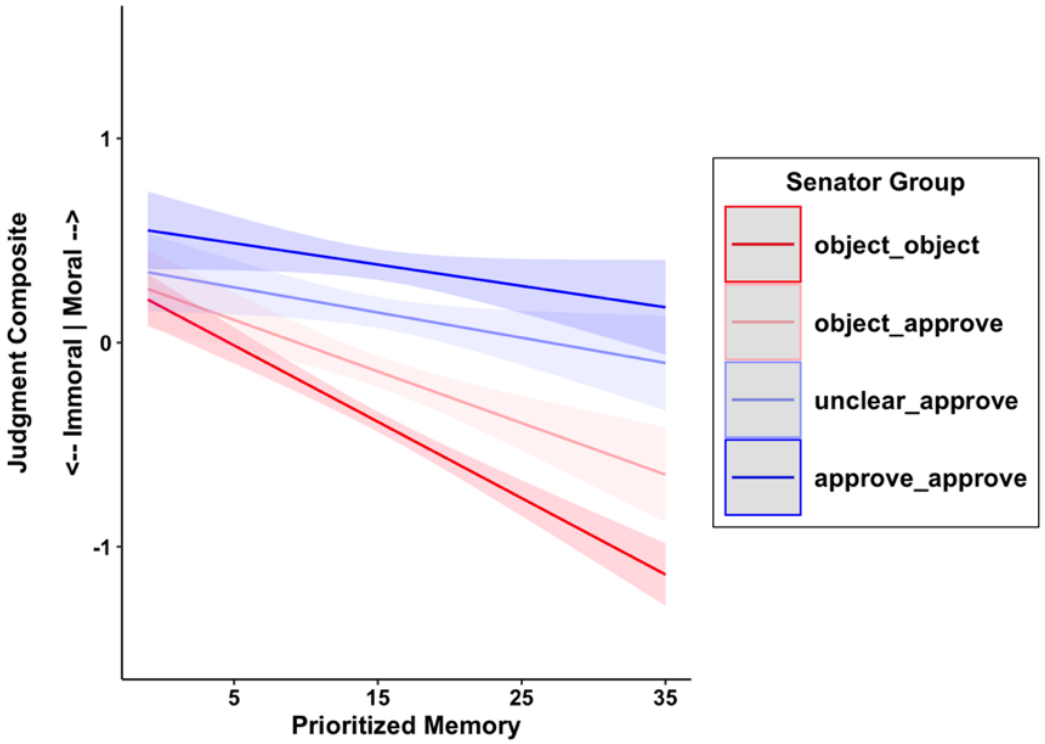

Figure 3. Liberal Participant Memory-Evaluation Associations. Prioritized memory details by Senator Group interaction on Judgment Composite scores. Higher scores on the y-axis reflect more moral evaluations. Lower scores reflect more immoral evaluations. Values on the x-axis are uncentered for easier interpretation.