

Memory Can Define Individual Beliefs and Identity—and Shape Society

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Abstract

Memory profoundly define individual beliefs and identity, shaping how societies make decisions. Five key memory phenomena include—first impressions and the primacy effect, risky decision-making and memory availability, information reliability and source memory, music preferences and the reminiscence bump, and long-term planning and episodic future thinking. Each phenomenon is explored for its impact on policy, revealing the profound ways that memory biases and processes shape critical societal choices, such as judicial decisions, hiring practices, financial planning, and pro-environmental behavior. Although memory's importance in daily life is widely recognized, its central role in shaping self-identity and influencing societal structures is often underestimated. Memory biases, evident in various aspects, from cultural exposures to decision-making heuristics, play a pivotal role in individual and collective behavior. These biases, often manifesting subtly, guide the formation of beliefs and preferences, with strong implications for policy making. Taken together, this work advocates for a multidisciplinary approach to bridge memory theory and policy practice.

Keywords

preferences, availability, information reliability, reminiscence bump, episodic future thinking, first impression, financial planning, pro-environmental behaviors

Highlights

- First experiences, such as to a jury or in a job interview, can have a particularly strong influence on later interactions.
- Information can be made more salient by the environment, as experiences happen (like when gambling) or when key decisions are being made (like when voting in an election).
- Remembering the source of information is important, particularly when possible sources vary in credibility.
- Imagining detailed future events can help us make better long-term plans, across a range of decision domains.
- In many instances, memory plays an important role on our beliefs and can shape our societal policies.

Introduction

Experiences in the present shape who people are in the future. Experiences are transient, but memories persist. Memory is not a veridical recording; however, some experiences are more memorable and available to daily experiences. In some circumstances, memories of past experiences are not just highlight reels to think back to in idle moments. In other instances, memories are the fabric of identity: tapestry of fragments of the past. They are not mere reflections of

reality, but are instead selective and subjective reconstructions that become part of identity—personal tapestry woven from the past.

Beliefs, comprising views and values, extend beyond perspectives of the world; they form the core of self and identity (Bromberg-Martin & Sharot, 2020; Sharot et al., 2023). While the link between memory and preferences, beliefs, and identity has been examined in previous work (Alba et al., 1991; Beike et al., 2023; Locke, 1690, Book 2, Chapter 27; Madan, 2024; Rozeboom, 1965; Sloman, 2022; Weber & Johnson, 2006), this has typically been done in more abstract principles, rather than a curated set of concrete examples.

The interplay between memory and belief becomes clearer by highlighting five everyday memory phenomena with clear real-world relevance. Weaving together evidence from scientific studies with real-world observations helps to explore how biases in memory are not merely academic curiosities but are foundational elements that sculpt beliefs and, by extension, identity.

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Five Everyday Memory Phenomena

First Impressions and the Primacy Effect

The *primacy effect*, wherein first encounters—be they words in a sequence or the initial experiences in a new city—are better remembered (Jahnke, 1965; Murdock, 1962; Rundus, 1971; Thorndike, 1927). This effect illuminates why first impressions often dictate the lasting image of a person or situation, shaping interpersonal interactions (Asch, 1946; Jones et al., 1968; Zebrowitz, 2017).

Some studies have shown that memory biases from past experiences can influence decision-making (Gibson & Zielaskowski, 2013; Ludvig et al., 2015). However, this is not always the case, as there are also instances where preferences are formed “live” during the decision process, making these two effects occur independently or even fully dissociate (Ding et al., 2017; Dreben et al., 1979; Hastie & Park, 1986; Kim & Garrett, 2012).

Risky Decision-Making and Memory Availability

People can accrue information about odds and outcomes in many ways—but very generally, not all information is equally accessible when making a decision (Madan, 2024; Tversky & Kahneman, 1973). In some instances, information for financial or medical risk may come from descriptions—stated numbers, visualizations in different graphical forms, or in subjective phrases of verbal probabilities. For instance, risk related to treatment side-effects could be presented as visualizations, which could be bar graphs, pie graphs, or icons representing people (Hawley et al., 2008). Probabilities could be conveyed through phrases such as *sometimes* or *very often*. However, people’s interpretations for these phrases can vary (Brun & Teigen, 1988; Stewart et al., 2006; Vogel et al., 2022); moreover, these also differ across cultures (Doupnik & Richter, 2003, 2004) and even topic contexts (LaCour et al., 2023). Many considerations influence how data are communicated (Franconeri et al., 2021; O’Donoghue et al., 2018; Pernet & Madan, 2020).

In other instances, risk decisions are made from experience. Outcomes could appear in various ways—including inconsequential samples to explore, choices with consequential feedback, or feedback for both chosen and unchosen options (Wulff et al., 2018). When decisions varying in value are intermixed, the highest and lowest values experienced are more salient (available in memory) and overweighted in decision-making (Ludvig et al., 2014, 2018; Madan et al., 2014, 2019, 2021). Memories of outcomes can also be made more readily available in other ways (such as by including sounds, Cherkasova et al., 2018; Spetch et al., 2020).

Information Reliability and Source Memory

Describing information itself is not enough to remember, but also who did it, where did it come from (Lourenco et al., 2015; Fan & Lim, 2022; Suen et al., 2014; Sweijen et al.,

2023; Toma & D’Angelo, 2015). For instance, the recommendation of an over-the-counter drug gains a different weight in our memory depending on whether it was prescribed by a healthcare professional or promoted through a television advertisement. The former is likely to be imbued with a sense of medical authority and trustworthiness, while the latter might be approached with skepticism due to potential commercial biases. Similarly, the source of a tip about an investment opportunity can heavily influence one’s decision-making process and subsequent memory of the event. Advice received from a certified financial advisor, with a known track record of successful investments, is likely to be remembered and acted upon with more confidence compared to a casual suggestion from a neighbor, whose expertise and success in financial matters might not be established. More generally, a source’s **perceived expertise** and **trustworthiness** can bias how information is processed. Companies hire well-known spokespeople to advertise their products and provide testimonials for this very reason. In circumstances where judgments are memory based, this can lead to the overvaluation of information from a trusted source and undervaluation or even dismissal of potentially valuable information from a source deemed less credible.

Music Preferences and the Reminiscence Bump

Across the lifespan, some events and experiences are more memorable—the reminiscence bump is one such period, associated with adolescence and young adulthood (Conway et al., 2005; Rubin & Schulkind, 1997; Zaragoza Scherman, 2013). Music preferences later in life align with what the person listened to during the reminiscence bump period (Janssen et al., 2007; Zimprich, 2020). This reminiscence bump in music preferences occur across generations; children grow up hearing the music their parents preferred (Krumhansl & Zupnick, 2013).

The reminiscence bump underscores a crucial phase of identity formation, reflecting a period wherein musical preferences are forged. During adolescence and early adulthood, people’s music does more than entertain; it informs emerging identities. The propensity for individuals to favor music from this period later in life is not merely a reflection of nostalgic attachment but indicates the pivotal role these preferences play in the identity consolidation process (Holbrook & Schindler, 1989, 1996). As such, music preferences acquired during the reminiscence bump are integral to the narrative of self, acting as markers of personal and generational identity, echoing the socio-cultural backdrop for developing the self-concept (Hartman et al., 2022).

Better Long-Term Planning and Episodic Future Thinking

Memory, while often perceived as a repository of the past, also plays a pivotal role in sculpting one’s future through

episodic future thinking (EFT). EFT leverages memories to construct detailed simulations of future events, essentially enabling people to “pre-live” potential scenarios (Atance & O’Neill, 2001, 2005; Schacter et al., 2017). This cognitive process not only serves as a bridge connecting past experiences with future possibilities but also informs a spectrum of decision-making behaviors.

In financial decision-making, studies highlight that engaging in EFT can lead individuals to opt for more advantageous long-term choices, favoring delayed gratification that promises greater future benefits (Ballance et al., 2022; Bulley et al., 2019; Daniel et al., 2013, 2015). The influence of EFT extends to dietary habits and addictions as well, where envisioning future health outcomes can steer choices towards healthier choices (Daniel et al., 2013, 2015; Stein et al., 2018). By vividly anticipating the positive effects of a healthier lifestyle, individuals may find it easier to resist short-term temptations in favor of long-term health gains. Moreover, by imagining the future state of the environment, individuals can be motivated to adopt behaviors that are more sustainable and environmentally friendly (Bø & Wolff, 2020; Boomsma et al., 2016; Lee et al., 2020). Thus, EFT exemplifies how memory transcends mere recollections, acting as a cornerstone for beliefs and the development of personal and societal identity.

Policy Implications

The pervasive nature of memory biases extends far beyond the personal realm, exerting a significant influence on various facets of public policy. These biases, inherent in the way individuals and groups remember and interpret information, have the potential to shape decisions and behaviors across a broad spectrum of societal issues (Madan, 2024).

The ramifications of the primacy effect are particularly salient in the judicial system, where first impressions can skew the impartiality of a jury or influence the decision-making of judges (Lawson, 1968; Stone, 1969; Weld & Roff, 1938). Similarly, in the corporate world, hiring practices often hinge on initial interviews (Barrick et al., 2010; Carlson, 1971; London & Hakel, 1974; Shaheen, 2010; Swider et al., 2016), potentially overshadowing subsequent evidence of a candidate’s capabilities or fit. Consider the significant role of primacy in long-term relationships and career trajectories. The initial period of a relationship or the first few days on a job can disproportionately influence enduring perception of others and commitment to future endeavors. This accentuates the necessity for awareness and potential corrective measures in scenarios where first impressions may lead to long-standing biases.

The influence of memory salience on decision-making holds significant policy implications, particularly in domains where risk and uncertainty are prevalent, such as gambling. When individuals make decisions about risk, the most accessible memories can disproportionately sway their

judgment. For instance, the vivid recollection of a past win at a casino can overshadow the numerous losses, leading to an inflated sense of the likelihood of winning again. This bias can fuel problematic gambling behaviors, as the salience of winning memories may drive repeated betting despite unfavorable odds (Gilovich & Douglas, 1986). Policy interventions might include mandatory breaks in play to allow for reflection, or the implementation of tools that track gambling behavior and provide feedback to the gambler, helping to bridge the gap between memory salience and realistic risk assessment (Auer & Griffiths, 2017; Braverman et al., 2014; Wohl et al., 2017). Information salience can also be increased in accessibility—for instance, during elections, people vote in variety of polling locations. Some locations for voting occurred in churches, schools, or community centers—ballots on policies and funding priorities can be biased by polling location (Berger et al., 2008; Pryor et al., 2014).

Remembering the source of information is necessary in our information-rich modern world. In our daily consumption of information, particularly news, we are frequently faced with narratives of events that we have not witnessed firsthand. The evaluation of such information necessitates a discerning consideration of its origin—the source—as well as a reflection on our pre-existing perceptions of the source’s credibility and reliability. Distinguishing between a report from a reputable national newspaper and a sensational headline from a tabloid becomes a crucial exercise in critical thinking. This differentiation is not merely academic; it has tangible implications for how we construct our understanding of the world and the trust we place in the information that shapes our realities. If we later find out that some information were untrue, we need to incorporate this into our memory such that we do not mix facts with fiction, lest we confuse information and misinformation (Blank et al., 2022; Echterhoff et al., 2005, 2007; Frost et al., 2002; Putnam et al., 2017; Wahlheim et al., 2019). The ability to update our memory to segregate fact from fiction is not just a cognitive necessity but a societal imperative. Policies that aim to counteract misinformation must therefore account for these memory biases and develop strategies to reinforce factual information. Such strategies might include repeated communication of verified facts, highlighting the differences between information and misinformation, and the promotion of critical thinking skills to evaluate the validity of information (Bailey et al., 2021; de Saint Laurent et al., 2022; Freeze et al., 2021; Negley et al., 2018; Yang, 2020).

The music people listen to during formative years become a part of identity. Canada requires a certain quota of broadcasted music is Canadian. This policy not only supports Canadian artists but also instills a sense of national identity through music (Muia, 2020). As individuals grow up listening to a certain proportion of Canadian music, these songs and artists become interlaced with personal and cultural milestones, contributing to a shared national identity. The music that plays during one’s formative years—the reminiscence

bump—leaves a lasting imprint, and by ensuring Canadian tunes are part of this mix, the policy shapes both individual and collective memory. In April 2023, the Canadian parliament passed Bill C-11, seeking to extend this curated cultural experience to now apply to online streaming. The legislation's implications are profound; it aims to preserve the presence of Canadian music in an increasingly borderless digital world, thereby continuing to influence music preferences and reinforce a sense of Canadian identity. This strategic move underlines the government's recognition of music as a powerful medium for identity formation, ensuring that Canadian voices remain central to the soundtrack of Canadians' lives, even as the modes of listening change. This approach to content regulation underscores the recognition of media's role in identity formation—not only through the music that resonates with the hearts of its people but also through the stories and information that stimulate their minds.

EFT, the ability to project oneself into the future to pre-experience an event, has profound implications for shaping long-term planning. In financial decision-making, interventions based on EFT could involve exercises that encourage individuals to visualize their future selves enjoying the benefits of saving or suffering the consequences of excessive spending. Financial advisors and savings programs might use virtual reality or narrative storytelling as tools to make future financial states more tangible and immediate (e.g., Robalino et al., 2023). Public health campaigns could employ EFT to motivate healthier eating. For instance, programs could guide individuals through a detailed envisioning of future health outcomes based on current eating practices, making the abstract concept of health more concrete and immediate. This could be facilitated through apps that illustrate potential future physical changes or through health education that ties current choices to specific future well-being scenarios. Policy interventions could leverage EFT to encourage sustainable lifestyle practices through community-based projects that simulate future local environments affected by climate change or interactive platforms that allow people to see the potential results of collective environmental efforts. Such EFT-based interventions aim to bridge the gap between present actions and future consequences, making the latter more psychologically present and impactful. By employing EFT strategies, policies and programs can help individuals to align their current behaviors with future-oriented goals, leading to more thoughtful and sustainable decision-making.

Summary

Highlighted here are memory phenomena interacting with public policy, demonstrating how understanding memory extends beyond individual experiences to shape societal norms and decision-making (also see Madan, 2024). Through an examination of five key memory phenomena, this analysis has shown the crucial role of memory processes

in forming various aspects of policy. The integration of memory research into policy considerations offers a pathway to more informed and effective decision-making. For example, the primacy effect in judicial decisions and hiring practices shows the substantive impact of memory biases on important societal choices. Similarly, the relevance of EFT in financial planning and environmental behavior highlights the broad influence of memory in guiding real-world change.

Memory is important in everyday life, yet its central role in forming self and identity is often overlooked. Memory biases, manifesting in numerous ways, play a key role in how people interact with the world. These biases are evident in situations ranging from the music heard in our formative years to the benefits of EFT. The formation of beliefs and preferences is closely tied to these memory biases. As we gather experiences, we develop decision-making heuristics that guide our choices in various situations (Madan et al., 2021; Mason et al., 2022; Weber & Johnson, 2006). These heuristics are shaped not only by direct memories of past events but also by experiences that influence our beliefs and behaviors, even if we are not consciously able to recollect them (Addis & Tippett, 2004; Guzmán-Vélez et al., 2014; Kunst-Wilson & Zajonc, 1980; Madan, 2020, 2023; Palombo et al., 2021).

In conclusion—the relationships among memory, belief, and identity go beyond academic discussions, underlying a fundamental facet of shaping societal structures and policies. Efforts need to be considered for advocating the relevance of memory research when developing policy.

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