Random Decisions as Rational Decisions

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Abstract. Random decision-making (RDM) is a method of choice in which an agent delegates the final selection to a random device (e.g., a coin). When faced with multiple options, RDM is often dismissed as an irrational approach. Even in symmetrical cases where RDM is conceded to be rational, it is typically regarded as merely one among many equally effective methods for making an arbitrary choice. I challenge this prevailing view by pinpointing a unique psychological benefit of RDM – specifically, its capacity to mitigate potential regret – and thereby demonstrating that its rational applicability extends well beyond the narrow confines hitherto acknowledged. Once this capacity is recognized, it becomes clear that RDM is the uniquely rational strategy in certain symmetrical dilemmas while remaining rational in some asymmetrical cases. Furthermore, while factors such as affective and sociocultural influences impose limitations on the practice of RDM, I contend that these constraints are not insurmountable and may be mitigated as a deeper understanding of RDM's unique value emerges.
Keywords: random decision-making, rationality, decision theory, expected utility, regret.

Atsitiktiniai sprendimai kaip racionalūs sprendimai

Santrauka. Atsitiktinių sprendimų priėmimas (ASP) kaip pasirinkimo metodas įprastai atmetamas, kadangi yra laikomas neracionalia prieiga. Netgi simetriškais atvejais, kuomet pripažįstama, kad ASP yra racionalus metodas, į jį paprastai žvelgiama tik kaip į vieną iš daugelio vienodai efektyvių metodų, kai reikia rinktis arbitraliai. Straipsnyje siekiu suproblemintī šį dominuojantį požiūrį, pabrėždamas unikalų psichologinį ASP metodo privalumą – visų pirma, jo suteikiamą galimybę sušvelninti galimą apgailestavimą dėl priimto sprendimo. Tokiu būdu parodau, kad racionalus šio metodo pritaikomumas yra kur kas platesnis nei kad siaura sritis, kurioje anksčiau buvo pripažįstamas šio metodo pagrįstumas. Pripažinus šį metodo potencialą, tampa akivaizdu, kad ASP metodas yra vienintelė racionali strategija iškilus kai kurioms simetriškoms dilemoms. Tačiau šis metodas išlieka racionalus ir kai kuriais nesimetriškais atvejais. Be to, nors ir tokie atvejai kaip afektyvi ar sociokultūrinė įtaka gali apriboti praktinį ASP metodo taikymą, aš vis dėlto tvirtinu, kad šios kliūtys nėra neįveikiamos, jei suformuosime gilesnį unikalios ASP metodo vertės suvokimą.
Pagrindiniai žodžiai: atsitiktinių sprendimų priėmimas, racionalumas, sprendimų teorija, tikėtinas naudingumas, apgailestavimas

1. Introduction

Imagine someone who habitually carries a coin and often makes decisions by flipping it; we might think of them as somewhat frivolous. Even if they happen to lead a satisfactory life, we would likely attribute their success to sheer luck rather than to the method of coin-flipping itself. As economist Aumann observed, it is practically difficult to accept the idea that serious individuals would rely on coin flips to make important decisions (Aumann 1987: 15). People's aversion to *Random Decision-Making* (hereafter *RDM*) can be explained by some of its characteristics. Some argue that engaging in RDM entails a loss of control over one's actions, and control is generally something that people are reluctant to give up (Keren & Teigen 2010: 84; Skinner 1996: 562). However, whether RDM truly implies a loss of control, and to what extent, is not obvious. After all, I can control whether to engage in RDM, as well as determine what options each side of the coin represents. I can even influence the outcome to some extent by weighting the probabilities. For example, I might decide that I will only start writing my paper if the coin lands on heads three times in a row. Some also argue that RDM is unpopular because it fails to hold people accountable for the outcomes of their decisions (Jaffé et al. 2020: 567), but this claim is equally uncertain. In *Batman: The Dark Knight*, Gotham's district attorney Harvey Dent, after turning into a villain, habitually uses a coin flip to decide whether to kill the person in front of him. However, we likely would not hold the coin (as opposed to Dent himself) responsible for the act of killing.

One significant reason why people find RDM hard to accept is that it conflict with a deeply ingrained commitment to rationality in modern society. A judge in a New York City court once used a coin flip to decide whether to sentence someone to 20 or 30 days in jail, and he was promptly criticized for his actions. The criticism did not focus on the outcome of the decision but rather on the fact that the judge's use of a coin flip as a decision-making method "offended this society's commitment to rationality" (Keren & Teigen 2010: 2). According to this commitment, good decisions should be based on careful deliberation of the options and justified by practical reasons related to those options. In the second section, I will show that this common criticism of RDM is misleading and stems from a confusion of the concept of rationality. By taking a closer look at rationality and RDM, we will see that some uses of RDM are clearly rational. In the third section, I will leverage the unique psychological advantage of RDM in suppressing regret to show that the scope of rational RDM is considerably broader than is commonly assumed. In the fourth section, I will examine factors that often constrain our decisions – morphological, temporal, affective, and sociocultural – and explore whether and how these factors affect RDM. In the final section, I will summarize the main points of the article: RDM can be a utility-maximizing strategy in many symmetrical and even some asymmetrical cases, primarily due to its unique capacity to mitigate post-decision regret.

2. Two Concepts of Rationality

Supporters of the commitment to rationality argue that decisions should be made based on careful deliberation of the options. However, it has long been recognized that cases like Buridan's ass present a challenge to this view.[1] In this case, a hungry donkey stands between two equally appealing piles of hay and ultimately starves to death because it cannot decide which one to eat. When we find ourselves in a Buridan-style scenario, careful deliberation cannot help us make a decision. In such cases, RDM is clearly rational.

Cases like Buridan's ass are exceptions to the commitment to rationality, exposing a kind of confusion we often encounter when using the concept of 'rationality'. Li and Hsee argue that we actually have at least two concepts of rationality, which they refer to as the 'lay notion of rationality' (hereafter LR) and the 'utilitarian notion of rationality' (hereafter UR). The former aligns with the commitment we discussed, encouraging us to make decisions based on 'cold' factors – namely, careful deliberation grounded in practical reasons. The latter is akin to rationality in normative decision theory, which urges us to make decisions based on considerations of expected utility (Li & Hsee 2019). Although these two requirements often overlap, they can diverge in certain cases. Derek Parfit once provided a classic example to illustrate this point:

> A man breaks into my house...The man orders me to open the safe in which I hoard my gold...I also have a special drug, conveniently at hand. This drug causes one to be, for a brief period, very irrational...Within a few seconds, it becomes apparent that I am crazy. Reeling about the room, I say to the man: "Go ahead. I love my children. So please kill them." ...Threats and torture cannot force concessions from someone who is so irrational. The man can only flee, hoping to escape the police. And, since I am in this state, the man is less likely to believe that I would record the number on his car. He therefore has less reason to kill me... And making myself irrational is the best way to reduce the great risk that this man will kill us all. (Parfit 1984: 12)

Parfit aimed to illustrate the existence of 'rational irrationality' with this example: The crazy person clearly does not meet the standards of LR but does meet the standards of UR. A person who decides to resolve a Buridan-style case by flipping a coin is similar. From the perspective of LR, she is clearly not rational, because her action is not determined by weighing and carefully deliberating the options, but rather by the outcome of the coin flip. However, from the perspective of UR, she could very well be rational, as she avoids the outcome of starving like the donkey by engaging in RDM. While determining whether LR or UR represents the correct understanding of rationality may be an unresolved semantic issue, when the demands of LR and UR conflict, the latter often carries greater weight. After all, it is difficult to see what supreme value lies in making decisions based on 'cold' factors to the point where we must adhere to them even if doing so leads to outcomes like starving to death. Given the significant role UR

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[1]   This scenario does not appear in Buridan's own writings, but is thought to have been invented to challenge Buridan's claim that the will is determined by reason. See Chislenko 2016: 284.

plays in guiding decisions, rejecting RDM solely on the basis of LR would cause us to overlook many valuable considerations.

In the following sections of this paper, when I refer to 'rationality' or 'rational', I will be using them in the sense of UR. The assertion that RDM is rational in symmetrical cases might seem trivial, as, in such cases, every choice except inaction appears rational. Since the options appear equally compelling, the important thing is simply to make a choice. We could rely on the natural shift of attention or, as Chislenko suggests, "act nonintentionally" to select an option, rather than resorting to RDM with a coin or pointer. Additionally, Chislenko argues that the use of RDM encounters a regress problem when handling symmetrical cases (Chislenko 2016: 291). If I decide to use a coin toss to make my choice, I am faced with certain preliminary choices, such as which coin to use, and how to assign the coin sides to the options. These preliminary choices cannot themselves be made randomly, or we risk an infinite regress. If we must use other decision methods to resolve these preliminary choices, then why not use those methods from the outset to address the symmetrical case? In the following section, I will argue that we indeed have independent reasons to use RDM – namely, a unique psychological advantage that other decision methods lack. This advantage may be sufficient to make RDM the optimal approach for resolving symmetrical cases and even render them rational in certain asymmetrical cases.

3. Randomness, Regret, and Utility

The expected utility of using RDM is determined by three factors: the expected utility of each option itself, the probability assigned to them in RDM, and – as will be the focus of this section – the impact of the RDM method on the expected utility. Using RDM is rational in the UR sense when its expected utility outweighs or matches that of any individual option.

RDM can help us achieve maximum expected utility in at least two ways. First, it can serve an instrumental function by helping us identify one of the options with the highest utility. In Buridan-style and game theory cases, RDM works in precisely this way.[2] The second way, which is less frequently discussed, is that the process of RDM can sometimes possess a unique kind of power, making the option it selects have the highest expected utility. In other words, for the same option, being chosen through a random process might actually increase its expected utility. How is this achieved? For example, a trend known as 'Dart-Throwing Travel' is gaining popularity among some people. They blindfold themselves, spin around, and throw a dart at a map to choose their next travel destination. This can be viewed as engaging in RDM about their travel destination. In addition to addressing a choice overload, another reason why people use this method is that a destination chosen by a dart throw may have an added charm compared to one selected through deliberation. In other words, the inherent unpredictability of RDM can

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[2]   For the rationality of RDM in game-theoretic contexts, see Dodge 2012; Icard 2021.

offer a positive emotional experience for individuals who seek excitement and enjoy risk, thus enhancing the expected utility of the decision. However, for two reasons, I do not intend to use satisfying risk preferences as the primary justification for endorsing RDM. First, satisfying risk preferences often incurs significant costs, which makes its long-term expected utility questionable. Second, risk preferences are closely tied to factors like personality and age, and they are relatively uncommon in the general population (Rolison et al. 2013; de-Juan-Ripoll et al. 2021).

As an alternative, I would like to emphasize the relationship between RDM and a different emotion: regret. Compared with risk preference, regret is far more common. In an early study examining everyday conversations, regret emerged as the second most frequently mentioned emotion – second only to love – across recorded day-long dialogues of college students and conversations of married couples (Shimanoff 1984). As James Baldwin once said:

> Though we would like to live without regrets, and sometimes proudly insist that we have none, this is not really possible, if only because we are mortal. (Baldwin 1967)

Regret is typically defined as a negative, cognition-based emotion that arises from the realization that a different decision could have led to a better outcome (Zeelenberg 1999; Zeelenberg & Pieters 2007).[3] Clearly, merely being dissatisfied with the actual utility of a decision does not constitute regret. This emotion arises from a comparison between the utility of the actual decision and that of a possible alternative, which is why it is also referred to as a counterfactual emotion (Kahneman & Miller 1986). Numerous studies have shown that feelings of regret are associated with poor mental and physical health (Newall et al. 2009; Bradley et al. 2021). It is hard to argue that someone who frequently feels regret over their decisions is leading a satisfying life. As a negative emotion that nearly everyone seeks to avoid, regret aversion is not only common in practice but also normatively justified.[4] Since decisions made to minimize regret are "not irrational in any meaningful sense" (Loomes & Sugden 1982: 819), the potential intensity of regret that a decision might evoke can reasonably be factored into its expected utility.

The discussion of RDM and regret highlights a connection between the two. Specifically, RDM has the potential to reduce regret. There are at least three reasons supporting this claim:

Firstly, typical regret is based on a sense of control and responsibility over decisions. The more control and responsibility we feel over a decision, the more likely we are to regret the outcome (Zeelenberg 1999: 5). Events that are fundamentally beyond our

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[3] It should be noted that the regret discussed in this paper does not include what philosophers like Bernard Williams refer to as 'agent regret', which can arise even when the agent has made the best possible choice.

[4] In fact, scholars using regret aversion to explain and predict human behavior have made significant progress. For example, Chorus (2010) shows that regret-based choice models outperform traditional random utility models in predicting real-world route and travel decisions. Fehr et al. (2013) further demonstrate that regret aversion can explain systematic behavioral patterns – such as reluctance to delegate authority and distorted effort provision – that standard expected-utility theory fails to capture.

control – such as having an annoying sibling – are not typically associated with regret. When we rely on RDM, due to the involvement of a random device, we tend to attribute the outcome to luck rather than their own will, which can significantly reduce the agent's sense of responsibility and control, thereby minimizing potential regret (Levitt 2020: 27). As mentioned in the first section, while the claim that "RDM can fundamentally diminish or eliminate the decision-maker's control and responsibility" is controversial as an ethical or metaphysical proposition, to achieve the effect of reducing regret, we only need a much more credible psychological proposition: "RDM can diminish or eliminate the decision-maker's sense of control and responsibility".

Secondly, as a counterfactual emotion, greater opportunities for gain are associated with stronger feelings of regret (Roese 2005). In certain decision contexts, RDM does not lower the objective probability of a favorable outcome, but it does reduce the likelihood of having attained a better outcome in counterfactual scenarios. It is precisely the subjective awareness of this reduction in counterfactual likelihood – whether conscious or subconscious – that attenuates the intensity of regret.

To illustrate this, let us assume that I bought a lottery ticket with an extremely low chance of winning and, as expected, I did not win the million-dollar jackpot. In this case, I would not feel strong regret about the numbers I chose, because the likelihood of achieving higher utility in my counterfactual thinking ("If I had chosen different numbers") is very small. In other words, even if I had chosen different numbers, I would still be unlikely to win. In contrast, if I bought a lottery ticket with a 50% chance of winning, choosing between two options, the regret from not winning would be much stronger. This is because the probability of achieving higher utility in my counterfactual thinking ("If I had chosen the other number") is no longer negligible – but 100% instead.

To see how RDM comes into play, let us assume that I use a coin flip to make my choice for this 50%-chance lottery, and, once again, I do not win. It is worth noting that, in this case, the counterfactual thought is not "If I had flipped to the other side of the coin". The outcome of the coin flip is not an appropriate object of regret because it is not part of the decision that we can control. Naturally, I might regret using the coin to make the decision. In this case, the counterfactual thought would be, "If I hadn't used the coin to decide". It is clear that the chance of achieving higher utility would be not 100% but lower, because even if I had not used the coin, I might still have bought a losing lottery ticket by some other method. In other words, the probability of achieving higher utility is diluted by the random device, and so is the intensity of regret. This example might help explain why, for the same losing outcome in symmetrical cases, the one resulting from RDM is usually easier to accept.

Finally, both common sense and empirical research support the idea that the degree of regret which people feel about their decisions is related to their decision-making strategies. Research by Schwartz and others shows that, compared to 'satisficers', those who aim for maximum utility are more likely to be affected by negative emotions such as regret and self-blame, and, as a result, are less happy than satisficers (Schwartz et al. 2002: 1178). According to normative satisficing, decision-makers do not need to maximize utility; an

option that meets certain basic requirements is sufficient to bring satisfaction. There seems to be a connection between satisficing and RDM: when I decide to flip a coin, it implies that I consider the outcomes represented by both sides of the coin to be acceptable to some extent, regardless of whether they maximize utility.

I am not suggesting that people who use RDM are all committed satisficers. The relationship between RDM and satisficing is similar to that between religious activities and faith itself. Religious activities – such as worship and prayer – can both express my faith and reinforce it. Similarly, RDM can help to reflect and cultivate a satisficing attitude, which is associated with lower levels of regret. This naturally brings to mind a commonly mentioned piece of folk wisdom: contentment brings happiness. Those who are broad-minded and less preoccupied with careful deliberation tend to achieve good results unintentionally.[5]

Building on the above groundwork, I will next demonstrate, through two cases, how the function of suppressing regret provides an advantage to RDM:

> Case 1
> I need to choose between two restaurants, A and B, for dining. I visited both of these restaurants many years ago, and only one of them matched my taste. Unfortunately, due to the passage of time, my memory has become hazy.

Let us assume that the utility of eating at the better restaurant is 10, while the utility of eating at the less favorable restaurant is only 5. Without considering regret, the expected utility of choosing Restaurant A or B is U'(A) = U'(B) = 0.5 × 10 + 0.5 × 5 = 7.5. Given that there is always a chance of making the wrong choice, and that such a mistake could lead to predictable regret, it is reasonable to factor this potential negative emotion into the calculation of expected utility. Let us assume the impact of possible regret on the expected utility of each option is represented by Ra and Rb, where each represents the product of the probability of failure and the intensity of regret after failure for each choice. Thus, the final expected utility is U(A) = 7.5 - Ra, and U(B) = 7.5 - Rb. Suppose the expected utility of deciding which restaurant to go to by flipping a coin is U(C) = 7.5 - Rc. Given the reasons outlined earlier, I believe that Rc is likely to be smaller than both Ra and Rb, thus making U(C) greater than U(A) and U(B). In other words, RDM might be the option with the highest expected utility in symmetrical cases: while it may not increase my chances of choosing the right restaurant, it can make me feel a bit better if I choose the wrong one.

> Case 2
> I need to choose between two restaurants, A and B... I vaguely recall that A was the better one, but I'm very uncertain, with only about 51% credence in that belief.

Unlike in Case 1, options A and B are no longer symmetrical. It seems that even if A has only a slight advantage, we should choose A. However, after considering the impact

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[5]   Paradoxically, this discussion seems to suggest that if we use random decision with a strong desire to maximize utility, its magic may be rendered ineffective.

of anticipated regret, we have U(A) = 7.55 - Ra, U(B) = 7.45 - Rb, and U(C) = 7.5 - Rc. When Rc is at least 0.05 less than Ra and also less than Rb + 0.05, flipping a coin instead of choosing A becomes the option with the highest expected utility.

I should acknowledge that, compared to Case 1, the discussion in Case 2 is more tentative. Some may believe that, when one chooses A, they are making the best choice based on the information available to them at the time, and thus have no reason to feel regret, even if the choice turns out to be wrong. Indeed, for someone who is highly resilient to the effects of regret, consistently choosing the option with the highest expected utility is perfectly reasonable. However, given that regret is such a widespread emotion and, as studies like those by Schwartz have shown, it is concentrated among those who aim for maximum utility, I believe that flipping a coin remains an appealing option for some people. In summary, when faced with symmetrical choices (such as a 50/50 lottery), RDM is generally considered as good as any other decision-making method, for example, the natural shift of attention. I believe I have demonstrated that RDM may, in fact, be superior. When dealing with asymmetrical choices, the more sensitive the decision-maker is to the regret-buffering function of RDM, and the smaller the gap in competitiveness between options,the more likely it is that RDM – with its unique ability to suppress regret – will emerge as the optimal method.

4. Four Types of Constraints on Decision-Making

Given that the purpose of this paper is to elucidate the value of RDM, merely emphasizing its unique advantage in suppressing regret is insufficient. Our decisions are constrained by various factors, which can make some choices difficult to implement and thereby significantly diminish their value. In this section, I will examine four common types of constraints on decision-making – morphological, temporal, affective, and sociocultural (Dewhurst & Burr 2022: 532) – to explore whether and how they impact RDM.

4.1. Morphological Constraint

As physically limited beings, our morphology constrains the range of decisions we can make. Fortunately, humans learned early on how to use tools. Objects such as coins, dice, and watches, among others, can serve as aids for RDM. Moreover, a lack of tools can often be compensated for by some simple strategies. For instance, if I need to choose one out of sixteen doors but only have a coin, I can first divide the doors into two groups, left and right, and use the coin toss to eliminate one group. I can then repeat this process until only one door remains. However, there will always be situations where no suitable tools are available. As Icard notes, in those crucial moments when a decision must be made, the person responsible for taking a penalty kick might not find a coin or even a clock with hands (Icard 2021). At this point, whether humans themselves can function as a chance device becomes a critical question.

Unfortunately, overwhelming evidence from previous empirical studies indicates that the human brain struggles to produce truly random outcomes (Schulz et al. 2012; Towse

et al. 2014). Some might argue that when we need to use RDM, it is often not crucial for the outcomes to meet the strict mathematical characteristics of randomness. Therefore, we could use the brain as a less precise chance device. However, in the absence of random devices, the usual detachment from a sense of control and responsibility typically associated with RDM may not occur, or may only occur in a reduced form. After all, even if we intentionally try to generate random outcomes with our brains, the results are likely to be influenced by our underlying beliefs. Therefore, I remain inclined to see decisions made with the help of random tools as the standard form of RDM, which implies that we are subject to certain morphological constraints. Given the wide availability of random tools, I do not view this limitation as significant.

4.2. Temporal Constraint

When making decisions, we not only need to consider the utility of different options but also account for the cost of the decision itself. Time is a key component of decision costs. Many of us have encountered difficult multiple-choice questions on exams. We may believe that, with prolonged deliberation, we could arrive at the correct answer, but the trade-off is that we may run out of time for the remaining questions. Therefore, after eliminating obviously incorrect options, randomly selecting one may actually be the wiser choice. In fact, many uses of RDM are rational precisely because they can halt unnecessary hesitation, helping us increase utility by reducing decision costs. Admittedly, compared to its competitors, RDM may not be the most time-efficient way. This means that, in extreme cases – such as deciding which way to dodge when a large truck is coming towards me – acting nonintentionally might be preferable to RDM. However, in most situations, temporal constraints do not pose a problem for RDM.

4.3. Affective Constraint

Some studies suggest that affective information plays a fundamental regulatory role in decision-making by providing the basis for determining the salience of potential actions (Phelps et al. 2014). Before using RDM, we often experience certain constraining emotions. For instance, before deciding by a coin flip, we may feel nervous or hesitant. In many cases, these emotions are beneficial: they can prompt us to engage in further deliberation, preventing us from too quickly leaving our fate to the coin. However, these emotional barriers are not always advantageous. Over-reliance on rational deliberation can lead to decision paralysis, causing us to miss the optimal moment for action. If the virtue of courage lies in balancing recklessness and cowardice, then, sometimes, these constraining emotions are exactly what we need to overcome.

Additionally, certain emotions often accompany the process of using RDM. For example, I may sometimes feel 'relieved' by the outcome of a coin flip, while, at other times, I may feel distressed enough to disregard the result entirely. The fact that we might abandon the outcome of a random process does not imply that the process has failed or is without value. On the contrary, in these situations, the random process can help us uncover our

true preferences regarding the options (Jaffé et al. 2020: 561). In other words, even if we ultimately do not follow the coin's decision, the random process still serves an important instrumental role: it helps us understand what we truly want deep down.

4.4. Sociocultural Constraint

As mentioned in the first section, our sociocultural context includes factors that discourage RDM. This is not surprising. For a significant period in the development of human society, RDM was often associated with divination or sorcery. These practices were seen as symbols of divine will, with their legitimacy rooted in some mysterious and supernatural forces. The spirit of modern science, by questioning the existence of the supernatural, has inevitably influenced related decision methods, leading to the stereotype that RDM is unscientific and unreliable. In a study conducted by Keren and Teigen, participants sometimes endorsed random procedures in theory but still refused to use them in practice, even when explicitly informed that the options they faced were of equal weight. This might reveal a judgment-choice inconsistency, driven by people's "strong and deep-rooted repulsion" to RDM (Keren & Teigen 2010: 100). This irrational aversion to RDM may cause us to overlook it in situations where it would be most appropriate.

Although this paper primarily focuses on individual decision-making, I would like to briefly mention the potential of RDM in public affairs. In past public decision-making, RDM has generally been used to ensure fairness and eliminate bias. However, this method can also incorporate considerations of utility on a scientific basis. The weighted lottery method, widely discussed during the COVID-19 pandemic, is a prime example (McCreary et al. 2023). When limited medical resources can only save one of two patients, the weighted lottery method requires us to evaluate each individual's relevant factors (such as age, survival probability, and expected quality of life) to determine the weights, and then use the lottery to decide who will be rescued. Some people believe that RDM offers potential for striking a satisfactory balance between utilitarian and deontological intuitions.

Despite the fact that RDM is often dismissed in contemporary sociocultural contexts, fortunately, society and culture do not impose rigid, top-down restrictions on decision-making methods. They are themselves influenced by advancements in decision theory (Dewhurst & Burr 2022). If our work can further elucidate the value of RDM, it may gradually shift people's biases, leading to a fairer and more just perspective on RDM within society and culture.

5. Conclusion

A common criticism equates RDM with irrationality, but this criticism risks conflating different notions of rationality. While RDM is formally different from typical deliberative methods, it can have the highest expected utility in certain situations. One might suppose that RDM could be replaced by seemingly similar methods – such as a natural shift of attention or what Chislenko characterizes as 'acting nonintentionally' – that operate without relying on any random device. However, once we have recognized that RDM helps reduce

regret, it may become irreplaceable in many cases. Although RDM has unique advantages, it is nevertheless subject to certain constraints, most of which are not insurmountable. As people's understanding of the value of RDM improves, there is hope that the biased aspects of these constraints can gradually be corrected.

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