

Book Review

THE WHY BEHIND THE SMALLER, SOONER: A REVIEW OF MADDEN AND BICKEL'S (2010) *IMPULSIVITY: THE BEHAVIORAL AND NEUROLOGICAL SCIENCE OF DISCOUNTING*

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MADDEN, G. J., & BICKEL, W. K. (EDS.) (2010)
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The study of delay discounting has become widespread over the past several decades for numerous reasons, many of which are captured nicely in Madden and Bickel's (2010) edited book, *Impulsivity: The Behavioral and Neurological Science of Discounting*. Beyond the fact that studying discounting will help advance our basic understanding of behavior, rates of discounting have been shown to be associated with disorders such as substance abuse, pathological gambling, and attention-deficit/hyperactivity disorder (ADHD). Furthermore, an understanding of discounting can be informative along a number of dimensions (e.g., healthy choices, setting public policy).

The general concept of delay discounting is that the value of an event or outcome is decreased when it is delayed in time (or, in the case of probability discounting, when it becomes less probable). For instance, if someone owed you \$100 and was not going to be able to pay you for 6 months, you might be willing to accept \$90 today instead of waiting for the full amount. Such a result would indicate that the delay of 6 months had decreased the value of the \$100 by at least 10%. By measuring how much you would be willing to accept across delays lesser and greater than 6 months, it is possible to plot and then analyze a *discounting curve* for the commodity of being owed \$100. The *rate of discounting* refers to how steeply the value of the commodity decreases as it becomes more and more delayed.

Madden and Bickel's book is not an exhaustive literature review of the research on delay (or probability) discounting. Such a review text may have been possible a decade or more ago, but the literature is now so broad that

an exhaustive review would entail several volumes. Rather, the approach of the book is to provide relatively brief overviews of research from experts in multiple disciplines to which discounting has been applied. The benefit of this approach is that the reader is educated on the myriad applications of the study of discounting. Indeed, many of the chapters would be informative even if they stood as independent papers. The drawback to such an approach, however, is that many of the important details that arise in the study of discounting get little, if any, attention. Thus, the previously uninformed reader might walk away from the book believing that the study of discounting is more straightforward than it actually is.

Text Summary

The book is divided into five sections. After a brief foreword by George Loewenstein and an introduction to the topic by the editors, the first section opens the discussion with three chapters that provide a general overview of methods, approaches, and findings in the basic study of discounting. The second section, also containing three chapters, focuses on the neuroscience of both delay discounting and risk-taking behavior in general. The third section covers, in four chapters, the application of the study of delay discounting to drugs (three chapters) and pathological gambling (one chapter). The fourth section is entitled "Discounting and the Human Condition" and contains two chapters, one on health decision making and the other on ADHD. The fifth and final section is made up of three chapters that each provides theoretical extensions of the study of discounting.

Chapter 1, "A Delay-Discounting Primer," was penned by Gregory J. Madden and Patrick S. Johnson and was intended, as indicated by the chapter's title, as a primer for individuals who might not be thoroughly versed in the topic. It covers models of discounting (e.g., exponential vs. hyperbolic), the important finding of preference reversal as the choice options are delayed, and the different procedures that have been used to collect discounting data, both with humans and nonhumans. Again, because it is only a primer, the chapter is not exhaustive. Regarding other information that could have been included but was not, we believe that it is important to note that there are additional procedures for data collection, such as the fill-in-the-blank procedure (Chapman, 1996) and the multiple-choice format (Beck & Triplett, 2009), that do not get mentioned. It also is worth noting that "ideal" discounting data are not always the outcome for all subjects/participants in studies on discounting. For example, outcomes may include multiple indifference points with binary-choice procedures (e.g., Weatherly, Derenne, & Chase, 2008) and increasing, rather than decreasing, discount functions (e.g., Dixon, Marley, & Jacobs, 2003). Madden and Johnson also point out that "if the goal is to quantify sensitivity to delay (e.g., to compare delay discounting across populations or different inbred strains of mice), then . . . researchers should plot the discounted values of the delayed rewards . . . and then calculate the area under the curve" (p. 19). Unfortunately, this astute, and apparently undervalued, advice is essentially ignored for the remainder of the book.

Chapter 2 is authored by Amy L. Odum and Ana A. L. Baumann. It covers changes in rates of delay discounting as a function of state and/or trait variables. The chapter does a nice job of summarizing the different results that

have been reliably observed (e.g., differences in discounting as a function of magnitude, sign, and certain personality characteristics or disorders) and even informs the reader of the potential link between delay discounting and the viewing of pornography. What is often not made explicitly clear, however, is why the observed relations would be expected. The authors also pay little heed to the fact that many of the reported relations between state or trait variables and delay discounting have been established in studies of delay discounting of hypothetical monetary rewards. This fact is important given that the authors accurately point out that rates of discounting can vary as a function of the type of commodity.

Chapter 3 is the work of one of the premier research teams in the field of delay discounting, Leonard Green and Joel Myerson. This chapter, perhaps more than any other in the book, highlights the complexities of the study of discounting. It informs us that discounting is likely only one feature of impulsivity. It informs us that discounting differs as a function of whether or not the delayed outcome is a gain or a loss. It informs us that the same manipulations (e.g., changing the magnitude of the commodity) have different outcomes on delay versus probability discounting. In short, the chapter posits that multiple processes and/or factors are at play when it comes to discounting, a view that is repeatedly echoed in subsequent chapters. Readers interested in the topic of discounting would be well served to understand the complexities in its study that are outlined in this particular chapter.

Chapter 4 begins the neuroscience section of the book and is authored by Catharine A. Winstanley. This chapter provides a general overview of the different procedures that have been used in neurological studies of discounting, as well as the structures and neurochemical systems that have been implicated in discounting. Although many potential relations have been identified, this chapter leaves two general impressions. First, whether or not significant relations are found often varies as a function of the procedure used to collect the data, which suggests that aspects outside of those relating to discounting might account for some of the findings. Second, systematic investigations of the identified potential relations are often lacking, and when they have occurred, they have not generated clear results (e.g., "Exactly how such changes in monoamine levels give rise to impulsive symptoms is unclear," p. 115). One theoretical note in this chapter is worth attention. In studies involving animals, researchers often need to take pains to account for the potential influence of Pavlovian effects on discounting. Because Pavlovian effects are either not present or less prominent in human behavior, researchers rarely take them into account in discounting studies that involve human participants. When attempting to use animal models to explain discounting in humans, this distinction should not be overlooked.

The authors of Chapter 5, A. David Redish and Zeb Kurth-Nelson, note another factor that distinguishes human from nonhuman studies of delay discounting: the linguistic abilities of humans. Their chapter offers an overview of different neural models of discounting, with the conclusion that multiple systems are likely involved in the process that results in discounting. Just as interestingly, they also posit that the hyperbolic nature of discounting curves may not occur because discounting is hyperbolic. Rather, multiple systems in which discounting processes occur in exponential fashion may combine to account for the typically observed hyperbolic decreases. This chapter, as much as any of the others, needs to be interpreted through

the lens of an informed delay-discounting researcher. As noted previously, discounting data are rarely uniformly “ideal.” Furthermore, the conclusions drawn in this chapter do not follow the advice of Madden and Johnson in Chapter 1 in regard to using the area under the curve, rather than estimated parameters, when drawing conclusions and making inferences about specific systems or processes.

Chapter 6 is the last chapter in the neuroscience section. Written by Sarah R. Heilbronner, Benjamin Y. Hayden, and Michael L. Platt, it covers the neuroeconomics of discounting and risky choice. Perhaps the authors themselves best sum up this particular chapter when stating that “a single general account of risk sensitivity remains elusive” (p. 166). Although much of the chapter focuses on decision making and not directly on delay discounting, the chapter does a nice job of synthesizing the approaches of behavioral psychology, evolutionary biology, and economics. One of the more important take-home messages to be found in this chapter is that different neuroanatomical structures may encode winning (gains) and losing (losses).

Chapter 7, authored by Richard Yi, Suzanne H. Mitchell, and Warren K. Bickel, opens the section on addictive disorders. It starts by forwarding the idea that has driven discounting research in this area, namely the assumption that substance abusers possess a general tendency to give preference to more immediate rewards over delayed ones. Given this assumption, it should be of little surprise that research in the area has found that, in many cases, substance abusers show steeper rates of delay discounting than nonabusers. The chapter highlights research that has been conducted with different drugs of abuse (e.g., nicotine, alcohol), some of which indicates that the link between drug use and discounting is not a straightforward one. For instance, some published results indicate that moderate cigarette smokers discount delayed rewards like heavy smokers do, whereas other results indicate they discount similarly to nonsmokers. Research on the use of cocaine has indicated that abstinent users discount similarly to users, not nonusers. Although most of the discounting research has been conducted using hypothetical monetary rewards, results suggest that heroin users, for instance, will discount heroin of a certain monetary value more steeply than they will the same amount of money in cash. These results derive from studies on delay discounting, an important note because the authors point out that research in the area of probability discounting has produced mixed, and sometimes messy, results. Perhaps the most poignant critique of the chapter is not about the coverage of the research literature, but the assumption on which it is based. Specifically, research suggests that distinct domains of delay discounting may be observed for the same individuals (e.g., see Weatherly, Terrell, & Derenne, 2010). Thus, knowing how someone discounts a particular commodity may not be informative as to how he or she will discount another. This possibility is important because, as noted previously, the research with drug users to date has most commonly measured discounting of hypothetical monetary outcomes.

Chapter 8, by Harriet de Wit and Suzanne H. Mitchell, takes a different tack and addresses how the administration of drugs can alter observed rates of delay discounting. In large part, this chapter covers similar drugs as the previous chapter, and the summary conclusion is that the observed changes in discounting are dependent on the drug, the dosage, and the procedure used to measure discounting. This conclusion seems to be applicable for

research results with either nonhumans or humans. A great deal of the research in this area has been conducted with nonhuman subjects, and the authors outline (as do authors of previous chapters) one specific procedure developed by Evenden and Ryan (1996). Unfortunately, besides the potential confounds involved with this procedure pointed out in other chapters (e.g., Chapter 1), an additional confound of this within-session procedure is that habituation to the reinforcer likely occurs across individual sessions (e.g., McSweeney & Swindell, 1999), thus potentially altering the observed rates of discounting. Add to this point the fact that Pavlovian influences and linguistic abilities differ between nonhumans and humans, as well as the finding that similar changes in discounting are not always observed when similar variables are manipulated in studies employing nonhumans and humans (see Chapter 3), and one begins to see how difficult it currently is to draw conclusions about discounting in humans from basic discounting research with nonhuman subjects.

Marilyn E. Carroll, Justin J. Anker, Jami L. Mach, Jennifer L. Newman, and Jennifer L. Perry author Chapter 9, which focuses on the predictive power of delay discounting when it comes to drug abuse. One of their opening premises is that there is evidence for a strong relation between delay discounting and drug abuse. Given the information provided in the two previous chapters, this premise seems a bit overstated. The chapter covers studies of discounting while drug abusers are in different stages of use (e.g., acquisition, maintenance, escalation), generally finding associations with discounting in each. As the authors point out, however, other factors besides rates of delay discounting are also potentially predictive of drug abuse. Research on the relation between these other factors and delay discounting would therefore seem warranted.

The third section is rounded out by Nancy M. Petry and Gregory J. Madden's chapter on the relation between pathological gambling and delay discounting. Such a relation has been reported in the literature, but there is not an overly large research literature on the topic, which is likely why this chapter also covers research on procedures not specifically designed to measure delay discounting (e.g., the Iowa gambling task). One interesting caveat on this chapter, which the authors point out, is that, despite the fact that pathological gambling is considered an impulse-control disorder, the link between pathological gambling and general measures of impulsivity has yet to be firmly established. Results on the topic are, in fact, mixed. Much of the research on discounting and gambling has focused on delay discounting. Given that gambling inherently involves probabilities, one might think that probability, rather than delay, discounting would be a more face-valid measure. However, only a single published study appears on this topic (Holt, Green, & Myerson, 2003), although the authors appear to be conducting such research at present and present some as-yet-unpublished results.

The first chapter in the section on "the human condition" is authored by Jalie A. Tucker, Cathy A. Simpson, and Yulia A. Khodneva. It focuses on discounting issues in regard to health decision making, first arguing that such investigations can be fruitful because health can be considered, and participants can treat it, as a commodity. Research in this regard has demonstrated that discounting of health decisions has displayed similar effects as observed with other commodities (e.g., hypothetical monetary amounts), namely sign, magnitude, and duration effects.

The other chapter in the section, authored by Jonathan Williams, focuses on discounting and ADHD. This chapter covers a wide range of topics and is heavily laced with neurological information—so much so that it would have been a better fit in the second section. The crux of the chapter is that ADHD is multifaceted and/or multilayered, and thus the connection between ADHD and discounting will be partial at best. On the bright side, this chapter, more than any other in the book, approaches the topic differently than from a behavioral perspective, which adds to the breadth of the book. On the dark side, the chapter contains a number of assertions that behavioral psychologists would find highly questionable. For instance, in stressing the complexity of the issue, Williams writes, “There are 31 distinct learning processes in humans” (p. 326). He also asserts that “ADHD is highly genetically determined” (p. 328). Overall, this chapter leaves one with the impression that the study of delay discounting has contributed little to our understanding or view of ADHD, which if true leads one to ponder whether the topic warranted its own chapter. The chapter also leaves the reader with confidence that its author hedges his bets on impulsivity as a trait variable.

The final section is dedicated to extensions of the study of discounting. The first chapter in this section is by Jeffrey R. Stevens and David W. Stephens, who extend the topic of discounting to the field of behavioral ecology. As the authors point out, there is significant overlap between the study of foraging and the study of discounting, although the latter is typically studied in a more confined environment with more finite time intervals than is the former. The chapter introduces the reader to the concept of *ecological rationality*, the idea that short-term choice rules have been naturally selected over time because such rules ultimately provide the organism with the best rate of return in the long run. The crux of the chapter is that impulsive choice, as measured by choosing the smaller, sooner reward, can be viewed as an adaptive response (see also Kagel, Green, & Caraco, 1986). The chapter does a fine job of demonstrating that the study of discounting has extensions well beyond the human condition. The chapter also brings a new criticism of the hyperbolic model of discounting. That is, although research to date has demonstrated that the hyperbolic, relative to the exponential, model provides the best account for discounting data, the discounting parameter (i.e., k) in the hyperbolic model is a fitted parameter. It thus lacks explanatory power because it is not derived prior to data collection from laws or principles.

The penultimate chapter is by George Ainslie, who staunchly defends the hyperbolic model because it can account for why individuals would deviate from their best long-term route in favor of a lesser, but more immediate, option. Unlike previous chapters, Pavlovian conditioning and its contribution to the discounting process receive significant attention. Ainslie's conclusion, however, is that Pavlovian conditioning does not explain impulsive choice. Rather, impulsive choice is the outcome of reward-seeking processes. This detailed discussion is couched in the context of the different approaches to the study of behavior, the top-down (i.e., reductionistic) approach often favored by cognitive psychologists and the bottom-up (i.e., contextualistic) or inductive approach often favored by behavioral psychologists. Given that the book is based on a behavioral phenomenon that grew primarily out of extensive research from a behavioral perspective, it should not be surprising

that Ainslie favors the latter approach. Given his lucid argument and the fact that we are behavioral psychologists, we tend to agree with him.

The final chapter of the book is by Howard Rachlin and Bryan A. Jones, who apply the concept of discounting to the self or, to be more precise, the extended self. They argue that, in many cases, people engage in behaviors (e.g., contributing to charities) that are not reinforced “because the unit of maximization is not always the individual self bounded by the skin but a group of individuals extended in social space—the extended self” (p. 414). There is no mention here of Skinner’s (1981) three levels of selection by consequences, but the similarities are striking. We also would add that the extended self as conceptualized does not account for those individuals who deviate from the group (e.g., the murderer, the pedophile, the non-PBS donor). The analysis of the extended self seems necessary to incorporate verbal behavior, language, and cognition (see Hayes, Barnes-Holmes, and Roche, 2001) and to show how the incorporation of verbal behavior alters choice from basic nonhuman models. The authors detail some interesting extensions of discounting, such as producing discounting-like functions on tasks of social cooperation. The chapter—and the book—ends with a brief discussion of how self-control and social cooperation can be reinforced.

Text Review

Although we have noted various chapter-specific commentaries during our summary of the text, there are additional, broader issues that we think need to be raised in response to the overall book by Madden and Bickel.

The Construct of Impulsivity

The construct of impulsivity has generated myriad definitions from the professional and paraprofessional communities. Such a hypothetical construct has lacked an operational definition for some time, and the authors of the current book, as well as many researchers in this field, seem relatively content to define it as a certain pattern of choices on a hypothetical-choice task involving money. Certain individuals will quibble about the completeness of the choice-money task as a sole measure of impulsivity, but nonetheless the task is used and reported heavily throughout the book, and significant conclusions have been made regarding the “impulsiveness” of persons from their choice responses on this task.

A question that emerges is whether the science of discounting is truly investigating a psychological condition or a procedural by-product. Does a choice-money task “measure” impulsivity, or does it really only measure choices for more-than-likely hypothetical amounts of money delivered in rapid succession in a sequential order? The answer is probably some of both. Yet, the question of how much “some” needs to be embraced with caution. We encourage readers of the text to be careful in deducing psychological well-being from a single metric, particularly since it is a metric laden with procedural inconsistencies. Several methods of measuring discounting rates are noted in Chapter 1, but several methods are left out. One is a fill-in-the-blank procedure (e.g., Chapman, 1996) in which the participant is asked to generate the indifference point rather than to make multiple binary choices. Yet another is a multiple-choice method in which participants get to choose the indifference point at a particular delay from a list of choices provided by the

researcher (e.g., Beck & Triplett, 2009). Noting these different methods is of importance because some research has shown (Smith & Hantula, 2008) that different rates of discounting are observed depending on what method the researchers use. And when real choices coupled with real delays and black-out periods for monetary outcomes are presented to participants, resulting choices may look far different from the hypothetical delay curves presented in Chapter 1's overview (see Dixon, Mui, Green, & Myerson, in press).

One can then add to this methodological quandary the fact that multiple forms of analysis can be employed to analyze the indifference points. This fact is noted in Chapter 1 of the book. However, beyond coverage of whether exponential or hyperbolic functions best fit the data and why, very little information is provided across the chapters regarding exactly which measures of discounting were used in individual studies. Such knowledge is important because different conclusions may be drawn depending on which analyses are employed (e.g., see Smith & Hantula, 2008, for a discussion).

Instructions Not Included

The text itself was not designed to be a handbook of methods of discounting. However, the lack of inclusion of any meaningful descriptions of procedures, analyses, computations, and subject inclusion/exclusion criteria seems to be a significant oversight. The existing "collection of topics/populations" approach is very common in edited texts, but a follow up to Chapter 1's primer could have included the specific steps a scientist would take to engage in discounting research. Such a chapter might have included the commonly held practices for recruitment/retention of subjects, the means by which the area under the curve (AuC), k , and other metrics are calculated, what is typically done if a subject does *not* discount as delays get longer, and inclusion/exclusion criteria of specific data. We are aware that much of this will vary across researchers, and as such, we have seen considerable variability in reported data when identical populations are utilized. A review of the details of previously published methods and guidelines for future research would have been excellent additions to this text. Furthermore, inclusion of such a chapter would have given novice investigators interested in joining this research enterprise the tools necessary to begin.

What further clouds the issue—and a point that is completely ignored throughout the book—is the fact that many studies of discounting, especially those that employ human participants, often discard a significant proportion of their sample because the participants either did not display discounting (e.g., always chose a particular amount regardless of the delay) or showed atypical patterns of discounting (e.g., an increasing, rather than a decreasing, pattern of indifference points with increases in delay). As noted by Beck and Triplett (2009), it is typical to lose 10–15% of participants for these reasons. There are multiple reasons to be concerned about this outcome. For one, we do not know why such participants do not show the typical discounting function. One can assume that these participants either do not understand the task or are trying to sabotage the results, but such assumptions have not been investigated empirically. Second, the addition or removal of such participants from a data set can systematically alter the mean rate of discounting and potentially alter the conclusions drawn from the results (e.g., see Weatherly et al., 2008). Lastly, these

aberrant responders call into question the face validity of discounting as a predictor variable for behavioral disorders (e.g., pathological gambling). The question is, how much is the study of discounting, which routinely discards one out of every 10 participants, going to contribute to our understanding of a disorder such as pathological gambling, which afflicts approximately two in every 100 adults? The disorder is more precise than the predictor variable that is measured in a controlled setting. In short, the reader is left with the impression that conducting research on discounting is straightforward, and thus the interaction or involvement of discounting with other phenomena can be reasonably assessed. Unfortunately, there are reasons to question this impression.

Trait vs. State

Chapter 2's title subheading, "State and Trait Variable," would lead one to believe that if composed of the former, it may be possible to change an individual's rate of discounting. However, the chapter reviews a series of genetic, behavioral, and social factors that have been used as the "clinical issue of interest" to examine subsequent delay discounting. What this chapter—and the text as a whole—lacks is a comprehensive analysis of the degree to which discounting is in fact a stable parameter within the single individual, demonstrating a certain degree of impulsivity. The reader can conclude from the text that impulsivity may be partially genetic, biological, and social. Given the complexity of altering the former two components, is there anything potentially successful at improving the latter? In other words, can environmental manipulations or conditions be constructed to improve upon currently exhibited impulsivity? The answer is *yes*, and it has been documented repeatedly in the published literature (Dixon & Holton, 2009; Dixon et al., 1998; Mazur & Logue, 1978; Mischel, Ebbesen, & Zeiss, 1972; Schweitzer & Sulzer-Azaroff, 1988). As a result, we found it particularly noteworthy that the book did not contain a chapter dedicated to research on decreasing rates of discounting and thus increasing the frequency of choosing the larger, later outcome. Perhaps the goal was to distinguish the book from past ones (e.g., Logue, 1995) that have focused on self-control rather than on impulsivity. However, such a chapter would have been a useful addition for both the casual and research-minded reader. Furthermore, given that discounting can be considered as a potential measure of impulsivity and that many behavioral disorders involve impulsivity, measures of discounting serve as potential empirical evidence for successful treatments (i.e., demonstrating changes in discounting rates as a function of treatment).

Heterogeneous Discounting

Throughout the text there is a general assumption that discounting itself is a rather common, homogeneous phenomenon. Certain people will discount more and certain people will discount less. And perhaps certain factors may mitigate the degree of discounting. We caution the reader that this is not the case, not even by a long shot. Readers need to be warned that discounting itself is not uniform across procedures, participants, or manipulations. Different commodities are discounted differently. Gains are discounted differently than losses. Probability discounting is at least somewhat independent of delay discounting. Similar manipulations do not result in similar changes

in discounting in humans and nonhumans. The amounts of money used (real or hypothetical) impact discounting. These differences, and many more, not only add complexity to the concept of discounting but also need to be taken into account when generalizing research results on the topic.

The Translational Value of Discounting

Although not a focus or an aim of the book, the potential translational value of studying discounting, which is the theme of the current issue of this journal, is implicitly promoted in the text. As the book chapters and the articles in this issue testify, the translational value is both clear and broad. Parents who are faced with the decision of whether to read to their child or let the child watch television would benefit from an understanding of discounting, both in terms of their own and their child's behavior. Discounting is relevant to a business owner who must decide whether to give customers a lower price on their current purchase or offer a reduction in price on a future purchase. A job seeker who must decide whether to take a low-paying position or return to school for additional training is coming face-to-face with discounting. A politician who votes for or against a government policy that will increase government services by raising taxes will quickly learn that some of his/her constituents differ in how they discount delayed outcomes. As noted previously, the study of discounting may not be as straightforward as it would seem or as we would like it to be. Nonetheless, the potential benefits from an increased understanding of discounting are undeniable. The idea that we may have a long way to go in our understanding of discounting hopefully promotes, rather than inhibits, attempts to gain that understanding.

Summary

The authors in this edited book all competently present their particular topics, and the book as a whole is a valuable resource for researchers in the area of discounting. However, there are reasons to be skeptical of our current overall understanding of discounting. We know that observed rates of discounting can vary by participant, commodity, data-collection method, sign of the outcome, type of discounting task (delay vs. probability), and type of analysis technique employed. Furthermore, even when all of these factors are held constant, a good proportion of participants in a given study will display different patterns of discounting than the majority. All of these outcomes occur for reasons no one can yet explain (at least in a way that is universally accepted). Multiply the iterations of the above factors and one can conclude that our understanding of discounting is still in its infancy.

In conclusion, *Impulsivity: The Behavioral and Neurological Science of Discounting*, edited by Madden and Bickel, is an informative read for anyone interested in the field of delay discounting as a potential empirical demonstration of the construct of impulsivity. If one is looking for an exhaustive review of the literature or a utilitarian research manual, this would not be the appropriate resource. However, although the text is not comprehensive, it deserves a place on the scholar's, the student's, and the practitioner's bookshelf.

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