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COMMENTARY

GAMBLING AND RISKY CHOICE

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Fantino and Stolarz-Fantino bring a very rich understanding of basic research with humans and nonhumans to bear on what may be considered a gambling pandemic. As the well-researched random ratio schedule may characterize “gambling” by nonhumans (e.g., Mad-den, Ewan, & Lagorio, 2007), the slot machine or similar games of chance characterize gambling by humans. By walking the reader through the enormous body of literature that relates to probabilistic and delayed outcomes Fantino and Stolarz-Fantino draw the reader’s attention to several findings that suggest that humans should *not* be problem gamblers (e.g., experimental evidence that illustrates that money is discounted less steeply than other goods and the essentially human characteristic of risk aversion). The authors then go on to suggest additional environmental circumstances that illustrate why we *should* expect problem gambling (the authors place considerable and appropriate weight on the gambling context and the potential differential sensitivity of a particular organism’s behavior; a strictly idiographic account and one that should evoke no objections from the most radical of behavior analysts, nor the most logical psychologist, psychiatrist, or economist). Dixon, Jacobs, and Sanders (2006) recently addressed the role played by context (a gambling environment as compared to non-

gambling environments) and found that pathological gamblers’ level of discounting was altered by the context in which the discounting tasks were completed. More to the point, the gambling environment appeared to have evoked greater discounting as compared to the non-gambling environment for many of the participants. What this seems to suggest is that the extent to which one discounts delayed (or probabilistic) events is a function of prevailing environmental contingencies, the individual’s specific history with similar environmental contingencies, and very importantly, the commodity under consideration (e.g., money vs. events that have direct metabolic function, as the authors suggest). Again, a suggestion that should evoke no objection.

In reading this exceptional discussion piece I found myself pondering two questions: (a) What is gambling? and (b) How might a behavioral approach to gambling deal with outcomes that are not easily quantifiable? I turn next to some explication of both considerations.

GAMBLING, PROBLEM GAMBLING, AND PATHOLOGICAL GAMBLING

The task of defining gambling should be rather simple, and on the surface it is probably well understood by those who read this journal. Fantino and Stolarz-Fantino frequently used the terms “pathological gambling” and “problem gambling” to describe the topic at hand (i.e., gambling). *Pathological gambling* is a formal psychological disorder (under the category of “impulse-control disorders not

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elsewhere classified”) and may be diagnosed when a person meets 5 or more of the 10 diagnostic criteria for the disorder (DSM IV, 1994; Petry & Armentano, 1999). *Problem gambling* falls short of pathological gambling, but is exemplified by behavioral symptoms of pathological gambling (Weatherly & Dixon, 2007). Clearly, these are persons in need of assessment and intervention, and presumably this strengthens our conceptualization of gambling. From my reading, gambling connotes undesirable behavior. Clearly in the case of pathological or problem gambling undesirable behavior is denoted and not connoted. If we simply take the term *gambling* however, we might conceptualize it as actively choosing to risk losing one reinforcer to obtain a highly preferred reinforcer with a probability less than 1.0 (G. Madden, February 8, 2009, personal communication). If the reader finds this to be an acceptable definition of gambling, then one might ask, is gambling bad? My sense is that gambling (just gambling) is not “bad” and in some situations it may be “good.” For example, in an educational context, a young student may be faced with a situation in which she can earn a lower quality reinforcer for completing mastery level tasks (those that she can complete accurately and fluently) or earn a higher quality reinforcer for completing more challenging material. By choosing the mastery level task we may conclude that the student has not gambled (the probability of reinforcement for completing the “easy” tasks is 1.0). By choosing the challenging task the student must forego a sure thing (the reinforcers, albeit less preferred reinforcers, available from the mastery level tasks) for the chance to obtain a highly preferred reinforcer with a probability of less than 1.0 (since the task is more difficult and she will likely emit some incorrect responding thereby resulting in less overall reinforcers). From a strictly pragmatic perspective, an educator or parent would likely encourage the “gamble” in this scenario

guided by the assumption that bringing the student into contact with such learning opportunities will impact the acquisition of new skills. This example too fits with the framework constructed by Fantino and Stolarz-Fantino regarding why we should expect gambling (e.g., the context in which choices are made) and should not expect gambling (e.g., humans are risk averse), and is also consistent with the authors’ reference to work by Holt, Green, and Myerson (2003) who suggest that impulsivity is not a central trait that defines risk taking and hypersensitivity to delayed events. Like the conditions that do or do not support pathological gambling, the conditions that support risky choice (when the outcome for doing so is the edification of the organism) should also be considered.

QUANTIFYING DIFFICULT TO QUANTIFY OUTCOMES

For behavior analysts to conduct evaluations of (monetary) gambling is by no means an easy endeavor, and one for which behavior analysts have particular skill (e.g., conceptually and methodologically). It is challenging for several reasons, and one particularly complex variable suggested by Weatherly and Dixon (2007) is human verbal behavior. Again, I recognize and agree that monetary problem and pathological gambling are in dire need of sound behavioral research. The discounting (delay or probability) procedures described by Fantino and Stolarz-Fantino have resulted in very useful metrics to characterize the value of delayed monetary events. However, as the authors note, the outcomes of pathological gambling are sometimes difficult to quantify. For example, we can easily point to the financial losses incurred by the problem gambler, but how does one quantify marital dysfunction that contributes to divorce? Without a monetary conversion of the outcome, how does one characterize the (real) costs of pathological gambling? Odum, Baumann, and Rimington (2006) and Bickel, Odum, and

Madden (1999) take us closer to a better understanding of how this might be accomplished. Odum et al. pitted amounts of food against monetary rewards and Bickel et al. pitted delayed cigarettes against delayed money, both in traditional discounting preparations. While both food and cigarettes may also be converted to monetary amounts, the *value* of cigarettes, for example, is likely more than its simple monetary conversion. The observation here is that gambling (in the broader use of the term) is associated with a number of possible outcomes that may pose challenges for behavioral researchers driven so strongly by a method of quantification. But we should not give up. Sexual promiscuity may be one such example of gambling. The “gamble” in this situation might involve forgoing a “safe” encounter with a long-term partner while actively choosing to engage a stranger. Although the reinforcing value of the interaction with a stranger may be exceedingly high at the 0-s delay marker (immediate reward), the potential outcomes of the choice may be considerable (e.g., a sexually transmitted disease, a disrupted relationship with the long-term partner) but more difficult to tag with a number.

It would be foolish to presume that the two observations put forth in this commentary represent the “next steps” in the evaluation of gambling (broadly defined). It is clear that there are other more pressing matters to address first. However, Fantino and Stolarz-Fantino have reminded me that there are also other complicated matters that behavior analysts will likely need to address to construct a comprehensive approach to risky choice and pathological gambling. By establishing and fostering relationships with colleagues beyond the choir (behavior analysts) we may move closer to a comprehensive treatment of the problem.

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Author Note

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