

Analysis of Gambling Behavior

Volume 9

Article 5

2015

On Dixon and Wilson's Acceptance and Commitment Therapy for Pathological Gamblers

Mack S. Costello
Western Michigan University

Follow this and additional works at: <https://repository.stcloudstate.edu/agb>

Recommended Citation

Costello, Mack S. (2015) "On Dixon and Wilson's Acceptance and Commitment Therapy for Pathological Gamblers," *Analysis of Gambling Behavior*. Vol. 9 , Article 5.

Available at: <https://repository.stcloudstate.edu/agb/vol9/iss1/5>

This Article is brought to you for free and open access by theRepository at St. Cloud State. It has been accepted for inclusion in Analysis of Gambling Behavior by an authorized editor of theRepository at St. Cloud State. For more information, please contact tdsteman@stcloudstate.edu.

On Dixon and Wilson's *Acceptance and Commitment Therapy for Pathological Gamblers*

Mack S. Costello

Western Michigan University

Acceptance and Commitment Therapy for Pathological Gamblers (Dixon & Wilson, 2014) is a treatment manual for applying acceptance and commitment therapy (ACT) to disordered gambling. Utility of the manual will be gauged over time, as empirical data on the evaluation of ACT for disordered gambling were not available at the time of publication or at the time of review. The manual, while light on theory, allows for a behavioral and ACT-consistent conceptualization of disordered gambling, although such an analysis is not explicit. The present manuscript provides a brief review and reaction to the content with a supplemental conceptualization of disordered gambling in terms of escape, negative reinforcement, and experiential avoidance.

Keywords: gambling, acceptance and commitment therapy, behavior analysis, behavior, behavior therapy, experiential avoidance

Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) is a treatment package that was developed from behavior analysis research, and is usually described as either a third-wave behavior therapy or a type of cognitive behavioral therapy. ACT evolved from an early, radical behaviorist orientation (Zettle & Hayes, 1986) to the current contextual behaviorist version, grounded in the principles of behavior analysis and their application in relational frame theory (RFT; Hayes, Barnes-Holes, & Roche, 2001). To summarize ACT concisely is difficult, and the following attempt will not include the required nuance; the targets for change during the course of therapy include minimization of: 1) cognitive fusion (fusion, from here forth), in which a person's verbal stimuli effectively compete with appropriate environmental stimulus

control, and 2) experiential avoidance (EA), which consists of a person's strategies to avoid or escape aversive private stimuli (which are verbal, emotional, sensational, etc.). As a result of these behaviors, a person fails to "live in the present moment", or discriminate present-moment contingencies, so behavior becomes controlled via distorted rules regarding the self and the world. This allows for behavioral patterns of impulsivity, inaction, and escape (including avoidance) that are reinforced in accordance with rules, and hence, become the basis of psychological problems. The conglomerate is termed psychological inflexibility. ACT has six core components related to increasing psychological flexibility (or appropriate behavioral variability with an emphasis on the verbal, or cognitive, level), which will be described below. Empirical support for ACT is strong with a variety of psychological problems, but efficacy ranges depending on the method of analysis (see Hayes, Levin, Plumb-Villardaga, Villatte, & Pistorello, 2013; cf., Öst, 2014).

Address all correspondence to:
Mack S. Costello
Department of Psychology
Western Michigan University
Kalamazoo, MI 49008
Email: mack.s.costello@wmich.edu

Acceptance and Commitment Therapy for Pathological Gamblers (Dixon & Wilson, 2014) is a treatment manual for therapists, with or without a behavioral orientation. The manual offers a clinical protocol that includes examples of ACT components as well as worksheets for an 8-week treatment. The authors admit that empirical data on ACT for the treatment of disordered gambling are not reported. The authors note early in the manual that their empirical data will be reserved for another outlet (p. 7), and do not address the issue again. At the time of this review, data were still not published, but it is hoped that data on an empirical evaluation of an ACT treatment package will appear in a peer-reviewed outlet sometime in the near future. Despite the lack of data, there is reason to believe behavior therapy in general is effective for treating disordered gambling, although more research is needed (see Pallensen, Mitsem, Kvale, Bjorn-Helge, & Molde, 2005; Potenza, et al., 2013). Additionally, behavioral processes of stimulus relations and transformation of stimulus functions have been researched with respect to gambling. These processes are relevant to RFT, the basis of ACT. A short reading list, including some such research, is provided near the end of the book with some gambling behavior-change articles that Dixon co-authored from the *Journal of Applied Behavior Analysis* and *The Psychological Record*. While encouraging, these articles are certainly not enough to allow for recommendation of ACT as a research-supported treatment for gambling.

The authors of *Acceptance and Commitment Therapy for Pathological Gamblers* have published and presented gambling research and findings for years. Mark Dixon is the coordinator of the Behavior Analysis and Therapy program at Southern Illinois University. Alyssa Wilson is one of Dixon's former students, and is the Director of the

Applied Behavior Analysis programs at the Saint Louis University School of Social Work. Both authors are also on the editorial board of this journal and contribute to many other journals (Dixon was the founding editor of this journal); their qualifications speak for themselves. My own professional experience with gamblers and addicts comes from being a consultant for relevant agencies in the role of a behavior analyst, and as a researcher. I had been looking forward to Dixon and Wilson's manual, as I have collaborated with other researchers on ACT research, and many of my colleagues are ACT practitioners and researchers. The behavior change processes are based in behavioral research and consistent with many behavior analytic best practices.

TEXT SUMMARY

For the sake of this summary, I will discuss the text in three sections. The manual, however, is not broken into such explicit sections. The first three chapters orient the reader to ACT and functional case conceptualization for gambling. Each of the six core components of ACT are the subjects of the middle six chapters. The manual ends with a summary of application and the materials used by the authors.

ACT and functional case conceptualization

Chapter 1 is an "Overview" of the goals of the book. This includes an introduction to the problems of disordered gambling and the idea of ACT as a functional assessment and treatment. Chapter 2 is titled "Identifying the Problem" and includes information on different functions for gambling. This chapter also examines why collecting information on consequences for gambling behavior is likely to be more important than traditional methods of collecting information on gambling triggers. Chapter 3 introduces the reader to the "ACT Treatment Model."

This includes the six components that make up the following chapters, although there is very little explanation of the theory behind ACT. The chapter does introduce the hexaflex, a model which interconnects the components of ACT. However, the opposite model, the inflexihex, which includes the behaviors for change, is not addressed.

ACT Core Components

The component chapters admittedly overlap often, and some ideas do not become clear until several chapters have been read. The way in which the components are addressed in the manual will be summarized here. "Acceptance" involves nonjudgmental experience with thoughts, without trying to control or change them. The chapter focuses on why control strategies are a problem, and includes diffusion and experiential exercises that are gambling-specific. "Present Moment Focus" is discussed following acceptance, as a key to acceptance is enduring a thought in the present time of its occurrence; the chapter includes metaphors and mindfulness exercises. "Committed Action" is discussed as a client's commitment to behave in line with his/her identified values when exposed to triggers for incompatible behavior. The chapter includes exercises on goal setting, assessing commitment, and contacting consequences. "Defusion" involves techniques to change the function of verbal stimuli, so that stimulus control is more appropriate. The chapter exercises are designed to assist clients in observing and understanding their behavioral processes and context for those behaviors, rather than the content of their experience (i.e., faulty rules about themselves or their behavior). "Values" are discussed as long-term reinforcers, or what clients want their lives to be about. The exercises in the chapter cover identifying and clarifying values and examining gambling within a value system. "Self-as-context" is discussed as separating the context and cog-

nitive content of experience. The exercises cover continued focus on the present context.

Application and Materials

Chapter 10 covers "Application." This chapter includes tips and steps for applying the ACT model covered in the book. Chapter 11 includes the eight-week treatment protocol materials. Chapter 12 is a list of additional resources related to ACT and gambling.

CONTRIBUTIONS TO THE LITERATURE

For readers with general research or clinical interest, the authors do an admirable job describing the ACT process and application in an accessible fashion, and the book is written to be easily readable at 126 total pages. For ACT newcomers, the book provides a summary of the general ideas of ACT as well as a summary of the components with sufficient repetition and clarity. The book provides thought-provoking tools to conceptualize disordered gambling from a functional-behavioral perspective.

There have been various book chapters on gambling treatment utilizing behavior therapy aspects consistent with ACT (e.g., Dixon & Johnson, 2007a; Toneatto, 2012), sometimes in more depth than Dixon and Wilson's manual. However, at the time of publication, *Acceptance and Commitment Therapy for Pathological Gamblers* was the only comprehensive, book-length, explicit ACT resource available for disordered gambling. This should interest clinicians or researchers with a background in behavior therapy or gambling in gaining familiarity with the material.

The authors are to be commended for putting together a volume of treatment material on gambling. The manual's focus on direct application instead of theory or data does establish it as an easily accessible pro-

tocol on one of the more high-impact interventions to come from behaviorism in recent years. The manual's goal of imparting the ACT clinical protocol for immediate implementation is difficult to judge without treatment outcome data.

Behavior analysts have been producing more and more gambling research since a call for more research on understanding and intervening in the initial compendium *Gambling: Behavior Theory, Research, and Application* (Ghezzi, Lyons, Dixon, Wilson, 2006), but a comprehensive understanding has not yet been achieved or agreed upon. Researchers have discussed the potential utility of ACT with disordered gambling for years (e.g., Dymond & Roche, 2010), and *Acceptance and Commitment Therapy for Pathological Gamblers* is an important step in discovering that utility.

ACT, Gambling, and Stimulus Relations

The most salient issue with *Acceptance and Commitment Therapy for Pathological Gamblers* is not in the content, but in the lack of supporting data. While ACT for disordered gambling has not been explicitly evaluated, four peer-reviewed publications listed at the end of the book (i.e., Dixon & Holton, 2009; Dixon, Nastally, Jackson, & Habib, 2009; Nastally & Dixon, 2012; Nastally, Dixon, & Jackson, 2010) could all be conceptualized as demonstrations of behavior change processes that could be relevant to ACT-based interventions, but were not discussed in such a way in the articles or the text. Nastally and Dixon (2012) were the only listed authors to have specifically evaluated the basic principles of ACT within the context of gambling; these principles were introduced to three pathological gamblers in a brief psycho-educational format (i.e., Powerpoint presentation). Even though this method of delivery left out critical aspects of psychotherapy, omitted repeated practice, and did not involve directly breaking verbal

stimulus control with the participants, the participants in the study shifted their identification of "near-misses" appropriately toward losses. A near-miss is an oft-studied phenomenon in which losses in gambling that are topographically closer to wins take on subjective properties of wins (e.g., two out of three matching icons on a three-reel slot machine; a good hand in poker that loses on the last card, etc.). Near-misses have often been conceptualized as conditioned reinforcers that may maintain gambling behavior (Daly, Tan, Hely, Macaskill, Harper, & Hunt, 2015; Dymond et al., 2014; Foxall & Sigurdsson, 2012; Habib & Dixon, 2010; cf., Witts, Ghezzi, & Manson, 2015). The modification of the disordered gamblers' near-miss ratings may have contributed to curbing their gambling behavior. The remaining three cited articles all involved discrimination training and relational testing to change behavior with respect to gambling (see Dymond & Roche, 2010 for a review of this methodology applied to gambling).

Critiques Regarding Additions to a Model of Gambling

The book is a new ACT application and a first edition, so it cannot be expected to have no weaknesses. Many of the weaknesses can be improved with treatment outcome research (the most-necessary addition), or research on training therapists. Beyond lacking outcome data, other prominent weaknesses are that some materials are unclear or out of date, the presentation of the core ACT components is (in my opinion) incomplete, and the protocol materials would be more useful in a digital format.

The text implores readers to use the Gambling Functional Assessment (GFA; Dixon & Johnson, 2007b), but does not mention how to use the information in ACT treatment, nor does it mention the psychometric research on the GFA or subsequent revisions (e.g., the GFA-Revised, Weather-

ly, Miller, & Terrell, 2011). This is particularly unusual as the GFA-Revised has been researched extensively with respect to its psychometric properties (e.g., Weatherly, Dymond, Samuels, Austin, & Terrell, 2014; Weatherly, Miller, Montes, & Rost, 2012) and utility (e.g., Weatherly & Terrell, 2014). The authors provide no explanation for not including the most up-to-date material. The text also directs readers to a now-defunct website that once housed this journal.

Unfortunately, by making the text more accessible, the components of ACT are not put into context in reference with faulty relational frames and experiential avoidance, which are at the intervention's conceptual core. The lack of theory-driven information may hinder a clinician's ability to conceptualize cases appropriately. Additionally, simply reading the manual may not occasion sufficient skills to solve unexpected client problems, especially for practicing therapists who are not well-versed in principles of behavior or the theory relevant to such work. However, including data and making changes in future editions can rectify these critiques. Additionally, the ACT processes covered in the middle six chapters are presented in a fashion that may create some confusion in the logical flow of the content. For example, committed action is sometimes discussed as the maintenance phase of ACT, but is discussed third among the components. If confusion is to occur initially, readers should stick with the book, as they are likely to understand the ideas after sufficient exposure to the components and outtakes demonstrating their use. The outtakes, though, are often frustratingly "too good," with nearly no resistance from clients, which can make the key aspects of the change processes difficult to discriminate. However, presenting "best case" outtakes in this manner is a common practice in treatment manuals, so this issue is less with Dixon and Wilson's manual and more problematic as a

general method of imparting information in treatment manuals. (The main concern with this method is that introducing information to clients may very often appear to result in a change, but we cannot expect that presenting information is equal to clinically-relevant learning, which is why ACT treatment involves a large experiential component). Finally, the protocol materials included appear to be scaled-down PDFs. In future editions, a digital version of these files would be more convenient for printing and using in sessions.

The authors discuss that many researched interventions are not functional with respect to the real problem, and therefore, dismiss traditional treatment as incomplete or likely to be ineffective for most pathological gamblers most of the time. This is certainly true on face, but many components of other treatments that have been shown to work can be applied in a functional, or individually matched, fashion. Future editions many devote more of the text to established interventions and how such interventions could be applied in an ACT package.

The critiques of this section come from a place of enthusiasm for the content, and a hope that ACT for gambling will become a productive research line and subsequent intervention. This should be clear from the comments about potential future editions of the manual, and the call for content on the theory of ACT.

Potential Next Steps: Experiential Avoidance and the Behavioral Conceptualization of Gambling

Thought-provoking conceptualizations of disordered gambling from an ACT perspective can be developed after reading the manual, although such conceptualizations are not always explicitly described in the manual. A more in-depth, scientific analysis in line with ACT theory and behavioral tar-

gets for change may have expanded utility with disordered gambling. ACT targets experiential avoidance (EA) as a cognitive behavior for change, although this construct is not given much explicit attention in the manual. Researchers have reliably found that disordered gambling is highly correlated with measures of escape and avoidance (see Weatherly, 2013), a finding further supported in behavioral laboratories (Martner, Montes, & Weatherly, 2012). A theoretical treatment of EA and gambling will be briefly provided, with the hope that other behavior analysts, ACT researchers, and readers of Dixon and Wilson's manual may also contribute to such an analysis.

The relationship between EA and traditional conceptualizations of negative reinforcement, as addressed in other behavior analytic research and interventions, is worth further discerning, both theoretically and empirically. EA is verbally constructed, and described as an attempt to alter the form, frequency, or intensity of aversive private events with rules, in order to keep such private events from being experienced (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). In a contingency analysis, the EA process may be generalized escape or avoidance behavior, and may involve a lack of stimulus control or stimulus discrimination relevant to the contingencies in effect for a behavior such as gambling. Thus, EA can be discussed as avoidance of the correct contingency-specifying stimulus (i.e., rule). Avoidance may be said to be contingency-shaped and under discriminated stimulus control when the avoidance response is occasioned by stimuli related to the contingency (Skinner, 1933).

With respect to one's verbal behavior, the contingency-specifying stimulus is simply not in line with the *present*, relevant environmental contingencies, as it is a result of history with rules and relational responding regarding past contingencies. Gambling-

specific contingencies often involve losing money, which is often associated with many long-term aversive consequences (e.g., debt, being unable to support one's family, etc.), yet these consequences do not control behavior for disordered gamblers. This discrepancy may be ameliorated in targeting EA for change, by bringing the temporally-distant and problematic consequences to the attention of the behavior, in an attempt to bring behavior under control of the extended contingencies. Such a conceptualization is not far from what has been concluded in the discounting literature, where disordered gamblers have been found to value temporally-distant stimuli far less than matched controls (Dixon, Marley, & Jacobs, 2003), and value probabilistically distant stimuli more (Madden, Petry, & Johnson, 2009).

A potential future endeavor in Gambling Functional Assessment research could lie in the examination of the relationship between EA measurements and generalized escape or negative reinforcement functions for disordered gamblers. In a typical experiential behavioral assessment (i.e., functional analysis; see Iwata & Dozier, 2008; Iwata, Dorsey, Slifer, Bauman, & Richman, 1982/1994), negative reinforcement is assessed through contingent social avoidance or escape from an activity. Experiential assessment akin to the functional analysis has not broken into general clinical psychology in a meaningful way, but is the standard for assessment in applied behavior analysis. Escape and avoidance contingencies such as those used in a typical functional analysis are likely involved in the shaping of EA relevant to gambling behavior. However, the maintaining function could appear to be different from negative reinforcement, as such an analysis does not demonstrate rule-governance. When the gambling environment is aversive (e.g., losses pile up), the behavior may temporarily use EA strategies (i.e., verbal "reminders" that gambling is

fun), which could then be reinforced (in addition to the behavior of continuing to gamble) when the aversion ceases (e.g., a win occurs) or via social reinforcement from other individuals gambling and appearing to have fun. When such reinforcement occurs, the string of losses and related aversive events become subjectively positive (see Rachlin, Safin, Arfer, & Yen, 2015). Eventually, the process could be short-circuited such that the aversive aspects of gambling have little stimulus control and continuation of gambling provides the reinforcement necessary for the behavior to persist. If EA strategies are already strong in one's repertoire (i.e., in environmental contexts other than gambling), these patterns may develop more quickly. Thus, assessment of disordered gambling is likely more complex than the literature currently addresses, and research should continue.

CONCLUSION

Acceptance and Commitment Therapy for Pathological Gamblers is a manual for the treatment of disordered gambling, but hopefully will be a part of an in-depth research line on theory and practice with disordered gambling. As current and future data are examined and reported, a comprehensive, ACT-consistent conceptualization of disordered gambling derived from experimental data, established behavioral principles, and theory is a logical next step for pushing forward a behavioral model of gambling (Fantino & Stolarz-Fantino, 2008; Weatherly & Dixon, 2007). Some of the distinctions in the behavioral literature among functional contextual behavior science, behavior analysis, clinical behavior analysis, and so on, may be more socially contrived than scientific, and should not deter researchers from exploring any of the data. The authors of *Acceptance and Commitment Therapy for Pathological Gamblers* may be well-suited to assist in fitting an in-

clusive model. For example, they have used both derived relations and self-tacting (Skinner, 1957) to analyze rule-governance data (Wilson & Dixon, 2015).

REFERENCES

- Daly, T. E., Tan, G., Hely, L. S., Macskill, A. C., Harper, D. N., & Hunt, M. J. (2015). Slot machine near wins: Effects on pause and sensitivity to win ratios. *Analysis of Gambling Behavior, 8*, 55-70.
- Dixon, M. R. (2007). Why behavior analysts should study gambling behavior. *Analysis of Gambling Behavior, 1*, 1-3.
- Dixon, M. R., & Holton, B. (2009). Altering the magnitude of delay discounting by pathological gamblers. *Journal of Applied Behavior Analysis, 42*, 269-275.
- Dixon, M. R., & Johnson, T. E. (2007a). Impulse control disorders. In P. Sturmey (Ed), *Functional Analysis in Clinical Treatment* (pp. 429-454). Burlington, MA: Academic Press.
- Dixon, M. R., & Johnson, T. E. (2007b). The gambling functional assessment (GFA): An assessment device for identification of the maintaining variables of pathological gambling. *Analysis of Gambling Behavior, 1*, 44-49.
- Dixon, M. R., Marley, J., & Jacobs, E. A. (2003). Delay discounting by pathological gamblers. *Journal of Applied Behavior Analysis, 36*, 449-458.
- Dixon, M. R., Nastally, B. L., Jackson, J. E., & Habib, R. (2009). Altering the near-miss effect in slot machine gamblers. *Journal of Applied Behavior Analysis, 42*, 913-918.
- Dixon, M. R., & Wilson, A. N. (2014). *Acceptance and Commitment Therapy for Pathological Gamblers*. Carbondale, IL: Shawnee Scientific Press.

- Dymond, S., McCann, K., Griffiths, J., Cox, A., & Crocker, V. (2012). Emergent response allocation and outcome ratings in slot machine gambling. *Psychology of Addictive Behaviors, 26*, 99-111.
- Dymond, S., Lawrence, N. S., Dunkley, B. T., Yuen, K. S. L., Hinton, E. C., Dixon, M. R., ... Singh, K. D. (2013). Almost winning: Induced MEG theta power in insula and orbitofrontal cortex increases during gambling near-misses and is associated with BOLD signal and gambling severity. *NeuroImage, 91*, 210-214.
- Dymond, S., & Roche, B. The impact of derived relational responding on gambling behavior. *Analysis of Gambling Behavior, 4*, 38-53.
- Fantino, E., & Stolarz-Fantino, S. (2008). Gambling: Sometimes unseemly; Not what it seems. *Analysis of Gambling Behavior, 2*, 61-68.
- Foxall, G. R., & Sigurdsson, V. (2012). When loss rewards: The near-miss effect in slot machine gambling. *Analysis of Gambling Behavior, 6*, 5-22.
- Habib, R., & Dixon, M. R. (2010). Neurobehavioral evidence for the "near-miss" effect in pathological gamblers. *Journal of the Experimental Analysis of Behavior, 93*, 313-328.
- Hayes, S. C., Barnes-Holmes, D., & Roche, B. (Eds.). (2001). *Relational Frame Theory: A Post Skinnerian Account of Human Language and Cognition*. New York: Kluwer Academic/Plenum Publishers.
- Hayes, S. C., Levin, M. E., Plumb-Villardaga, J., Villatte, J. L., & Pistorello, J. (2013). Acceptance and Commitment Therapy and Contextual Behavioral Science: Examining the progress of a distinctive model of behavioral and cognitive therapy. *Behavior Therapy, 44*, 180-198.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and Commitment Therapy: An Experiential Approach to Behavior Change*. New York, NY: The Guilford Press.
- Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. D. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology, 64*, 1152-1168.
- Iwata, B. A., Dorsey, M. F., Slifer, K. J., Bauman, K. E., & Richman, G. S. (1982). Toward a functional analysis of self-injury. *Analysis and Intervention in Developmental Disabilities, 2*, 3-20 (Reprinted in *Journal of Applied Behavior Analysis, 27*, 197-209, 1994).
- Iwata, B. A., & Dozier, C. L. (2008). Clinical application of functional analysis methodology. *Behavior Analysis in Practice, 1*, 3-9.
- Madden, G. J., Petry, N. M., & Johnson, P. S. (2009). Pathological gamblers discount probabilistic rewards less steeply than matched controls. *Experimental and Clinical Psychopharmacology, 17*, 283-290.
- Martner, S. G., Montes, K. S., & Weatherly, J. N. (2012). Using unsolvable anagrams to induce escape: Will it increase gambling behavior? *Analysis of Gambling Behavior, 6*, 46-53.
- Nastally, B. L., & Dixon, M. R. (2012). The effect of a brief acceptance and commitment therapy intervention on the near-miss effect in problem gamblers. *The Psychological Record, 62*, 677-690.
- Nastally, B. L., Dixon, M. R., & Jackson, J. W. (2010). Manipulating slot machine preference in problem gamblers through contextual control. *Journal of Applied Behavior Analysis, 43*, 125-129.

- Öst, L-G. (2014). The efficacy of Acceptance and Commitment Therapy: An updated systematic review and meta-analysis. *Behaviour Research and Therapy*, *61*, 105-121.
- Pallensen, S., Mitsem, M., Kvale, G., Bjorn-Helge, J., & Molde, H. (2005). Outcome of psychological treatments of pathological gambling: a review and meta-analysis. *Addiction*, *100*, 1412-1422.
- Palmer, D. C. (2004). Data in search of a principle: A review of *Relational Frame Theory: A post-Skinnerian Account of Human Language and Cognition*. *Journal of the Experimental Analysis of Behavior*, *81*, 189-204.
- Potenza, M. N., Balodis, I. M., Franco, C. A., Bullock, S., Xu, J., Chung, T., Grant, J. E. (2013). Neurobiological considerations in understanding behavioral treatment for pathological gambling. *Psychology of Addictive Behaviors*, *27*, 380-392.
- Rachlin, H., Safin, V., Arfer, K. B., & Yen, M. (2015). The attraction of gambling. *Journal of the Experimental Analysis of Behavior*, *103*, 260-266.
- Skinner, B.F. (1933). The rate of establishment of a discrimination. *Journal of General Psychology*, *9*, 302-350.
- Toneatto, T. (2012). Mindfulness-based therapy for problem gambling. In S. C. Hayes, Steven, Levin, & Michael (Eds.), *Mindfulness and Acceptance for Addictive Behaviors: Applying Contextual CBT to Substance Abuse and Behavioral Addictions* (pp. 275-288). Reno, NV, USA: New Harbinger Publications.
- Weatherly, J. N. (2013). The relationship between endorsing gambling as an escape and the display of gambling. *Journal of Addiction*, 2013. 7 pages. doi: 10.1155/2013/156365
- Weatherly, J. N., & Dixon, M. R. (2007). Toward an integrative model of gambling. *Analysis of Gambling Behavior*, *1*, 4-18.
- Weatherly, J. N., Dymond, S., Samuels, L., Austin, J. L., & Terrell, H. K. (2014). Validating the Gambling Functional Assessment – Revised in a United Kingdom sample. *Journal of Gambling Studies*, *30*, 335-347.
- Weatherly, J. N., Miller, J. C., Montes, K. S., & Rost, C. (2012). Assessing the reliability of the Gambling Functional Assessment – Revised. *Journal of Gambling Studies*, *28*, 217-223.
- Weatherly, J. N., Miller, J. C., & Terrell, H. K. (2011). Testing the construct validity of the Gambling Functional Assessment – Revised. *Behavior Modification*, *35*, 553-569.
- Weatherly, J. N., & Terrell, H. K. (2014). Validating the Gambling Functional Assessment-Revised in a sample of problem/disordered gamblers. *Analysis of Gambling Behavior*, *8*, 39-52.
- Wilson, A. N., & Dixon, M. R. (2015). Derived rule tacting and subsequent following by slot machine players. *The Psychological Record*, *65*, 13-21.
- Witts, B. N., Ghezzi, P. M., & Manson, M. (2015). Simultaneously observing concurrently-available schedules as a means to study the near miss event in simulated slot machine gambling. *The Psychological Record*, *65*, 115-129.
- Zettle, R. D., & Hayes, S. C. (1986). Dysfunctional control by client verbal behavior: The context of reason giving. *The Analysis of Verbal Behavior*, *4*, 30-38.

Action Editor: **Jeffrey N. Weatherly**