

THOMAS R. ZENTALL, GAMBLING BEHAVIOUR: WOULD A PIGEON BUY A LOTTERY TICKET?

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Vienna Doctoral School in Cognition, Behaviour and Neuroscience



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THOMAS R. ZENTALL, GAMBLING BEHAVIOR IN PIGEONS: WOULD A PIGEON BUY A LOTTERY TICKET?

When humans engage in totally probabilistic gambling they are making suboptimal choices because the return is generally less than the investment. Pigeons too show suboptimal choice when they choose between one alternative that 20% of the time provides them with a signal that they will always get fed or 80% of the time with a signal that they will not get fed (overall 20% reinforcement) and a second alternative that 100% of the time provides them with a signal that they will get fed 50% of the time (overall 50% reinforcement). The pigeons' strong preference for the suboptimal choice was investigated in a series of experiments that found the preference for the suboptimal alternative was determined by the value of the signal that predicted reinforcement, rather than its frequency and that the frequency of the signal that predicted non-reinforcement had little effect on the suboptimal choice. Paradoxically, this account makes the prediction that pigeons will be indifferent between an alternative that 50% of the time provides a fully predictive stimulus for reinforcement and an alternative that 100% of the time provides a fully predictive stimulus for reinforcement. Suboptimal choice appears to be related to impulsivity and in both pigeons and humans is correlated with delay discounting.

Thomas R. Zentall is University Research Professor and DiSilvestro Professor of Arts and Sciences in Psychology at the University of Kentucky. He has been a Fulbright Visiting Professor at the Université de Lille, France, and a Visiting Professor at the Universidad de Sevilla, Spain and at Keio University, Tokyo, Japan. Dr. Zentall received his PhD from the University of California at Berkeley. He has served as the President of the Division of Experimental Psychology and the Division of Comparative and Behavioral Neuroscience of the American Psychological Association, as the Chair of the Governing Board of the Psychonomic Society, as the President of the Comparative Cognition Society, as the President of the Eastern Psychological Association, and as the President of the Midwestern Psychological Association. His research has been funded by the National Institutes of Health and the National Science Foundation. He has published research in the area of comparative cognition, learning, concept learning, social learning, timing, and suboptimal choice including gambling behavior.