

Accepted Manuscript

Integrating frequency and magnitude information in decision-making in schizophrenia:
An account of patient performance on the Iowa Gambling Task

Elliot C. Brown, Samantha M. Hack, James M. Gold, William T. Carpenter, Jr.,
Bernard A. Fischer, Kristen P. Prentice, James A. Waltz, PhD



PII: S0022-3956(15)00110-7

DOI: [10.1016/j.jpsychires.2015.04.007](https://doi.org/10.1016/j.jpsychires.2015.04.007)

Reference: PIAT 2607

To appear in: *Journal of Psychiatric Research*

Received Date: 7 October 2014

Revised Date: 2 March 2015

Accepted Date: 9 April 2015

Please cite this article as: Brown EC, Hack SM, Gold JM, Carpenter Jr WT, Fischer BA, Prentice KP, Waltz JA, Integrating frequency and magnitude information in decision-making in schizophrenia: An account of patient performance on the Iowa Gambling Task, *Journal of Psychiatric Research* (2015), doi: 10.1016/j.jpsychires.2015.04.007.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Integrating frequency and magnitude information in decision-making in schizophrenia:
An account of patient performance on the Iowa Gambling Task**

Elliot C. Brown¹
Samantha M. Hack²
James M. Gold¹
William T. Carpenter, Jr.^{1, 2}
Bernard A. Fischer^{1, 2}
Kristen P. Prentice¹
James A. Waltz^{1*}

1. Maryland Psychiatric Research Center (MPRC), Department of Psychiatry, University of Maryland School of Medicine, Baltimore, Maryland, USA
2. Veterans Affairs Capital Network (VISN 5) Mental Illness Research, Education, and Clinical Center (MIRECC), Baltimore, Maryland, USA

* Corresponding author

Address for Correspondence:
James A. Waltz, PhD
University of Maryland School of Medicine
Maryland Psychiatric Research Center
P.O. Box 21247, Baltimore, MD 21228
jwaltz@mprc.umaryland.edu
410-402-6044 (Phone), 410-402-7198 (Fax)
<http://www.mprc.umaryland.edu/>

ABSTRACT

Background: The Iowa Gambling Task (IGT; Bechara, Damasio, Damasio, & Anderson, 1994) has frequently been used to assess risky decision making in clinical populations, including patients with schizophrenia (SZ). Poor performance on the IGT is often attributed to reduced sensitivity to punishment, which contrasts with recent findings from reinforcement learning studies in schizophrenia.

Methods: In order to investigate possible sources of IGT performance deficits in SZ patients, we combined data from the IGT from 59 SZ patients and 43 demographically-matched controls with data from the Balloon Analog Risk Task (BART) in the same participants. Our analyses sought to specifically uncover the role of punishment sensitivity and delineate the capacity to integrate frequency and magnitude information in decision-making under risk.

Results: Although SZ patients, on average, made more choices from disadvantageous decks than controls did on the IGT, they avoided decks with frequent punishments at a rate similar to controls. Patients also exhibited excessive loss-avoidance behavior on the BART.

Conclusions: We argue that, rather than stemming from reduced sensitivity to negative consequences, performance deficits on the IGT in SZ patients are more likely the result of a reinforcement learning deficit, specifically involving the integration of frequencies and magnitudes of rewards and punishments in the trial-by-trial estimation of expected value.

Key words: schizophrenia, reward, risk, reinforcement, decision-making, Iowa Gambling Task (IGT)

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات