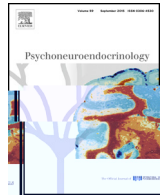




Contents lists available at ScienceDirect

Psychoneuroendocrinology

journal homepage: www.elsevier.com/locate/psyneuen



- ^a Research Center for Brain Function and Psychological Science, Shenzhen University, Shenzhen, China
- ^b Center for Brain and Cognitive Sciences and Department of Psychology, Peking University, Beijing, China
- China Center for Special Economic Zone Research, Shenzhen University, Shenzhen, China
- ^c Neuropsychopharmacology and Biopsychology Unit, Department of Basic Psychological Research and Research Methods, Faculty of Psychology, University of Vienna, Vienna, Austria
- ^d Centre for Gambling Research at UBC, Department of Psychology, University of British Columbia, Vancouver, British Columbia, Canada
- ^e Key Laboratory of Machine Perception (Ministry of Education), Peking University, Beijing, China
- ^f Beijing Key Laboratory of Behavior and Mental Health, Peking University, Beijing, China
- ^g IDG/McGovern Institute for Brain Research, Peking University, Beijing, China

ARTICLE INFO

Article history:

Received 22 October 2016
 Accepted 3 November 2016
 Available online 3 November 2016

Keywords:

gambling
 addiction
 dopamine
 nucleus accumbens

ABSTRACT

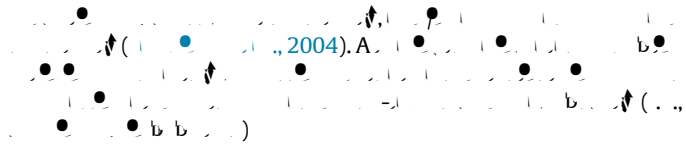
Background: Gambling addiction is a chronic relapsing disorder characterized by compulsive and excessive gambling behavior. The nucleus accumbens (NAc) is a key brain region involved in the development and maintenance of addiction. Dopamine (DA) plays a central role in the NAc's function. The present study investigated the role of DA in gambling addiction using a rat model. We examined the effects of the dopamine receptor antagonist, SCH 23390, on gambling behavior and NAc dopamine levels. Results: SCH 23390 significantly reduced gambling behavior and NAc dopamine levels. These effects were reversed by the dopamine agonist, amphetamine. Conclusion: Dopamine signaling in the NAc is essential for gambling behavior. SCH 23390 may be a potential treatment for gambling addiction. (=26)

1. Introduction

Gambling addiction is a chronic relapsing disorder characterized by compulsive and excessive gambling behavior. The nucleus accumbens (NAc) is a key brain region involved in the development and maintenance of addiction. Dopamine (DA) plays a central role in the NAc's function. The present study investigated the role of DA in gambling addiction using a rat model. We examined the effects of the dopamine receptor antagonist, SCH 23390, on gambling behavior and NAc dopamine levels. Results: SCH 23390 significantly reduced gambling behavior and NAc dopamine levels. These effects were reversed by the dopamine agonist, amphetamine. Conclusion: Dopamine signaling in the NAc is essential for gambling behavior. SCH 23390 may be a potential treatment for gambling addiction. (=26)

2002). (=26)

100871, ...
 E-mail address: 104@... (...)



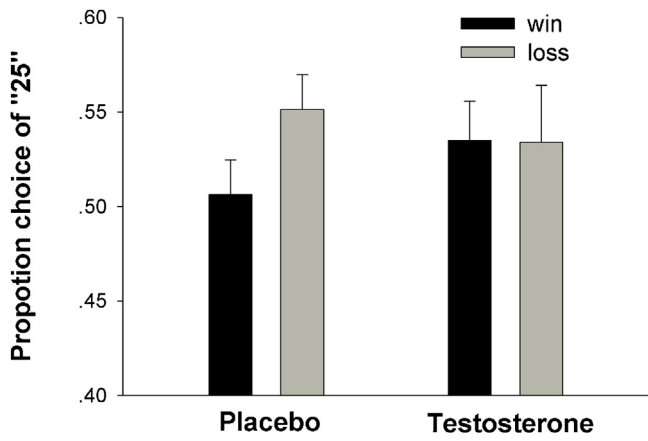


Fig. 2.

$F(1, 25)=0.55, p=0.47$; $F(1, 25)=2.45, p=0.13$.
 $t(25)=2.77, p=0.01$; $p > 0.1$.
 $F(1, 25)=0.09, p=0.76$; $F(1, 25)=1.35, p=0.26$;
 $F(1, 25)=0.13, p=0.72$; $F(1, 25)=0.06, p=0.81$;
 $F(1, 25)=0.06, p=0.81$; $F(1, 25)=0.001, p=0.97$.
 (50%)
 60% 51%
 53% 52%
 +8% (60% 51%) - (53% 52%).
 $t(25) = -0.02, p > 0.1$.
 $p > 0.1$.

2.5. Mood measurement

2.6. Statistical analysis

3. Results

$-14.23 (SD=47.68)$ $-0.38 (SD=58.68)$
 $t(25)=-0.97, p=0.33$
 $t(25)=-1.52, p=0.14$ $t(25)=0.97, p=0.97$
 A (25)
 (: $M=52.85\%$, $SD=12.22\%$; : $M=52.55\%$, $SD=8.39\%$), $t(25)=-0.16, p=0.88$.
 $2 () \times 2 (: 25 .5)$
 A A, $F(1, 25)=6.36, p=0.018, \eta^2=0.20$. A
 ($M=55.13\%$, $SD=9.46\%$)
 ($M=50.63\%$, $SD=9.39\%$), $F(1, 25)=5.49, p=0.027, \eta^2=0.18$.
 ($M=53.41\%$, $SD=15.33\%$)
 ($M=53.50\%$, $SD=10.52\%$), $F(1, 25)=0.002, p=0.97$.

4. Discussion

(, 2013; , 2009).
 (, 2002).
 A (, 2015).
 (, 2004).
 (, 2005).
 (, 2012).
 (, 2016).
 (, 2010).
 (, 2010).



Role of the funding source

