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Corrigendum to “Individualized relapse prediction: Personality measures and striatal and insular activity during reward-processing robustly predict relapse” [Drug and Alcohol Dependence 152 (2015) 93–101]

Joshua L. Gowin^{a,b,*}, Tali M. Ball^a, Marc Wittmann^{a,c}, Susan F. Tapert^a, and Martin P. Paulus^{a,d}

^aDepartment of Psychiatry, University of California San Diego, La Jolla, CA, United States

^bSection on Human Psychopharmacology, Laboratory of Clinical and Translational Studies, National Institute on Alcohol Abuse and Alcoholism, Bethesda, MD, United States

^cEmpirical and Analytical Psychophysics, Institute for Frontier Areas of Psychology and Mental Health, Freiburg, Germany

^dLaureate Institute for Brain Research, United States

In this paper, we used two approaches to examine predictors of relapse to methamphetamine use following abstinence: a general linear model and a machine-learning algorithm called random forest. As reported in Sections 3.2 and 3.4.2 and Figs. 1 and 2, both methods identified striatal activity during reward processing as a predictor of relapse. Individuals who remained abstinent showed greater activity during large relative to small rewards, whereas those individuals who relapsed showed the opposite effect. In addition to identifying neural processing, the random forest model also identified personality metrics, such as depression and sensation seeking ratings, as valuable predictors of relapse (see Section 3.4.1). The random forest procedure also involved testing the accuracy of the predictors for identifying participants who would relapse. We recently learned that the validation scheme we used with the random forest procedure was biased toward over-estimating model accuracy because we did not test it on a separate sample. Thus, the accuracy estimates we make of 74%, 72%, and 75% for the clinical, fMRI, and combined models, respectively (see Table 3 and Fig. 3) are likely 5–20% higher than one would expect them to be in an independent sample. Importantly, the random forest model identified personality variables, and two streams of evidence converged to suggest that striatal reward processing may be an important variable in determining relapse likelihood. While these findings are not incorrect, we believe we should have pointed out as a significant limitation of our finding that determining the accuracy will require future testing of our model with a separate, independent sample.

*Corresponding author at: 10 Center Dr Building 10-CRC, Rm1-5330, Bethesda, MD 20892, United States. joshua.gowin@nih.gov (J.L. Gowin).