In the article “Neurofeedback Training versus Treatment-as-Usual for Alcohol Dependence: Results of an Early-Phase Randomized Controlled Trial and Neuroimaging Correlates” [Eur Addict Res. 2021. DOI: 10.1159/000513448] by Subramanian et al., the authors found that fMRI analyses were erroneous, leading to altered results of the ROI analysis (Fig. 3; online suppl. figures S1–S3; for all online suppl. material, see www.karger.com/doi/10.1159/000517465; χ^2 results) and whole-brain analysis (Fig. 2). The corrected results confirm the feasibility of the alcohol-cue neurofeedback training but do not provide evidence that up-regulation of the neurofeedback signal in the alternative goals condition was feasible for participants.

The description of Results in the abstract should be:

Results: Primary outcome measures showed very low relapse rates for both groups. Analysis of neural secondary outcome measures indicated that the majority of patients modulated the salience system in the desired direction, by decreasing activity in response to alcohol stimuli, but did not achieve increasing activation in response to positive goals. The intervention had a good safety and acceptability profile.

The corrected versions of the Results section are:

ROI Activation

There was a trend difference between alcohol neurofeedback (mean betas across all sessions = 0.03, SD = 0.13) and alcohol mirror feedback (mean beta = 0.10, SD = 0.14); $t(15) = -2.01$, $p = 0.05$, mean difference = -0.07 (95% CI -0.133 to 0.001) (Fig. 3a) bordering significance. Twelve of the 16 neurofeedback participants achieved lower mean activation during alcohol neurofeedback than during alcohol mirror feedback. There was no difference between alternative goal neurofeedback (mean betas across all sessions = 0.01, SD = 0.17) and alternative goal mirror feedback (mean beta = 0.03, SD = 0.09); $t(15) = -0.37$, $p = 0.72$, mean difference = -0.02 (95% CI -0.097 to 0.068) (Fig. 3b). Seven of the 16 neurofeedback participants achieved higher mean activation during alternative goals neurofeedback than during alternative goals mirror feedback. Five of the 16 participants were successful at self-regulation during both neurofeedback conditions. Nine participants showed moderate performance, that is, successful regulation in one of the neurofeedback conditions (7 during alcohol neurofeedback and 2 during alternative goal neurofeedback). Two of the participants were not able to modulate the signal in either condition (for distribution of the ROIs used as neurofeedback targets, see online suppl. material 1). Individual differences in training success were not driven by training with different scanner types (participants with successful alcohol NFT: GE [$n = 3.5$]: 2.5, Siemens [$n = 12.5$]: 9.5 [1 participant performed half of the alcohol NFT training with each scanner]; alternative goals NFT across scanners: GE [$n = 3$]: 0, Siemens [$n = 13$]: 7).

Relationship between ROI Activation and Behavioral Outcome Measures (Exploratory)

Overall, desirable outcomes (higher TLFB abstinence and lower urges to drink, DUQ) were associated with better neurofeedback performance (Fig. 3c). Across the measures, this relationship was strongest at the post-intervention time point (highest difference in neurofeedback performance between those with low and those with high scores at month 4) and decreased during the follow-up period. Whereas drinking behavior at baseline (TLFB scores) appeared to be unrelated to neurofeedback performance, participants with lower drinking urges at baseline also showed overall better neurofeedback performance. Stratification of neurofeedback results into participants who remained abstinent until the post-intervention time point and participants who relapsed was in accordance with these

findings for alcohol neurofeedback (mean difference alcohol neurofeedback > mirror runs: abstinent patients [$n = 11$]: mean = -0.08 , SD = 0.13 ; non-abstinent patients [$n = 5$]: mean = -0.04 , SD = 0.14) and alternative goals neurofeedback (mean difference alternative goals neurofeedback > mirror runs: abstinent patients [$n = 11$]: mean = 0.04 , SD = 0.15 ; non-abstinent patients [$n = 5$]: mean = -0.13 , SD = 0.10).

The description of neurofeedback results in the first paragraph of the Discussion section should be:

Analysis of neurofeedback performance showed that participants were able to use the feedback as instructed during the alcohol-neurofeedback condition but not during the alternative goals condition.

The corrected Figures 2 and 3 are shown here and the supplementary material has been corrected.

Fig. 2. Whole-brain activation (RFX results) across all sessions for the alcohol cue localizer (red/yellow) and alternative life goal localizer (green/mint). Activation maps are displayed on the average brain of all participants. aINS, anterior insula; ACC, anterior cingulate cortex; AV, visual associative areas; vLPFC, ventrolateral prefrontal cortex; PO, pars opercularis; PT, pars triangularis; STR, striatum; PCC, posterior cingulate cortex.

Fig. 3. Self-regulation performance and relationship to measures of craving/drinking behavior. **a, b** Group mean ROI activation (beta values, left) and self-regulation performance of individual participants (difference between ROI activation during neurofeedback and ROI activation during mirror feedback, right) for both training types. Error bars indicate standard errors. **c** Relationship between drinking behavior/craving and overall neuro-

feedback performance. Mean neurofeedback performance separated between participants showing high values (turquoise) or low values (purple) of dichotomized TLFB/DUQ scores. Positive difference values (red line) indicate that high-performing participants showed desirable outcomes (lower > higher for DUQ; higher > lower for abstinence). Error terms indicate standard deviations. DUQ, Drinking Urge Questionnaire; TLFB, Timeline Followback.