

Treatment-engaged smokers and drinkers who choose pictures of their preferred drug are more dependent, depressed, and more often use the drug to cope with negative emotions

A concurrent pictorial drug choice task marks multiple risk factors in treatment-engaged smokers and drinkers

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Rationale

Substance dependent individuals ascribe greater value to their drug of preference compared to those who are not dependent

- This value is conjointly determined by a range of risk factors (MacKillop, 2016)
- How can we best measure this overall drug value?

Current measures are time-consuming and require a minimum level of literacy, or involve actual drug consumption

Objective

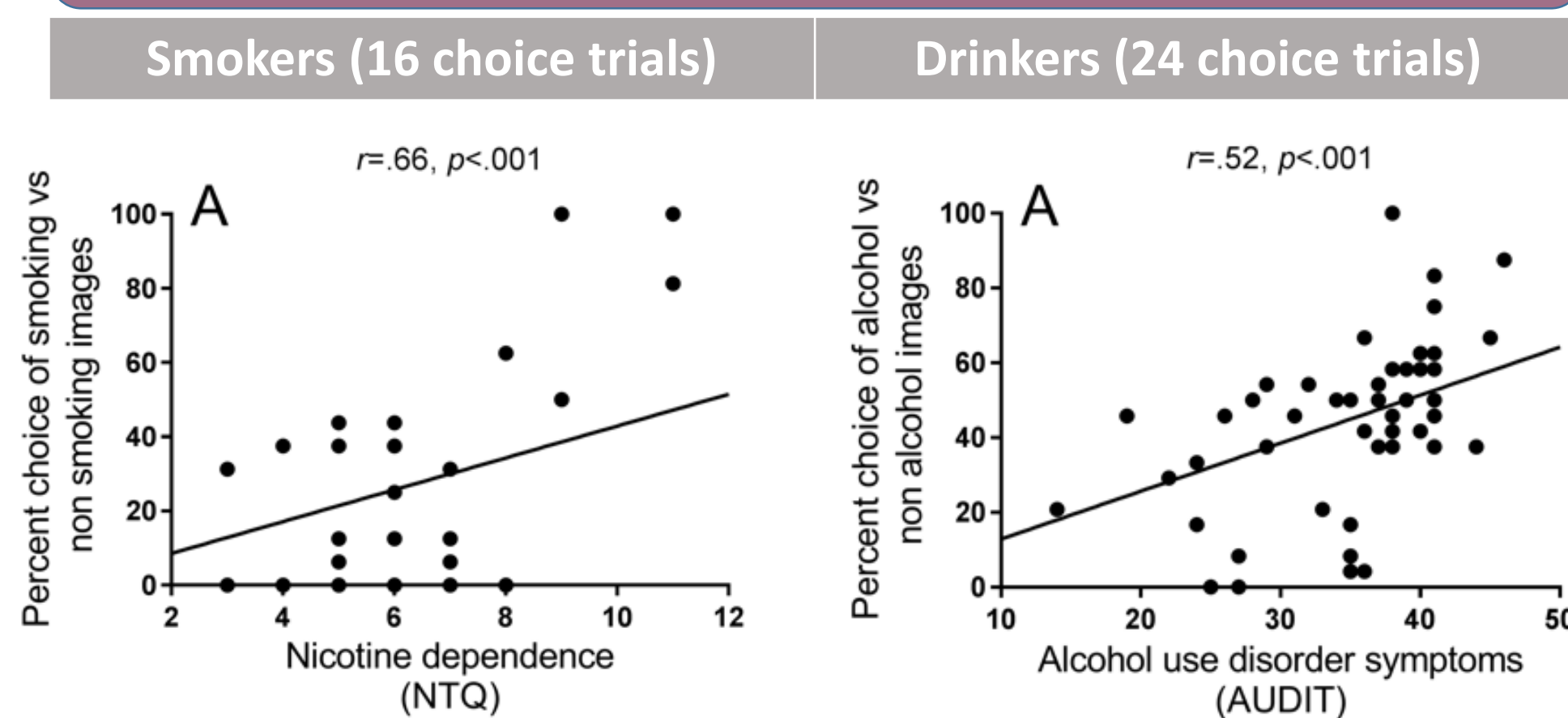
To validate a simple assay of drug value, suitable for clinical populations, that is **associated with dependence and other risk factors**

Participants

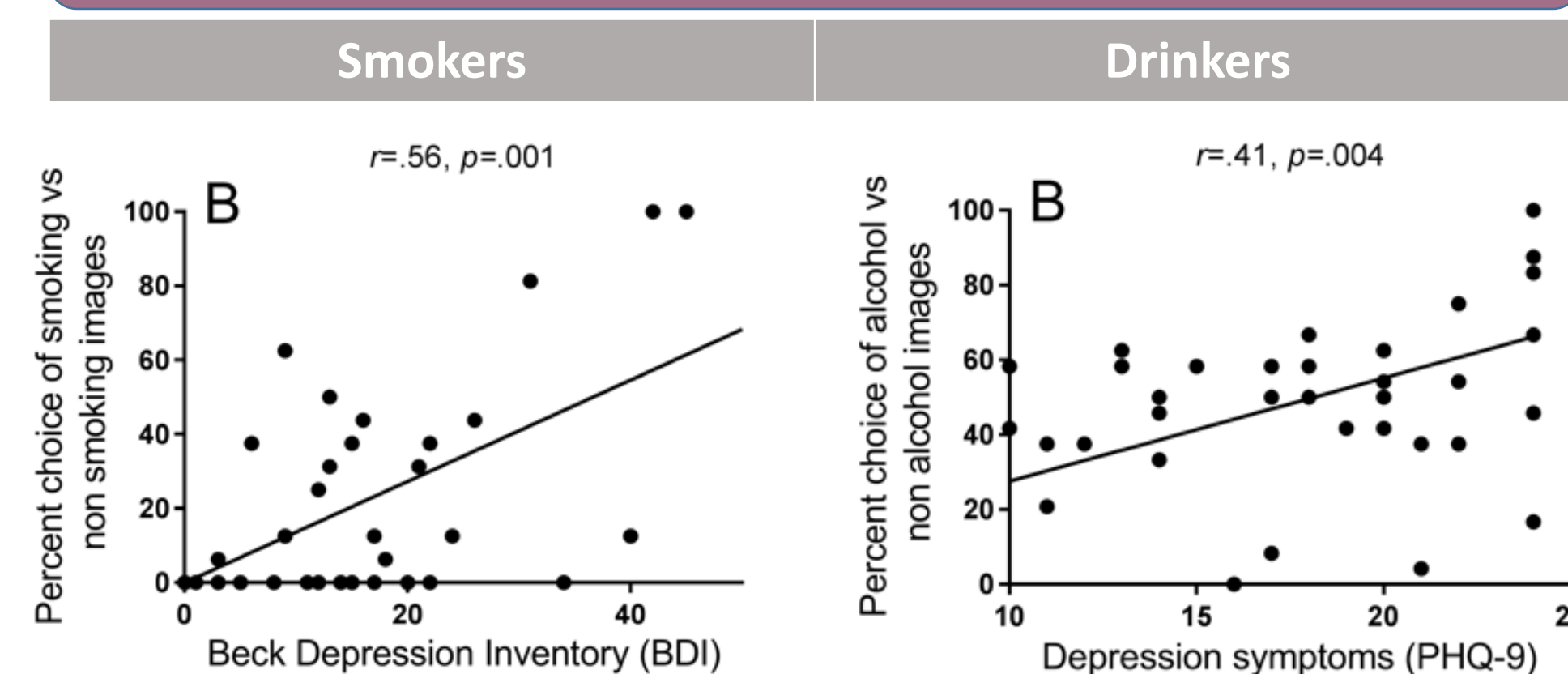
Experiment 1:
33 treatment-enrolled smokers at the Royal Devon & Exeter Hospital

Experiment 2:
48 treatment-enrolled drinkers at the Exeter Drug Project in Weymouth

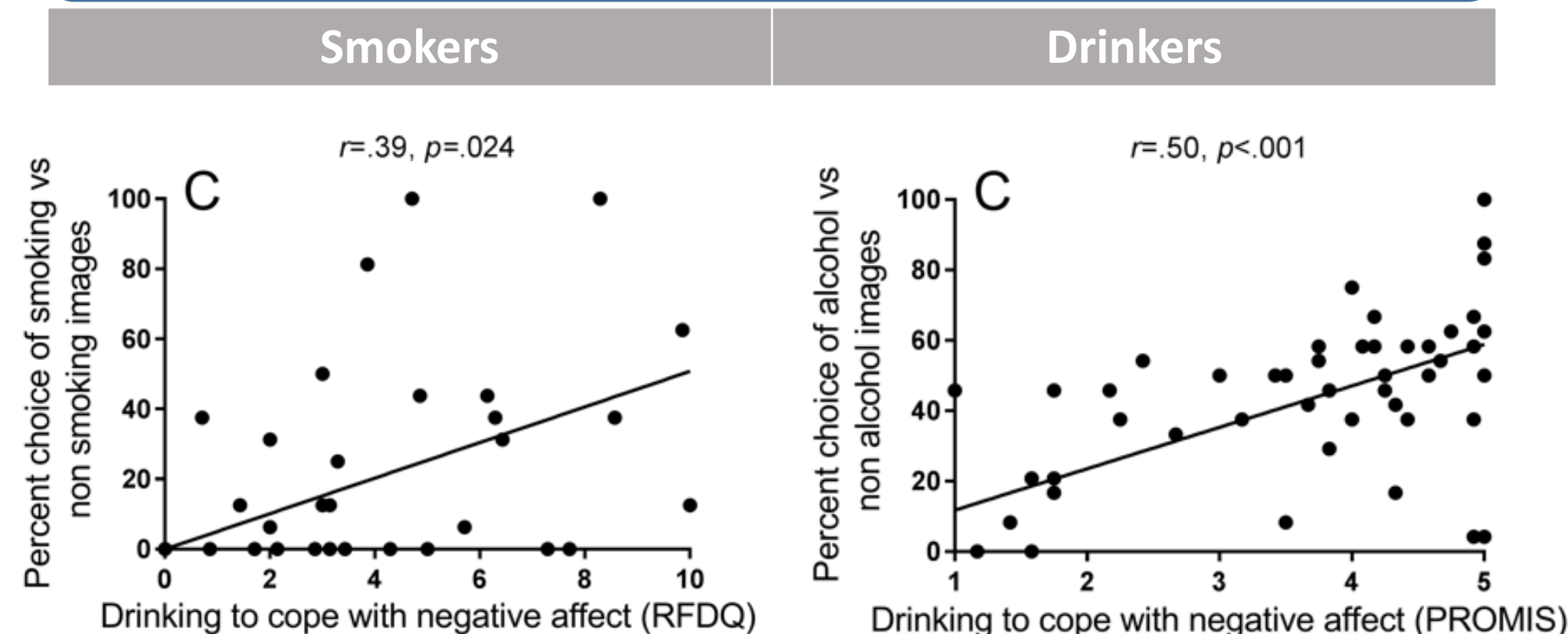
Choice of drug pictures correlated with dependence...



depression...



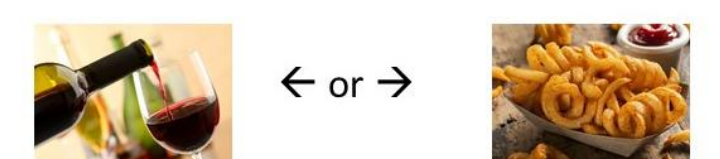
And use of the drug to cope with negative affect



Pictorial choice task

Novel measure of drug value

- Based on a similar task used in cocaine dependent individuals (Moeller et al., 2009)
- Participants presented with two thumbnails, one drug related one not, over a series of trials
- Key press to enlarge chosen image
- **Experiment 1:** smoking vs non-smoking face images
- **Experiment 2:** alcohol vs food images (see below)



Results

In both experiments, drug picture choice positively correlated with:

- dependence
- symptoms of depression
- use of the drug to cope with negative affect

As well as craving, anxiety, & frequency of drug use

False discovery rate set at 5% to control for multiple comparisons (Benjamini & Hochberg, 1995)

Discussion

The pictorial choice task provides a robust marker of dependence and associated risk factors in clinical populations (consistent with Moeller et al., 2009 and bolstering similar findings in subclinical populations e.g. Hardy & Hogarth, 2017)

Advantages: quick, requires no minimum literacy level or consumption of the drug. This task could be used to **identify high-risk individuals** or to **test experimental manipulations** thought to modify drug value (e.g. mindfulness – Shuai et al., 2019)

Full paper available here:



References

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Conflict of interest statement – The authors declare no conflict of interest