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Alcohol advertising affects alcohol dependent patients

Implications for alcohol policy

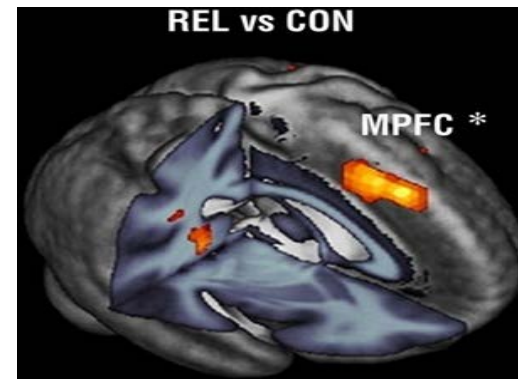
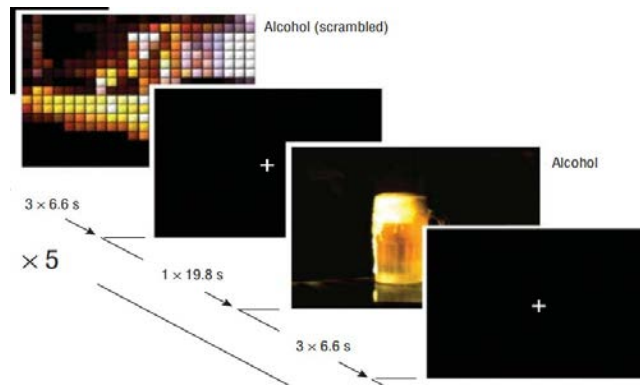
Background

- Current alcohol advertising regulation based on protecting children
- Alcohol dependent patients also vulnerable
 - Prevalent; in USA lifetime prevalence = 13% ^{Hasin et al. (2007)}
 - Large impact on health and social environment
 - Cost of addiction is 685 USD/tax payer/year in Holland ^(Jellinek; CBS, 2010)

- Why would alcohol advertising affect this population?

Background: cognitive neuroscience

- Repeated heavy drinking sensitizes the brain for alcohol cues in alcohol dependence Robinson (2008)
- Presenting alcohol cues induces hyperactivity and craving Wrase et al. (2007)



*Adopted from
Beck et al.
(2011)*

- Hyperreactivity to alcohol cues predicts relapse Beck et al. (2011)

Background: cognitive neuroscience

- Alcohol advertisement contains alcohol cues designed to be attractive
- Exposure likely engages reward system and induces craving



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• Repeated exposure may contribute to relapse after treatment



Summary

Exposure to alcohol advertisement:

- (1) Likely induces brain hyperactivity and craving in patients;
- (2) Repeated exposure may contribute to relapse after treatment
 - No study has formally tested these hypotheses
 - Therefore, present study set out to do so

Method: overview of the study

Assessment of
craving after alcohol
ad exposure

Monitoring advertising with diary

Relapse
interview



Method: baseline

- During the **baseline session** patients watched:
 - 5 min block of about 10 soda ads (control)
 - 5 min block of about 10 alcohol ads
- Ads contained soda/alcohol cues but foreign brands (exclude brand familiarity effects)

Soda ad still (Sinalco)



Alcohol ad still (Dreher)



Craving level for alcohol assessed after every block on a scale from 0-100

Methods: ad monitoring with diary

- Patients monitored alcohol and soda ads using diary for 2 days/week
- Various marketing channels covered
 - Quantitative index of alcohol advertisement exposure can be derived (total number of ads reported)

Example of page of diary

Day 1

	Soda	Alcohol
TV and film		
Print		
Internet		
Radio		
Store		
Outdoor		
Other		

I did not see any advertising today:

Methods: follow-up assessment and analysis

- **At 5 week follow-up** drinking status was assessed:
 - (1) Abstinence (yes; no)
 - (2) If not, number of drinking days.
- **Statistical analysis:**
 - (1) Test effect alcohol ad exposure baseline (T-test)
 - (2) Predict relapse with self reported exposure (linear regression)
 - control for addiction severity (AUDIT) confound
 - more severely addicted patients may report more ads (attentional bias) and have higher probability of relapse

Results: patient characteristics

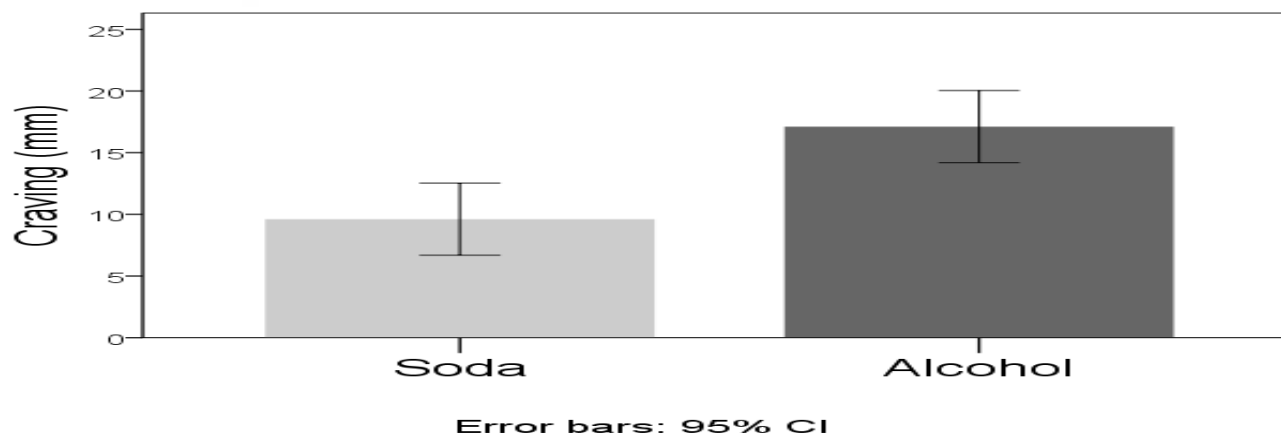
Baseline:

- 50 alcohol dependent patients (Mean age: 47.2; 68% male)
- Mean alcohol intake/day in the previous year: 16 standard units
- Addiction severity (AUDIT scale); 26 (clinical cut-off = 20)

Longitudinal part:

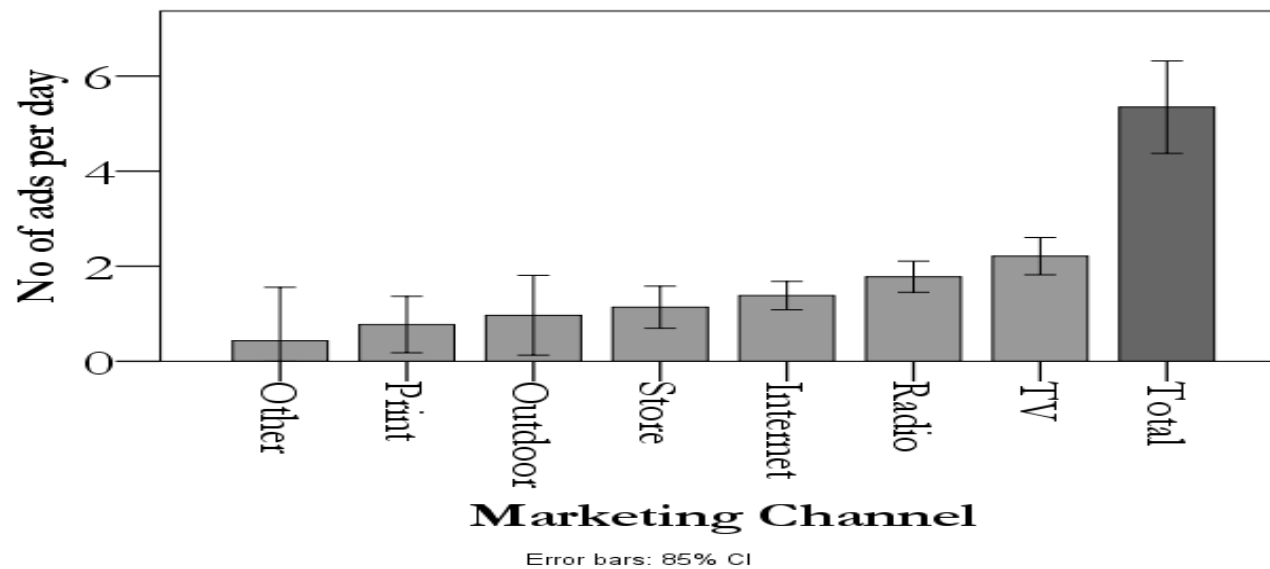
- 41 participated, 38 including diary
- Diary and relapse data is currently available for 22 patients

Results: baseline



- At baseline, alcohol ad exposure caused robust increase in craving beyond soda ads level (paired T-test; $T(49)=4.26, p<0.000001$).

Results: diary

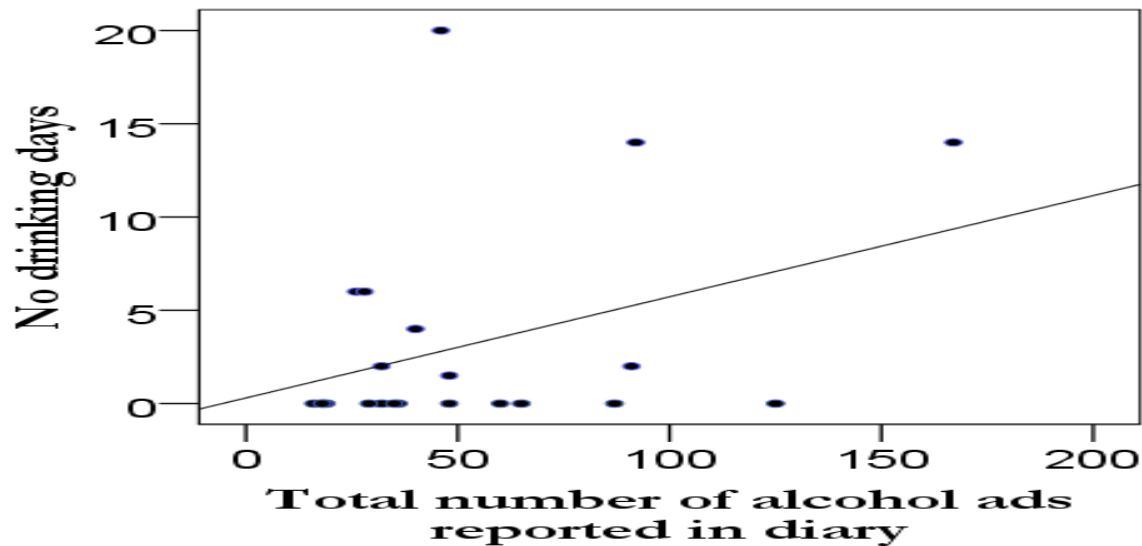


- Patients reported exposure of 5 ads/day in post-discharge period – TV most prominent channel

Preliminary results: 5 week follow-up

- Recorded non-abstinence rate at week 5 was 48%
- Alcohol ad exposure (diary) did not predict abstinence ($p > 0.05$)
- But did predict number of drinking days (controlling for AUDIT)
(Explained variance = 31%; $T_{\beta} = 2.39, p < 0.05$)

Preliminary results: 5 week follow-up



- Higher self reported ad exposure associated with larger number of drinking days

Conclusions

- **Alcohol advertisement exposure causes craving in patients**
 - Caused by exposure to alcohol cues
 - Cannot be explained by brand familiarity
- **Repeated exposure seems to negatively affect recovery**
 - Cannot be explained by addiction severity confound
 - Statistical power on the low side; result is preliminary

Policy implications

Policy measures that could benefit patients:

- (1) **Volume restriction:**
 - reduce exposure to ads to reduce craving and potentially relapse
- (2) **Content:**
 - restrict alcohol cues in advertisement
 - reduces craving and potentially relapse

Thanks

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