Parental Problem Drinking Predicts Implicit Alcohol Expectancy in Adolescents and Young Adults

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Structure of presentation

- Introduction
- Method
- Results
- Discussion
Transmission of alcohol use disorders

Substance abuse runs in families:

- **33% to 40%** of ChAPAPs develop a **substance-related disorder** themselves (Sher, Grekin, & Williams, 2005)
- ChAPAPs show a **six-times-elevated risk of alcohol misuse or addiction** (Cotton, 1979)
- ChAPAPs are likelier to **consume alcohol earlier** in life than peers from non-affected families (Alford, Jouriles, & Jackson, 1991)
- ChAPAPs experience their **first intoxication earlier** in life (McKenna & Pickens, 1981)
- ChAPAPs are likelier to engage in **binge drinking** (Weitzman & Wechsler, 2000)
- ChAPAPs develop an **alcohol-related disorder earlier** in life (Hussong, Bauer, & Chassin, 2008)
Why does substance abuse run in families?

Interaction of genetic and environmental factors

• Twin studies explain up to 60% of the variance (for a review, see Schuckit, 2009)

• Thus: without risky environment (exposure to problem drinking): NO development of substance-related disorder, despite high-risk genotype

Three moderating factors according to Wiers et al. (2007):

1. Learning that an alcohol-related stimulus (e.g. beer bottle) is linked to an adverse physical state (e.g. throwing up) reduces the risk of alcohol misuse (Erblich et al., 2001) → ChAPAPs experience less adverse effects (for a review, see Sher, 1991, Klein, 2005)

2. Evidence that ChAPAPs experience more rewarding effects from alcohol (for a review, see Sher, 1991)

3. Evidence that ChAPAPs are more likely to suffer from impaired executive functions associated with self-regulatory behaviour (Wiers et al., 1998)

Bottom line: ChAPAPs not only have less reason to control their drinking behaviour, but They might also be less able to do so!
Cognitive processes involved in addictive behaviour

- A large part of the cognitive processes that determine our perception, our attitudes, and behaviour is not consciously accessible.
- Implicit cognitive processes have strong impact on addictive behaviour, especially when resources for cognitive control are limited (e.g., Grenard, Ames, Wiers, Thush, Sussman, & Stacy, 2008).
- Response latency measures have been developed to assess such implicit processes and have been adopted for addiction research (cf. Stacy & Wiers, 2010).
- Most widespread: Implicit Association Test (IAT; Greenwald et al., 1998).
- IAT: good predictor of alcohol consumption under conditions of depleted self-control resources (Ostafin, Marlatt, & Greenwald, 2008).
- Thush and Wiers (2007): IAT-scores predicted binge drinking in adolescents one year later.
- Good predictor of drinking habits: between alcohol-arousal associations (Wiers et al. 2002; Wiers et al. 2005; Houben & Wiers 2006).
Hypothesis

The more parental problem behaviour subjects report the greater their implicit alcohol arousal expectancy
The IAT Task

Block 1

- Arousal
  - Response Left
  - Alcohol

- Neutral
  - Response Right
  - Soda

Block 2

- Arousal
  - Response Left
  - Alcohol

- Neutral
  - Response Right
  - Soda
The IAT Effect is calculated by subtracting reaction times of the first block from reaction times of the second block.

Block 1: Arousal/Alcohol versus Neutral/Soda
Block 2: Arousal/Soda versus Neutral/Alcohol
Instruments

- **Children of Alcoholics Screening Test** (CAST-6, German version; in Klein & Zobel, 2000):
  - „Ich habe schon einmal meine Mutter aufgefordert, mit dem Alkoholtrinken aufzuhören.“ Ja/Nein / “I have asked my mother to stop drinking” Yes/No
  - „Ich habe schon einmal meinen Vater aufgefordert, mit dem Alkoholtrinken aufzuhören.“ Ja/Nein / “I have asked my father to stop drinking” Yes/No

- **Expizite Alkoholwirksamkeitserwartung** (arousal; Wiers et al., 2002):
  - „Was glaubst Du passiert, wenn du Alkohol trinkst? Wenn ich Alkohol trinke, fühle ich mich fröhlich.“ stimme überhaupt nicht zu (1) … stimme völlig zu (5) What do you think happens when you drink alcohol?” “When I drink alcohol I feel happy.” “Don’t agree at all (1) … Agree completely (5)

- **Implicit alcohol expectancy**
- Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998).
  - Forced Choice: subjects have to sort stimuli to a category
  - Stronger association between two assumed to result in facilitation
  - Based on studies by Houben & Wiers (2006).
Results

- 107 adolescents (mean age 15.18 years), of whom 18.7% were identified as COAs.

- Main finding: implicit alcohol expectancy and parental problem drinking are correlated overall: faster on compatible blocks (alcohol/arousal & soda/neutral) than incompatible blocks (alcohol/neutral & soda/arousal), highly significant

- Dissociation of implicit and explicit alcohol arousal expectancies

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<tr>
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<th>CAST-6</th>
<th>D600-IAT-Score</th>
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<tbody>
<tr>
<td>Explicit alcohol expectancy (questionnaire - a = .91)</td>
<td>$r = -.02$</td>
<td>$r = -.45$</td>
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<tr>
<td></td>
<td>$p &lt; .865$</td>
<td>$&lt; .677$</td>
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Discussion

- Hypotheses were confirmed
- Both implicit and explicit measures explain different portions of the variation in the subjects’ alcohol consumption
- Consumption less biased than alcohol expectancy: easier to say how much and how often you drink than what you expect from drinking ⇒ alcohol expectancies not introspectively accessible? Anonymous study conducted off-site: social desirability not likely to be relevant
- Positive correlation of age and alcohol expectancy: makes sense ⇒ after you know what it's like to drink you may have a better idea of what to expect ⇒ replication of O'Connor RM, Fite PJ, Nowlin PR, Colder CR (2007)
- Neural correlate? Liking (pleasure/palatability) vs. wanting (appetite/incentive motivation) (Robinson/Berridge) dissociation of liking and wanting characteristic of addiction
Thank you for your attention.

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