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Short communication

Even in early childhood offspring alcohol expectancies correspond to parental drinking

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ABSTRACT

Background: Research has found that children as young as preschoolers have an idea about the valence (positive vs. negative) and activation (arousal vs. sedation) of emotional change when adults drink alcohol. The development of alcohol expectancies at such a young age may be due to observed parental alcohol use.
Methods: Three measures of alcohol use (frequency, quantity and binge drinking) assessed among 115 fathers and 149 mothers were correlated with four alcohol expectancy factors (crossing valence and activation) of their offspring, aged three to six (70 boys and 82 girls).
Results: For both arousal and sedation expectancies and across alcohol use measures of both fathers and mothers, the greater parental alcohol use was, the higher their sons' negative and the lower positive alcohol expectancies were. For negative expectancies (particularly sedation, i.e., drinking when feeling sad or depressed), there was a stronger and more consistent association with paternal than with maternal drinking. For daughters, there was no consistent association between any expectancy factor and any parental drinking behavior.
Conclusions: Already among preschoolers, parental drinking was found to be correlated with their sons' alcohol expectancies in the sense that they may observe and associate positive emotional consequences (feeling joyful, happy, calm, relaxed etc.) with moderate parental drinking and negative emotional consequences (feeling angry, nervous, sad, depressed etc.) with excessive drinking. This may be important for prevention, as expectancies have been found to be predominant predictors of early alcohol initiation and development of risky drinking in adolescence and beyond.

1. Introduction

Alcohol expectancies (i.e., the emotional changes people believe are likely to occur when drinking alcohol) were found to be important predictors of early alcohol initiation and the development of risky drinking patterns (Bekman et al., 2011; Jester et al., 2015; Settles et al., 2014; Windle et al., 2008). Alcohol expectancies are formed and were found to exist rather early in life (i.e., even before the child had tried alcohol for the first time) (Mares et al., 2015; Miller et al., 1990). One study (Kuntsche, 2017) demonstrated that even preschoolers have alcohol expectancies and that these very young children already have an idea of the valence (positive vs. negative) and activation (arousal vs. sedation) of the emotional change that occurs when adults drink alcohol. However, why this is the case (i.e., from where these alcohol expectancies originate so early in life) has yet to be investigated.

Among older children and adolescents, research has demonstrated that the more parents drink, the more positive (Brown et al., 1999; Handley and Chassin, 2009; Martino et al., 2006) and the less negative (Mares et al., 2015) the alcohol expectancies of their offspring become. However, the strength of the relationship between parental alcohol use and their offspring's alcohol expectancies tend to depend on the gender of both the child and the parent. Studies have found that paternal alcohol use was more strongly associated with children's expectancies than maternal alcohol use (Handley and Chassin, 2009; Miller et al., 1990; Pieters et al., 2010). This is probably because fathers drink more often and in greater quantities than mothers do. Concerning the gender of the child, the evidence is mixed: among 10–15-year olds in the US a study found an association for father-son dyads but not for father-daughter dyads (Handley and Chassin, 2009); the opposite was found among 6–9-year olds in the Netherlands (Mares et al., 2015).

This study advances previous evidence by investigating whether the link between parental alcohol use and the alcohol expectancies of their offspring exists even earlier in life (i.e., among preschoolers). Moreover, it tests this link separately for: (a) maternal and paternal alcohol use,

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(b) three different alcohol use measures (frequency, quantity, binge drinking), (c) sons and daughters, and (d) four alcohol expectancy factors.

2. Material and methods

2.1. Sample

Having obtained authorization from the local authorities and the ethical commissions of Lausanne (Protocol 266/2012) and Geneva (Protocol 12–25), the study was conducted in 44 randomly selected preschool classes and nurseries in French-speaking Switzerland. Details about the fieldwork are documented elsewhere (Kuntsche, 2017; Kuntsche et al., 2016). Consistent with previous research (Kuntsche, 2017), alcohol expectancies were only assessed among the 212 children (70.4% of the original sample) who were able to correctly classify more than two-thirds of 12 beverages shown to them in a previous task as alcoholic or not (Kuntsche et al., 2016). Of those children, 14 (6.6%) were excluded from the analyses because they failed to provide at least one codable answer for each of the four expectancy dimensions (Kuntsche, 2017).

Subsequent to the collection of the children's data, the mother and father were asked independently from each other either by e-mail (containing a hyperlink to an online questionnaire) or by post (dispatched paper questionnaire with return envelope) to complete a questionnaire. The two children (1.0%) who came from the same family and the 44 children (22.2%) for whom neither the mother nor the father returned a completed questionnaire were excluded. This resulted in a final sample of 70 sons (mean age = 5.1, SD = 0.8), 82 daughters (mean age = 5.2, SD = 0.8), 115 fathers (mean age = 40.0, SD = 4.2), and 149 mothers (mean age = 36.9, SD = 4.7). In 72.4% of the cases both the mother and the father participated. In 25.0% and 2.6%, only the mother and only the father participated, respectively.

2.2. Measures

2.2.1. Children's alcohol expectancies

Children's Alcohol Expectancies were assessed using the Berkeley Puppet Interview (BPI: Mares et al., 2015; Measelle et al., 1998). Two identical hand puppets made opposing statements such as 'I think when adults drink alcohol, they become happy' (puppet 1) and 'I think when adults drink alcohol, they do not become happy. And how about you, what do you think?' (Puppet 2). Depending on how emphatically the children agreed with one of the puppets, trained interviewers coded the nuance on a 7-point scale, with '7′ reflecting the highest agreement with the positive statement to '1′ reflecting the highest agreement to the negative statement (Mares et al., 2015; Measelle et al., 1998). A mean score of the three items measuring each of the four factors (arousal-positive: joyful, happy, pleased; arousal-negative: angry, flustered, nervous; sedation-positive: quiet, calm, relaxed; sedation-negative: depressed, bored, sad; for details, see Kuntsche, 2017) was calculated by crossing the dimensions valence (positive vs. negative) and activation (arousal vs. sedation) of expected emotional change as assumed by the Circumplex Model of Affect (Russell, 1980).

2.2.2. Parental alcohol use

Answers to the question "How frequently have you consumed alcoholic beverages in the last 12 months?" were coded to represent monthly *drinking frequency* ('never' = 0, 'less than once a month' = 0.5, '2–4 times per month' = 3, '2–3 times per week' (2.5*4.25) = 10.625, '4–6 times per week' = 21.25, 'once per day' = 30, 'several times per day' = 60). Consumed *Quantity* was assessed by showing parents pictograms of different 'standard drinks' corresponding to 12 g of pure alcohol and asking them how many drinks they usually consume on a drinking day. Answer categories ranged from 'I do not drink' (coded as 0) to 'ten drinks or more' (coded as 11). To measure *binge drinking* in the past month, the parents were asked to indicate how often they had consumed five or more drinks (for men, four or more for women) on one occasion; the response options were 'never' = 0, 'less than once a month' = 0.5, 'once a months' = 1, 'once a week' = 4.25, 'each day' = 30.

2.3. Statistical analysis

Missing values of parental alcohol use ranged from 7.0% (fathers' drinking frequency) to 10.8% (mothers' drinking frequency); these were excluded case-wise. Due to the ordinal nature of the variables Spearman rank correlations were used.[1] Given the small sample size, the consistency of the direction of effect across alcohol use measures and the gender of the parent and preschoolers' expectancy factors were used alongside conventional *p*-values as indicators of the existence of a relationship (Rothman, 2002).

3. Results

Fathers drank about six times per month on average, and consumed an average of three drinks per occasion; they had one binge drinking occasion in the past month (Table 1). Mothers indicated about half as many drinking and binge drinking occasions; on average they consumed one drink less per drinking occasion than fathers.

With only one exception (fathers' drinking quantity and sedation-positive expectancies), the direction of the correlation between parental alcohol use and their sons' positive alcohol expectancies was consistently negative. This effect was significant for both parents' drinking frequency and their sons' sedation-positive expectancies. Also with only one exception (mothers' drinking frequency and sedation-negative expectancies), the opposite effect was found for negative expectancies (i.e., the greater parental alcohol use was, the higher their sons' negative alcohol expectancies tend to be). This effect was significant for both paternal quantity and binge drinking, and for both negative expectancies (arousal and sedation). Taken together, the fathers' alcohol use measures were as strongly correlated with their son's alcohol expectancy factors as mothers' alcohol use measures, with the exception of the sedation-negative factor for which the relationship was somewhat stronger and more consistent for paternal than for maternal drinking.

With the exception of fathers' usual quantity drinking and positive arousal expectancies, no association was found between any of the daughters' alcohol expectancies and paternal or maternal alcohol use measures. Over and above the lack in statistical significance, this was also evident in the inconsistency of effects.

4. Discussion

While previous studies have shown that in late childhood and early adolescence offspring's alcohol expectancies correspond to parental drinking patterns (Handley and Chassin, 2009; Mares et al., 2015; Miller et al., 1990; Pieters et al., 2010), this study indicates that such a correspondence exists even earlier in life (i.e., among preschoolers). This is important because alcohol expectancies have been found to predict early alcohol initiation and the development of risky drinking patterns (Bekman et al., 2011; Jester et al., 2015; Settles et al., 2014; Windle et al., 2008).

Previous research reporting on stronger association for paternal, rather than maternal, alcohol use on their offspring's alcohol expectancies (Handley and Chassin, 2009; Miller et al., 1990; Pieters et al., 2010) was also found in this study, in particular for sons'

[1] When repeating the analysis with the more commonly used and less conservative Pearson correlations (not shown but available from the authors on request) the results changed only slightly and the overall conclusions remained the same.