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ORIGINAL ARTICLE

Intergenerational Transmission of Drinking Motives and How They Relate to Young Adults' Alcohol Use

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(Received 26 November 2012; first review notified 14 January 2013; in revised form 21 February 2013; accepted 26 February 2013)

Abstract — **Aims:** This study examined whether parental drinking motives are associated with young adults' drinking motives, and their association with young adults' drinking behaviors. **Methods:** The sample consisted of 290 18-year-old and 289 20-year-old drinking young adults and their parents. **Results:** For the younger group, stronger maternal coping motives were related to stronger social and enhancement motives, while stronger paternal coping motives were associated with stronger young adult coping motives. For the older group, stronger maternal coping motives were related to stronger social motives and stronger paternal enhancement motives were associated with stronger overall young adult drinking motives. For the younger group, both enhancement and conformity motives were predictive of their alcohol use. For the older group, only higher social motives were predictive of higher alcohol use. Both groups' higher coping and enhancement motives were associated with more drinking problems. **Conclusions:** While, concerning content, there are some differences due to parent gender and adolescent age, stronger parental drinking motives are indeed associated with stronger adolescent drinking motives, which in turn are quite consistently related to more adolescent alcohol use and alcohol-related problems.

INTRODUCTION

Alcohol use, especially among adolescents and young adults, is widely recognized as being risky behavior, since it is associated with various negative outcomes such as aggression, risky sexual behavior, cognitive impairments and alcohol disorders later in life (DeBellis *et al.*, 2000; Exum, 2006; Grant *et al.*, 2006; Odgers *et al.*, 2008). A large field of studies has aimed to disentangle the predictors of alcohol use (Hawkins *et al.*, 1992; Zucker *et al.*, 2008; Donovan and Molina, 2011), focusing on contextual factors such as friends, family and culture, but also on individual factors, such as other problem behavior or personality. Among these many individual predictors that have been studied, the motivational model of alcohol use states that drinking motives are the most proximal ones (Cox and Klinger, 1990). According to this model, drinking motives refer to the reasons why people drink and always reflect either a positive reinforcement motive, to reach a certain outcome, or a negative reinforcement motive, to avoid a certain outcome. Further, these outcomes can be either internal, such as emotional states, or external, such as social acceptance. When these two dimensions are combined, four different classes of drinking motives can be identified (Cooper, 1994; Kuntsche *et al.*, 2008): Enhancement (internal positive), social (external positive), coping (internal negative) and conformity (external negative). In the literature, these four drinking motives have been differentially linked to distinct alcohol use patterns (Cooper *et al.*, 1992; Cooper, 1994; Kuntsche *et al.*, 2005; Ham *et al.*, 2009).

The distinction between alcohol use patterns in general is between heavy, problematic alcohol use on the one hand and normative alcohol use on the other hand. Studies show that heavy, problematic drinking is typically related to enhancement and especially coping motives for drinking, while normative drinking is more commonly related to social motives for drinking (Cooper *et al.*, 1992; Cooper, 1994; Kuntsche

et al., 2005; Ham *et al.*, 2009). Instead of using effective strategies such as acceptance, problem solving and re-appraisal (Aldao *et al.*, 2011), relying on alcohol to regulate or cope with emotions can be seen as problematic and could lead to heavy or problematic drinking later in life. On the other hand, since drinking alcohol in many cultures is incorporated into social events such as dinners, parties and even rituals, it is to be expected that the majority of adolescents report social motives for drinking.

When one thinks of these social situations in which drinking alcohol is normative, probably parents serve as the first drinking reference for children. In both theory and empirical research, it is indeed suggested that parental alcohol use is a predictor of adolescent alcohol use. A vast body of research has investigated the direct effects of parental alcohol use on adolescent and young adult alcohol use (White *et al.*, 2000; Alati *et al.*, 2005; Duncan *et al.*, 2006; Van der Zwaluw *et al.*, 2008). In this work, modeling (Bandura, 1986) is considered the primary driving mechanism; adolescents see their parents drink and model this behavior. Recently, however, cognitive theories have suggested that modeling is probably a more indirect process (Pajares, 1997; Zimmer-Gembeck and Collins, 2006). A child that sees his/her parents drink at birthday parties and having fun is likely to internalize the idea that drinking alcohol is associated with having fun at parties (social drinking motive). This will eventually increase the likelihood that the child itself will be drinking at parties later. A few studies indeed showed that parental alcohol use is related to adolescent alcohol use through adolescent drinking motives (Chalder *et al.*, 2006; Müller and Kuntsche, 2011).

In an attempt to further define this mechanism, Campbell and Oei (2010) have put forward the hypothesis that also direct transference of alcohol cognitions (i.e. motives but also attitudes, norms and expectancies) occurs between parents and children. In other words, there is not only an

indirect link between parental alcohol *use* and adolescent or young adult alcohol use through child's cognitions, but also an indirect link from parental alcohol *cognitions* to adolescent alcohol use through child's cognitions. Thus, for the child that sees his/her parents drink, it also matters why they drink and in what context they drink. These motives may sometimes be clearly 'visible' for the child (e.g. having fun at a birthday party or after a hard day at work in order to relax). The model of intergenerational transference assumes that children internalize those motives, resulting in agreement between parental and child alcohol cognitions. There is some evidence that alcohol-related norms or attitudes of parents and children are related (Brody *et al.*, 1998; Parsai *et al.*, 2009), although others revealed no link between parental and child alcohol expectancies (Handley and Chassin, 2009; Campbell and Oei, 2010). With regard to drinking motives, to our knowledge, there is only one study of intergenerational transmission (Windle and Windle, 2012), which indicated that for each drinking motive, mother-child and father-child reports were related. Nonetheless, Windle and Windle did not take into account conformity motives, which are important for adolescents (Cooper, 1994) and exclusively focused on motive-specific associations (i.e. coping-coping). Based on the discussed literature, we conclude that support for intergenerational transference of drinking motives needs further verification.

In the current study, we used a full family design with fathers, mothers and a younger and an older group of young adults to examine whether parental drinking motives are related to young adult drinking motives and whether these young adult motives are related to alcohol use and alcohol-related problems. We expected that social drinking motives would relate to young adult alcohol use, while coping and enhancement motives would relate to alcohol-related problems. As to the link between parental drinking motives and young adult drinking motives, this study is the first exploration of this link, and based on the mixed results of previous studies of cognitions (Brody *et al.*, 1998; Handley and Chassin, 2009; Parsai *et al.*, 2009; Campbell and Oei, 2010), we did not postulate an expected direction of effects.

METHOD

Study design and sample

The data used in the current study were part of the Family and Health study in which Dutch families were surveyed over a course of five years since 2002 (for details on the sample selection, see Harakeh *et al.* (2005), Van der Vorst *et al.* (2005) and Mares *et al.* (2012)). Drinking motives were assessed during the fifth wave. Since drinking motives was the concept of main interest and these can only be assessed among drinkers, we selected a sample in which young adults completed the drinking motives questionnaire and reported that they consumed alcohol at least once in their life. This resulted in a subsample of 290 younger participants and 289 older participants (68%) and their parents out of the original 428 families. The sample mainly consisted of Caucasian participants (>97%). At T5, the younger participants in the final sample had a mean age of 18.3 years (SD=0.50), and of these young adults, 47.6% were male.

The older participants had a mean age of 20.2 years (SD=0.61) and 51.2% were male.

Measures

Parental drinking motives

The Drinking Motive Questionnaire (DMQ; Cooper *et al.*, 1992), consisting of 15 items, was used to assess how often parents drink for social, coping and enhancement reasons. Both fathers and mothers were asked to respond on a 5-point scale ranging from 1 '(virtually) never' to 5 '(nearly) always' to items such as 'I drink to forget my worries' (coping motives), 'I drink to get high' (enhancement motives) or 'I drink because it makes a party more fun' (social motives). Cronbach's alphas on all scales in mothers and fathers ranged from $\alpha = 0.67$ to $\alpha = 0.85$.

Young adult drinking motives

For the young adults, the 20-item Drinking Motive Questionnaire Revised (DMQ-R; Cooper, 1994) was used. The drinking motives measured with this scale are equivalent to the DMQ, with the exception of the conformity motive, which was added in the adolescent version of the scale. This motive is measured with items such as 'I drink because my friends persuade me to drink'. Cronbach's alphas on all scales in both the younger and older group ranged from $\alpha = 0.73$ to $\alpha = 0.89$.

Young adult alcohol use

A single item asked the young adults about their *frequency* of alcohol use during the past 4 weeks. They were asked to respond on a 6-point scale ranging from (1) 'have not been drinking' to (6) 'every day' (Engels and Knibbe, 2000). *Intensity* of drinking was assessed by asking the young adults about the number of drinks they had in the previous week during weekdays and in weekends, both at home and outside the home (Engels *et al.*, 1999). The scores on these four intensity questions were summed to obtain an indication of the total number of glasses consumed per week.

Alcohol-related problems

The Rutgers Alcohol Problem Index (RAPI; White and Labouvie, 1989), consisting of 18 items, was used to assess the number and intensity of alcohol-related problems in young adults. They were asked to specify how often they had ever experienced alcohol-related problems in their life on a 5-point scale ranging from 1 'never' to 5 'very often' to items such as 'How often were you unable to make your homework because you drank alcohol?'. Cronbach's alpha was 0.84 for the younger group and 0.86 for the older group.

Statistical analyses

First, means, standard deviations and bivariate correlations of model variables were calculated. Second, associations between maternal and paternal drinking motives, young adult drinking motives and young adult alcohol use and alcohol-related problems were examined with MPLUS version 5.1 (Muthén and Muthén, 1998–2010; see Fig. 1 for the conceptual models that were estimated in MPLUS). Parameters in the models were tested using maximum likelihood with the

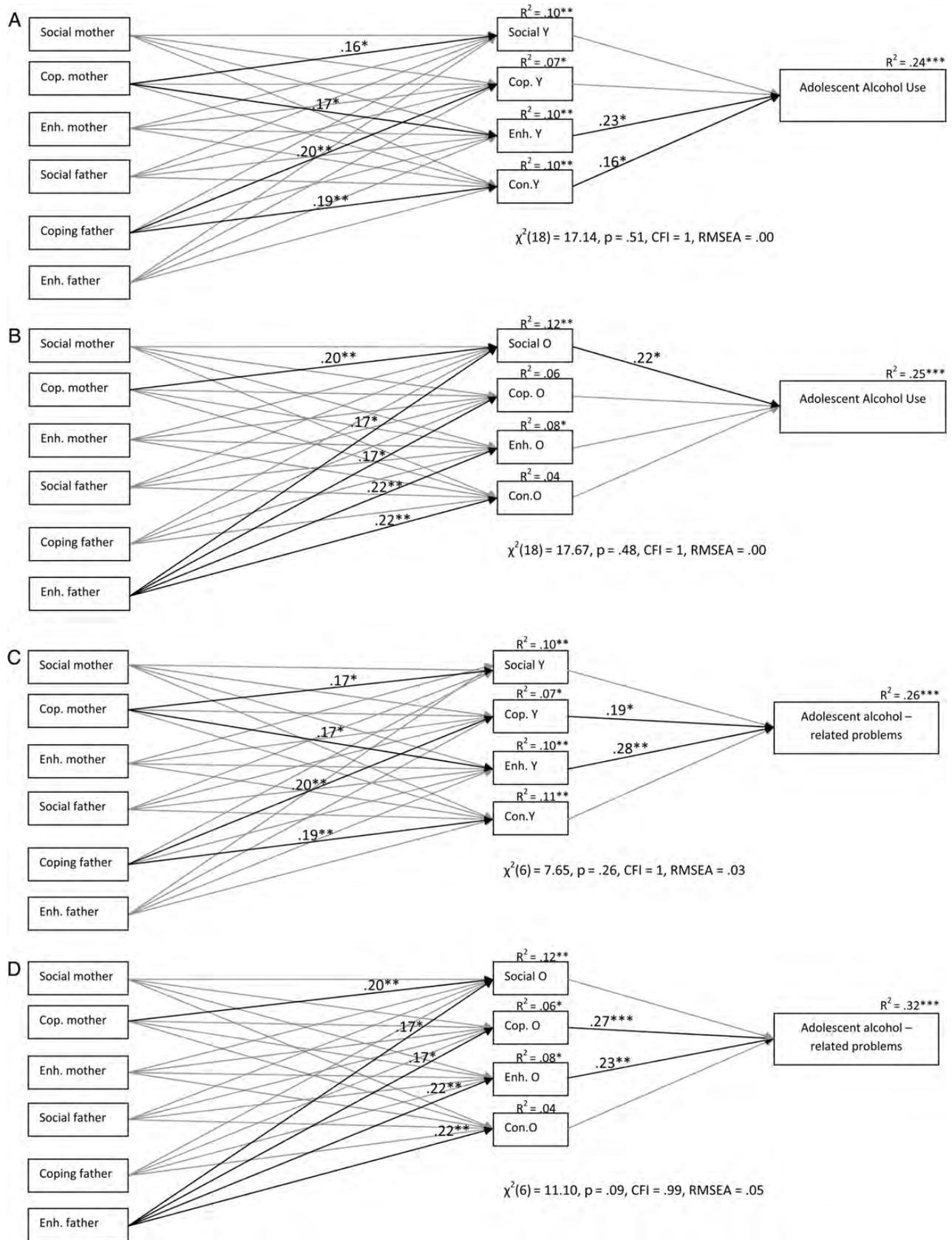


Fig. 1. The associations between parental drinking motives, adolescent drinking motives and adolescents' alcohol use and alcohol-related problems for younger (A and C) and older (B and D) adolescents.

conventional standard errors and chi-square test statistics (ML). With missing data, the standard errors for the parameter estimates are computed using the observed information matrix. The latent factor of young adult alcohol use was measured by two indicators: frequency and intensity of drinking. Factor loadings were 0.68 and 0.79, indicating an adequate assessment of the latent factors by the manifest variables. All other model variables were manifest. Young adult sex and intensity of parental alcohol use were included as covariates in the model. Model fit was assessed by the following fit indices: χ^2 , CFI and RMSEA (Hu and Bentler, 1999).

RESULTS

Descriptive statistics

On average, the young adults drank alcohol one or two times a week, with an average weekly consumption of ~10 glasses (see Table 1 for exact descriptive statistics). Both age groups reported few alcohol-related problems. Descriptive statistics (Table 1) showed that both the younger and older group reported highest social drinking motives, while conformity

Table 1. Descriptive statistics for study variables

	Younger group		Older group	
	M	SD	M	SD
Drinking motives young adults				
Social	2.50 ^a	0.96	2.34 ^a	0.90
Enhancement	2.14 ^b	0.93	2.04 ^b	0.84
Coping	1.54 ^c	0.59	1.41 ^c	0.52
Conformity	1.26 ^d	0.44	1.19 ^d	0.37
Alcohol use (F)	2.73	0.97	2.95	1.07
Alcohol use (I)	11.07	17.71	9.79	12.47
Alcohol-related problems	1.26	0.34	1.25	0.34
	Mother		Father	
Drinking motives parent				
Social	1.89 ^a	0.72	2.16 ^b	0.86
Enhancement	1.59 ^b	0.57	1.76 ^c	0.60
Coping	1.19 ^d	0.42	1.20 ^d	0.39

F, frequency; I, intensity.

Means in the same row (parents) or column (parents and young adults) that have different superscripts (a, b, c, d) are significantly different ($P < 0.05$).

motives were lowest. Parents also reported that their social drinking motives were strongest, while their coping motives for drinking were lowest. Correlations between paternal and maternal drinking motives (Table 2) showed that there was low correspondence between endorsement of their motives. Except for a small positive association between paternal and maternal social drinking motives, the drinking motives of mothers and fathers were not related to each other.

Parent and young adult drinking motives

As can be seen in Fig. 1, results showed that, for the younger group, their social and enhancement motives for drinking were positively associated with coping motives for drinking of their mother. When mothers reported higher coping motives, the younger group reported higher social and enhancement motives. Higher coping motives of the father were associated with higher coping motives of the younger group. All remaining paths between parent coping motives and young adult coping motives were not significant. Males reported higher enhancement and conformity motives and higher intensity of paternal alcohol use was associated with higher conformity motives.

For the older group, higher coping motives of the mother were related to higher social motives to drink for the young adult. Higher father reports of enhancement motives for drinking were related to higher reports of all drinking motives for the older group. All other associations between parent drinking motives and young adult drinking motives were not significant. Males reported higher enhancement motives.

Young adult drinking motives as predictors of alcohol use and alcohol-related problems

For the younger group, both enhancement and conformity motives for drinking were predictive of their alcohol use in that higher enhancement and conformity motives were related to higher alcohol use a year later. For the older group, only higher social motives for drinking were predictive of higher alcohol use a year later. With regard to alcohol-related problems, in both the younger and the older groups, higher coping and enhancement motives were associated with more problems.

Table 2. Correlations between parental and young adult drinking motives

	1	2	3	4	5	6	7	8	9	10
Drinking motives mom										
1. Social		0.67**	0.38**	0.18*	0.13	0.11	0.10	0.14*	0.02	0.03
2. Enhancement	0.61**		0.50**	0.14	0.13	0.02	0.14*	0.16*	-0.03	0.02
3. Coping	0.32**	0.47**		0.11	0.09	0.05	0.20**	0.21**	0.06	-0.04
Drinking motives dad										
4. Social	0.14*	0.12	0.12		0.61**	0.24**	0.17**	0.08	0.10	0.02
5. Enhancement	0.08	0.10	0.12	0.63**		0.31**	0.15*	0.04	0.15*	0.08
6. Coping	0.11	0.05	0.06	0.24**	0.32**		0.13*	0.12	0.20**	0.10
Drinking motives young adult										
7. Social	0.10	0.16*	0.24**	0.14*	0.20**	0.13*		0.80**	0.66**	0.43**
8. Enhancement	0.08	0.10	0.16*	0.10	0.20**	0.10	0.76**		0.66**	0.40**
9. Coping	-0.02	0.07	0.11	0.09	0.17**	0.09	0.57**	0.52**		0.48**
10. Conformity	0.03	0.01	0.07	0.01	0.13	0.04	0.40**	0.36**	0.43**	

The younger group is presented above the diagonal and the older group is presented below the diagonal. * $P < 0.05$; ** $P < 0.01$.

DISCUSSION

In the current study, the associations between parental drinking motives and young adult drinking motives were examined. Also, it was expected that social drinking motives were related to young adult alcohol use, while coping and enhancement motives were related to alcohol-related problems. In line with our expectations and with the literature on younger adolescents (Kuntsche *et al.*, 2010; Adams *et al.*, 2012), for both the older and younger groups, alcohol-related problems were associated with coping and enhancement motives. Further, results showed that while the older group's social drinking motives were indeed related to their alcohol use, for the younger group, conformity and enhancement motives were positively associated with their alcohol use. This difference in findings for the older and the younger groups could be explained by an age effect. Previous studies with younger adolescent samples showed that enhancement (Cooper, 1994; Kuntsche *et al.*, 2008, 2010) motives were mainly related to normative alcohol use. For conformity motives, results were somewhat mixed (Kuntsche *et al.*, 2008; Schelleman-Offermans *et al.*, 2011). Older adolescent or young adult samples showed that it was mainly social motives that were related (Cooper *et al.*, 1992; Müller and Kuntsche, 2011). Probably, these younger individuals still have to establish their drinking pattern. During this initiation period of drinking, when adolescents and young adults seek their own identity through exploration (Berk, 2005) and conforming to peer norms (Gavin and Furman, 1989; LaFontana and Cillessen, 2010), enhancement and conformity motives might be more important.

The present study provided some support for the cognitive model of intergenerational transference (Campbell and Oei, 2010) of drinking motives. The results showed that for younger individuals, stronger coping motives of the mother were related to stronger social and enhancement motives, while stronger coping motives of the father were associated with stronger coping motives of the young adult. For older individuals, stronger coping motives of the mother were related to stronger social drinking motives, and stronger enhancement motives of the father were associated with stronger overall drinking motives of the young adult. These results hint at a difference between mothers and fathers as to which motives were most strongly associated with their children's drinking motives. For mothers, it were mostly coping motives that were significantly associated with several young adult drinking motives, whereas for fathers, enhancement motives were mostly predictive of different young adult motives. This finding could be due to the fact that, when compared with mothers, fathers reported stronger enhancement and social motives. When set off against social and enhancement motives, coping motives were relatively stronger for mothers than for fathers. Indeed, the literature also shows that social and enhancement motives are stronger for men compared with women (Kuntsche *et al.*, 2006, 2008). For young adults, these coping motives of mothers and enhancement motives of fathers are probably most apparent and therefore associated with their own overall drinking motives.

One could expect that one specific parental drinking motive would be associated with that same specific drinking motive of young adults (Windle and Windle, 2012). Yet, drinking motives within a person—both adults and

adolescents—are highly correlated, indicating that when one particular drinking motive of a parent is stronger, there is a high probability that other drinking motives are stronger as well (Kuntsche *et al.*, 2005). Perhaps it is difficult for young adults to differentiate between drinking motives within parents, when the differences in drinking motives between parents is more pronounced. The result could be that those parental drinking motives within a parent that are relatively strong compared with the other motives are associated with a general increase in young adults' drinking motives. This seems to be confirmed in the present study, especially with regard to the link between paternal and young adult drinking motives. Further, social and enhancement motives, which are more prevalent in fathers, were most strongly interrelated and could be seen as more general motives, which can be interpreted in multiple ways. Therefore, it is not surprising that these motives of fathers are linked to more general young adult drinking motives. For mothers, coping motives are relatively more strongly endorsed compared with fathers. These coping motives are to a lesser extent related to the other motives and therefore more specific. Also, since they are negative as well as internal, these motives might be less visible for adolescents to notice. This would explain the fact that maternal motives are not as strongly and generally related to young adult drinking motives.

While this full exploration of parental and young adult drinking motives constitutes a significant contribution to the literature on the intergenerational transmission of drinking motives, some limitations should be mentioned. An important drawback of the current study is that drinking motives of parents as well as young adults were measured concurrently. Therefore, no inferences about causality can be made and the discussion of these results should be viewed with some caution. Further, although both parent and young adult reports were available, the sample size was relatively small considering the rather complex models that were tested. Therefore, it was not possible to consider several potentially important moderators. A first important moderator could be parental alcohol use, since previous research indicated that parental alcohol use is a predictor of adolescent drinking motives (Müller and Kuntsche, 2011). Also, adult drinking motives and alcohol use have shown to be directly related (Cooper *et al.*, 1992; Engels *et al.*, 2005). While in our analyses, we did control for parental alcohol use, it would be interesting to see whether the associations between parental and young adult drinking motives depend on the amount of alcohol consumed by parents. A second moderator that could have been included is gender, since multiple studies showed gender effects on drinking motives (Cooper, 1994; Kuntsche *et al.*, 2006), and also gender effects in the intergenerational transition of drinking motives have been found (Windle and Windle, 2012).

While results on the intergenerational transmission of several different alcohol-related cognitions have been mixed until now (Brody *et al.*, 1998; Handley and Chassin, 2009; Parsai *et al.*, 2009; Campbell and Oei, 2010; Windle and Windle, 2012), results of this study suggest that stronger drinking motives of parents are related to stronger drinking motives of children. With regard to the link between young adult motives and their alcohol use, stronger coping and enhancement motives were associated with more alcohol-related problems, while for the younger and older group,

respectively, stronger enhancement and conformity motives on the one hand, and social motives on the other, were related to more alcohol use. Future research should test this model in a larger sample, which should be followed over time, to examine whether these parental cognitions are really predictive of young adult cognitions and alcohol use and whether this association differs according to young adult gender or parental alcohol use patterns.

Funding — This study was funded by the Dutch Cancer Society, the Dutch Organization for Scientific Research and the Radboud University Nijmegen.

Conflict of interest statement. None declared

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