Drinking motives and alcohol consumption behaviors among young French people

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A B S T R A C T

Introduction: Numerous studies suggest that social, enhancement, conformity and coping drinking motives each lead to unique behavioral patterns related to alcohol consumption. Recently it has been suggested to study specific coping motives that distinguish feelings of anxiety and depression. This study aims primarily to 1) psychometrically validate the recent five factor questionnaire of drinking motives among young French people, 2) explore differences in mean endorsements of motives across age and sex and 3) explore the concurrent validity of drinking motives by studying their associations with alcohol consumption behaviors.
Methods: The French Modified Drinking Motives Questionnaire Revised and the Alcohol Use Disorders Identification Test were administered to 314 university students and 193 high school students.
Results: The 5-factor model of drinking motives provided a good fit to the data and a better fit than the 4-factor model. Conformity motives were more strongly endorsed among high school students than among university students ($d = 0.26$). Social motives were more endorsed by men than by women ($d = 0.47$), as were enhancement motives ($d = 0.48$). Our study suggests that each of the studied motives transcribes a specific set of drinking behaviors.
Conclusions: Researchers and practitioners could effectively use this conception of drinking motives in order to better understand and prevent problematic alcohol use among young people.

1. Introduction

At risk and problematic drinking behavior is a public health concern that merits international attention. For example, death, suicide, fatal car accidents and violence are more frequent when problems with alcohol are present (American Psychiatric Association, 2013). In France alcohol consumption often begins at a young age. In the region Pays de la Loire, where the present study was conducted, 91% of 15–16 year olds reported having tried a drink containing alcohol at least once in their life, whereas this held true for 100% of 19–20 year olds. 40% of 15-year-old boys declared having been previously "drunk" and this was true for 25% of girls. This proportion increased to over 85% among 23–25 year old boys and to 60% among girls. In the same study, 48% of boys and 21% of girls aged 18–25 declared having drunk at least 6 drinks on a single occasion over the last month. When administered the Audit-C, 41% of 15–17 year olds were identified as being at risk for developing an alcohol use disorder, whereas this is true for 45% of 18–25 year olds. In both age groups, young men were more at risk than women (ORS Pays de la Loire, 2012). In order to better prevent the onset or the aggravation of problematic alcohol use, it is important to identify risk factors of problematic drinking.

A wide variety of risk factors has been brought to light and can be regrouped into four categories: genetic predispositions, individual characteristics, social and economic factors, and environmental determinants (International Center For Alcohol Policies (ICAP), 2009). Even if all of these categories hold some importance, research suggests that the most proximally predictive factor of alcohol use is drinking motives (Kuntsche, Knibbe, Gmel, & Engels, 2005). From a theoretical standpoint, Cox and Klinger (1988) came out with a widely adopted framework used to understand the genesis of drinking motives in which several levels of determinants are figured. In their model, motives are the most proximally predictive factor determinant of behavior. They are defined by the valence of reinforcement obtained with alcohol use (positive or negative reinforcement). In other words, alcohol can either be used to increase positive affect or to decrease negative affect. This model was later revised, operationalized and further specified by Cooper (Cooper, 1994; Cooper, Russell, Skinner, & Windle, 1992). She defined four drinking motives because she considered the source of reinforcement. Cooper pointed out that the source of reinforcement could either be psychological (internal) or social (external). This

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rendered a 2 × 2 cross table (source × valence) in which she defined the following motives: *social* (positive, external), *coping* (negative, internal), *conformity* (negative, external) and *enhancement* (positive, internal).

Those who drink for social reasons will drink at parties for example in order to better their social experience, whereas those who drink for coping reasons wish to diminish their negative feelings and may do so alone. People who want to make an occasion even better by consuming alcohol endorse enhancement motives. They may be bored and want to spice things up. Those who drink for conformity reasons think that a well-liked social group will better accept them if they drink but, personally, they may not want to drink. In theory, conformity motives are more prevalent in younger samples, but studies do not consistently find this effect (Cooper, 1994). More recently, it has been advanced that coping motives should distinguish between the specific negative affect that they are destined to reduce: Anxiety or depression.

Each drinking motive provides a unique prediction of drinking patterns and behaviors. Studies have aimed to establish direct and indirect relationships (through alcohol use) between motives and alcohol-related problems (e.g. Grant, Stewart, O'Connor, Blackwell, & Conrod, 2007). Social motives are the most widely endorsed and most often lead to heavy alcohol use but not to problems (Kuntsche et al., 2005; Lyvers, Hasking, Hani, Rhodes, & Trew, 2010). Enhancement motives may also lead to frequent alcohol use notably because the context is irrelevant (Cooper, 1994) and can lead to problems, but some suggest that this is only because they lead to increased alcohol use (Grant et al., 2007). Conformity motives on the other hand may lead to decreased alcohol consumption in part because of the restricted context in which they emerge, but can also lead directly to problems related to drinking behavior (Cooper, 1994; Grant et al., 2007). Coping motives are supposedly maladaptive adjustment strategies that lead both to heavy use and to problems even independently of the amount of alcohol consumed (Kuntsche et al., 2005). However, contradictory findings relating forms of anxiety to alcohol consumption have been identified, such that anxiety has been associated with increased (e.g. Comeau, Stewart, & Loba, 2001) or decreased alcohol use (e.g. Ham, Bonin, & Hope, 2007).

Across sex and education level, studies suggest that there are small differences in drinking motives. For example, associations between coping drinking motives and problems were found both among groups of older and younger adolescents but effects were stronger among younger participants (Cooper, 1994). Studies have suggested that positive reinforcement motives may lead to heavier drinking among high school and university students, but not among younger adolescents (< 15 years old). However, results are unclear and more research that compares age groups of young people would be beneficial (Cox, Hosier, Crossley, Kendall, & Roberts, 2006). In one of two Canadian university samples studied, men more strongly endorsed social motives than did women, but the observed effect was small (Grant et al., 2007). Another small effect was found in which adolescent males scored higher than females on social, enhancement and conformity motives (Cooper, 1994).

Cooper's original validation of the 4-factor model (1994) used a rigorously constructed sample of 1243 adolescents aged 15 to 19 year olds. The 4-factor model of drinking motives provided a good fit to the data and a better fit than one, two or three factor solutions. Configural invariance was established across age, sex and race. Likewise, the model provided a good fit among younger adolescents (15–17 years old), older adolescents, men, women, blacks and whites. The 5-factor questionnaire which included coping anxiety and depression motives was first psychometrically validated among Canadian undergraduates (Grant et al., 2007) and then in a general Spanish sample (Mezquita et al., 2011). In both of these studies, the 5-factor solution provided a better fit to the data than the 4-factor model. Two main studies have investigated the psychometric validity of specific coping motives (Grant, Stewart, O'Connor, Blackwell, & Conrod, 2009; Grant et al.,

2007; Mezquita et al., 2011). Unexpectedly, coping depression motives led to increased alcohol use in the first study, but were not significantly related to use in the second. Furthermore, the first study indicated that coping anxiety motives led to decreased use, whereas the second study found that they led to increased use. More research would be beneficial in order to elucidate the concurrent validity of specific coping motives.

We have laid out three studies in this article with the following aims: 1) Investigate psychometric proprieties of a 5-factor model of drinking motives among a young French sample by studying factor structure and reliability. We will also compare the fit of a 4-factor and 5-factor model. 2) Explore differences in drinking motives across sex (male/female) and education level (high school/university students). 3) Investigate the concurrent validity of drinking motives on various drinking behaviors independently of sex and education level.

2. Instruments and methods

2.1. Participants and procedure

Participants were high school and university students from Nantes (France). The participating high school sent students' parents a document providing information about the study in the weeks prior to the administration of the questionnaires. All parents were asked to exclude their child from the study if they so wished. On the day of the study, investigators again described the study, underscored participants' anonymity and that participation was voluntary and could be interrupted at the will of the participant at any time. Participants were administered the MDMQR and the AUDIT in paper and pencil format. Age ranged from 15 to 29 years old ($M = 19.22$; $SD = 2.00$), averaged 20.31 years old ($SD = 1.64$) in the university sample ($n = 314$) and averaged 17.42 years old ($SD = 1.00$) in the high school sample ($n = 193$). 75% of the sample was female. The total sample ($N = 507$) was restricted to students who consumed alcohol at least once over the preceding year ($N = 454$).

2.2. Instruments

The *Modified Drinking Motives Questionnaire Revised* (MDMQR) measures drinking motives (Grant et al., 2007). It has 28 items and the 5 aforementioned scales. Participants are asked to think of all the times that they drank alcohol over the last year and position themselves on a 5-point scale (never-always) in response to each item. The questionnaire was translated into French and then blindly back translated into English using the procedure outlined by (Vallerand, 1989).

The *Alcohol Use Disorders Identification Test* (AUDIT) in French (Gache et al., 2005) is a screening instrument used to measure problematic alcohol use. A systematic review has demonstrated that the AUDIT is the best screening instrument among existing measures (Fiellin, Reid, & O'Connor, 2000). Participants are asked to think of all the times they drank over the last year and position themselves on 3-point or 5-point scales. The AUDIT has 10 items and yields a global score as well as three scale scores: hazardous alcohol use (items 1–3), dependence symptoms (items 4–6), and harmful alcohol use (items 7–10)(Babor, Higgins-Biddle, Saunders, & Monteiro, 2001).

2.3. Overview of analyses

First Confirmatory Factor Analysis (CFA) was used to assess model fit of the MDMQR. Inter-correlations and Cronbach's alpha were calculated for each scale. The fit of the 5-factor model was then compared with that of a 4-factor solution. A test of configurable invariance of the 5-factor model was conducted across sex and education level. Mean differences were examined across these variables and Cohen's d was calculated to convey effect sizes. Regression analyses were run in order to investigate associations between alcohol consump-