Corrigendum

Corrigendum to “Binging at the campus: motivations and impulsivity influence binge drinking profiles in university students” [Psychiatry Research (2017) 146–154]

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The authors regret that an error has been detected regarding the results reported for the UPPS-P scores, implying some modifications in the description of the binge drinkers’ subgroups.

It should be underlined that the main results highlighted in the published study (Lannoy et al., 2017) and its key conclusions have not been modified: the optimal three-cluster solution and all group comparisons described in the original article remain correct. However, we found that the online questionnaire presenting the UPPS-P led to erroneous scores (see Tables 2–4 and Fig. 1 for the corrected scores, Table 1 remaining unchanged). These changes have resulted in some modifications regarding the description of the clusters: Cluster 1 has been renamed occasional binge drinkers group (see Figs. 1–2), and is characterized by low levels of premeditation and perseverance; According to their consumption patterns (no changes were related to alcohol consumption), Clusters 2 and 3 have kept their original names, but the UPPS-P-related descriptions have been modified in such a way that Cluster 2, the recreational binge drinkers group, is described by high levels of urgency and sensation seeking together with reduced lack of premeditation and perseverance; and Cluster 3, the hazardous binge drinkers group, is characterized by all drinking motives and elevated urgency. To offer a better description of these new results, a modified discussion section has also been proposed in this Corrigendum. Importantly, the perspectives and implications described in the original article remain valid, the only previous conclusion to be adapted being related to the fact that the hazardous subgroup of binge drinkers is still mainly associated with drinking motives, but also with a specific facet of impulsivity (i.e. urgency).

This Corrigendum also proposes a slightly modified version of the discussion, including the changes related to the modified results.

Discussion

This study was the first to propose a joint analysis of drinking motives and impulsivity traits in a large sample of binge drinkers by means of a cluster analysis. As the psychological factors underlying the development and maintenance of binge drinking habits are little known, our aims were to explore: (a) whether binge drinking can be associated with specific drinking motives and impulsivity traits, and (b) whether valid subgroups of binge drinkers can be identified, potentially being characterized by a distinct combination of these variables. Results showed three binge drinker subgroups that vary in terms of impulsivity traits and drinking motives, as well as in negative outcomes associated with their drinking habits. In view of these results, the three clusters were named as follows: Cluster 1 regrouped “occasional binge drinkers”, Cluster 2 comprised “recreational binge drinkers”, and Cluster 3 included “hazardous binge drinkers”.

The first subgroup, occasional binge drinkers, has low levels of both premeditation and perseverance. As suggested in past studies, the lack of premeditation and perseverance may be characteristic of the living habits found in university students [e.g., using alcohol consumption as a reward for hard work, as a mean to procrastinate, or when bored (Jasinski and Ford, 2007)]. However, while the lack of premeditation is directly related to drinking frequency nor intensity (Magid and Colder, 2012; Cyders, 2013), positive urgency, and lack of perseverance are associated with alcohol consumption and potentially with early binge drinking (Stautz and Cooper, 2013), the lack of perseverance is not directly related to drinking frequency nor intensity (Magid and Colder, 2007). This absence of strong link with alcohol consumption is supported by the comparisons performed with other binge drinker clusters, showing lower drinking motives in this subgroup (see Fig. 1) and suggesting an occasional binge drinking pattern. Indeed, the pattern of alcohol consumption in Cluster 1 appears to be the least problematic based on the AUDIT score. Besides, this group is also characterized by unbalanced gender-ratio (63.3% of men). Using the UPPS-P, it has been shown that men tend to report higher sensation seeking (Billieux et al., 2012; Cyders, 2013), positive urgency, and lack of perseverance (Cyders, 2013) than women. While urgency and sensation seeking are more present in Cluster 2, presenting a more balanced gender ratio, our results on Cluster 1 might be in line with a higher lack of perseverance in men.
Comparisons between binge drinker and non-binge drinker groups on impulsivity, drinking motives, and AUDIT.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Binge drinkers (n = 467)</th>
<th>Non-binge drinkers (n = 924)</th>
<th>t</th>
<th>n^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impulsivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urgency</td>
<td>17.94 (4.08)</td>
<td>17.31 (3.74)</td>
<td>3.39**</td>
<td>0.006</td>
</tr>
<tr>
<td>Lack of premeditation</td>
<td>9.36 (2.88)</td>
<td>9.67 (3.26)</td>
<td>2.13*</td>
<td>0.003</td>
</tr>
<tr>
<td>Lack of perseverance</td>
<td>9.37 (3.33)</td>
<td>9.67 (3.62)</td>
<td>1.80</td>
<td></td>
</tr>
<tr>
<td>Sensation seeking</td>
<td>9.38 (2.68)</td>
<td>8.82 (2.27)</td>
<td>4.79***</td>
<td>0.01</td>
</tr>
<tr>
<td>Drinking Motives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhancement</td>
<td>13.50 (4.79)</td>
<td>9.86 (3.84)</td>
<td>17.82***</td>
<td>0.15</td>
</tr>
<tr>
<td>Social order</td>
<td>16.06 (3.88)</td>
<td>13.34 (4.04)</td>
<td>14.55***</td>
<td>0.11</td>
</tr>
<tr>
<td>Coping</td>
<td>19.08 (6.75)</td>
<td>17.25 (6.04)</td>
<td>6.06***</td>
<td>0.02</td>
</tr>
<tr>
<td>Conformity</td>
<td>6.58 (2.60)</td>
<td>6.38 (2.33)</td>
<td>1.71</td>
<td></td>
</tr>
<tr>
<td>AUDIT Total</td>
<td>14.42 (5.27)</td>
<td>6.76 (4.06)</td>
<td>34.56***</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Note. *p < 0.05. **p < 0.01. ***p < 0.001.

The second subgroup, recreational binge drinkers, represents the majority of the sample. Binge drinkers from this cluster are characterized by heightened impulsivity, as shown by high levels of urgency and sensation seeking, but also by elevated premeditation and perseverance. This impulsivity profile thus reflects affective and motivational-based impulsivity (i.e. act rashly when confronted with intense emotions or to search for strong stimulation and excitement), but preserved abilities to take into account the consequences of actions and to persist in difficult and demanding cognitive tasks. Regarding alcohol consumption, students have a high drinking frequency and often drink more than six units in one occasion, representing the typical binge drinking pattern. However, results indicated no significant difference with Cluster 1 regarding problematic consumption. Moreover, this subgroup reported being less frequently drunk than other groups, therefore suggesting preserved control on alcohol consumption. These binge drinkers thus present a recreational pattern, which can be viewed as a way to enhance or maintain positive affect (Cox et al., 2015) in a context of efficient executive control. Further comparisons also showed that their drinking motives, particularly positive reinforcement motives (enhancement and social order), are elevated in comparison with non-binge drinkers, which emphasizes the critical role of these motives in binge drinking. Indeed, alcohol consumption motivated by pleasure and intensity (Kuntsche et al., 2014) serve to overcome or reduce negative affect, as previously shown in different patterns of alcohol consumption, notably among undergraduate students (Terlecki and Buckner, 2015). Besides, the possible relationship between impulsivity and enhancement motives should be mentioned, as enhancement may be a mediator between increased alcohol consumption and impulsivity (Loxton et al., 2015). However, this study was based on a unidimensional view of impulsivity and should be confirmed. As a whole, with respect to Cooper's model (1994), both emotion regulation-related motives (coping and enhancement) were associated with drinking problems and when typical levels of alcohol use were controlled, coping remained the most predictive motive related to alcohol problems. In line with previous studies suggesting that binge drinking could be a first stage towards alcohol-related disorders (Sanhueza et al., 2011), this cluster thus appears to group the students who are the most likely to present an alcohol use disorder and to evolve towards severe alcohol-use disorders, particularly in view of their very high scores on the AUDIT items related to negative consequences.

A central aspect of the present results is that the most problematic cluster regarding alcohol consumption is mainly characterized by pronounced drinking motives and high levels of urgency. Indeed, although impulsivity has been shown to be a hallmark of addictions (Coskunpinar et al., 2013), influential models of binge drinking posit that this drinking pattern, which is not necessarily addictive, is more strongly related to important expectancies and motivations towards alcohol (Oei and Morawska, 2004). Our results go further and suggest that impulsivity traits characterize some subgroups of binge drinkers (Clusters 1 and 2) and that only the combination between high drinking motives and high urgency may efficiently capture hazardous binge drinkers. Nevertheless, it is worth noting that the current results were based on self-reported measures of impulsivity. Future studies should specify the role played by impulsivity using experimental measures, as the correlations observed between self-reported and experimental measures of impulsivity traits are generally relatively modest (Cyders and Coskunpinar, 2011). Conversely, concerning drinking motives, studies stated a good consistency between self-reported measures and actual alcohol consumption (Kuntsche and Kuendig, 2012).

As this study was the first to propose subtyping of binge drinking on the basis of psychological factors, the original results obtained here need to be replicated and extended. In this study, impulsivity and drinking motives have been explored because they are widely validated and have been extensively relied to alcohol-related disorders. Future studies should however explore binge drinkers’ subgroups by considering a more exhaustive assessment of psychological factors. Studies also have to more comprehensively explore the role of comorbid psychopathology and involved psychological processes (e.g., emotional reactivity, emotional regulation, repetitive negative thinking) to clearly describe the psychological profiles of each subgroup. Moreover, while all the items related to coping motives were kept in the analyses, the two coping subscales (depression and anxiety) were merged to avoid multicollinearity, and the present results should be confirmed by using the original DMQ-R version. It is also worth noting that compared to other motives, the ‘coping anxiety’ has a lower internal reliability in the current sample (Table 1). Beyond this, the study emphasized that binge drinking is a heterogeneous problematic behavior, which raises important implications. First, at the fundamental level, this study allows a better understanding of binge drinking and the role of psychological factors implicated in this pattern of harmful alcohol consumption. The present results contribute to the specification of Oei and Morawska (2004) model by describing the existence of different binge drinkers’ subgroups. They also suggest that problematic consumption in student binge drinkers is related to drinking motives and urgency, thus
supporting the general validity of the Cooper’s model (1994) and the usefulness to consider impulsive validity as a multidimensional construct. The study also provides suggestions about the potential evolution of alcohol use disorders: As hazardous binge drinkers did not mainly report high impulsivity traits, but rather pronounced drinking motives and elevated urgency, it could be hypothesized that impulsivity impairments are initially limited, and progressively develop during the transition between binge drinking and severe alcohol use disorders. However, our design did not allow to explore the causal link between these variables, and longitudinal studies are needed to test this proposal. Second, at the therapeutic level, the present findings suggest that prevention among hazardous binge drinkers should aim at modifying drinking motives and establishing adaptive emotional regulation strategies. Our results also underline that binge drinkers are not a unitary group; rather, they are separated into several subgroups with distinct psychological characteristics. Even if clinical interview and experimental tasks should be used in the future to further evaluate these psychological characteristics (notably by offering objective impulsivity measures), the current results suggest that preventive interventions need to be adapted to the targeted subgroup of binge drinkers.
for example by focusing on the restructuring of dysfunctional meta-cognitions (e.g., drinking alcohol to avoid negative judgments of others), or on the help to control drinking (e.g., implementation intentions; Gollwitzer, 1999).

Reference


