Short communication

'Neknomination': Predictors in a sample of UK university students

Antony C. Moss [a], Marcantonio M. Spada [a], Jamila Harkin [a], Ian P. Albery [a], Nicola Rycroft [a], Ana V. Nikčević [b,*]

[a] Division of Psychology, School of Applied Sciences, London South Bank University, London, UK
[b] Department of Psychology, Kingston University, Kingston upon Thames, UK

ABSTRACT

Objectives: To identify prevalence and predictors of participation in the online drinking game 'neknomination' amongst university students.
Method: A convenience sample of 145 university students participated in a study about drinking behaviours, completing a questionnaire about their participation in neknomination, the Alcohol Use Disorders Identification Test, and the Resistance to Peer Influence Scale.
Results: Out of 145 students sampled, 54% took part in neknomination in the previous month. Mann–Whitney U tests revealed significantly higher scores on the Alcohol Use Disorders Identification Test, and significantly lower scores on the Resistance to Peer Influence Scale, for those who had participated in neknomination. A significant correlation was also shown between specific peer pressure to neknominate, and engagement in neknomination. A logistic regression analysis indicated that scores on the Alcohol Use Disorders Identification Test, but not the Resistance to Peer Influence Scale, predicted classification as an individual who participated in neknomination.
Conclusions: We found that over half of respondents had participated in a neknomination game in the past month, with almost all male respondents having done so. Participation in neknomination was strongly associated with general hazardous drinking behaviour but not with resistance to peer influence. Further research is needed to understand the role of engagement with social media in drinking games and risky drinking.

1. Introduction

Drinking games serve a number of intra- and interpersonal functions. As well as assisting participants in achieving rapid intoxication, they also facilitate social interactions amongst young people (Borsari, 2004). In a survey of 256 students, examining drinking game participation amongst Australian university students to determine participant motivations, and to analyse the impact of games on alcohol consumption and its adverse consequences, Polizzotto et al. (2007) reported that 60% of game participants felt pressure to participate from others, while 50% reported that they had placed pressure on others to participate. In addition, half of the participants reported an adverse outcome following participation — with 89% having experienced or witnessed alcohol-related loss of consciousness.

Neknomination is a new form of social media-based drinking game, which involves an individual drinking or 'necking' a pint of alcoholic drink, while videoing themselves doing so. This video is then posted online, containing a nomination which challenges one or more named individuals to 'exceed' (usually in terms of risk) the behaviour displayed in the original video. Subsequent responses to the original invitation tend to become more elaborate, with multiple or stronger drinks and more reckless and dangerous activities involved. Neknomination has been associated in the press with a number of fatalities, mainly due to acute alcohol poisoning (http://www.bbc.co.uk/news/health-26302180). Zonfrillo and Osterhoudt (2014) point to neknomination as an unfortunate use of social media to promote irresponsible drinking behaviour, rather than promoting more healthy attitudes and behaviours.

Friends and peers exert a number of influences on individual drinking behaviour. In a review of this area, Borsari and Carey (2001) identified three main ways in which peers exert influence over drinking: overt offers (e.g. offering a drink, insisting that and individual has a drink), modelling (i.e. a more passive influence akin to behavioural mimicry), and the development of social norms around alcohol consumption which drive prospective use. The first of these influences is of particular relevance to the present study, in that the act of neknominating a peer is a very explicit act of 'inviting' others to engage in drinking — with the added dimension that this invitation is monitored by one's peers, creating a strong imperative to comply.

As a relatively recent phenomenon, there is currently no empirical data available regarding participation in neknomination drinking games. The present study sought to determine the prevalence of

* Corresponding author at: School of Psychology, Criminology and Sociology, Faculty of Arts and Social Sciences, Kingston University, Kingston upon Thames, UK.
E-mail address: a.nikcevic@kingston.ac.uk (A.V. Nikčević).

neknomination amongst a UK university student sample of social drinkers, and explored the factors associated with neknomination. In particular, we examined the role of peer influences by measuring the specific pressure placed on individuals by their friends to engage in neknomination, as well as assessing individual variations in susceptibility to peer pressure, using the Resistance to Peer Influence Scale (RPIS; Steinberg & Monahan, 2007).

2. Method

2.1. Participants

A total of 145 social drinking university students (91 females) took part in a survey about drinking behaviour. Recruitment was via posters displayed on campus, and snowballed via social media and email. The mean age of the sample was 20.8 years (age range = 18 to 24 years; SD = 2.1 years). Of the total sample, 79 (54.5%) had taken part in neknomination in the previous month. In addition, 25 (17.2%) of the sample reported that they regularly took part in drinking games with their friends. Of those participants who reported not having taken part in neknomination 13 (19.7%) reported having received a neknomination via social media but had declined to participate.

2.2. Procedure

Ethical approval for the study was obtained from London South Bank University, UK. Posters promoting the study were displayed around the campus. The posters provided information on the nature of the study, inclusion criteria (over 18, social drinkers), and the address of a web link to the study website. If consenting to participate in the study, a page containing basic demographic questions, questions about neknomination and the self-report measures assessing levels of alcohol use and susceptibility to peer-pressure was presented to participants. A second submission from the same IP address was not allowed so as to avoid multiple submissions from the same participant.

2.3. Self-report measures

2.3.1. Demographic and neknomination questions

Demographic questions recording age and gender were followed by a question which asked participants to indicate whether they had participated in a neknomination in the past month. As part of the briefing for the study, all participants were given the following definition of neknomination, to ensure that participants understood the meaning of the term:

> Neknomination is an online drinking game. The parameters of the game require the participant to film themselves drinking a pint of an alcoholic beverage in one gulp, and upload the footage to the web. The participant then nominates others to upload a video of themselves downing a drink; the nominated person has to complete this task within 24 hours.

After indicating whether they had taken part in a neknomination game, a series of follow-up questions were asked (see Section 3.1 for an analysis of responses). These questions asked participants to report whether they regularly engage in drinking games, whether they experienced pressure to take part in a neknomination game, and (for those who had not taken part) whether they had been invited to take part in a neknominate game.

2.3.2. Alcohol Use Disorders Identification Test (AUDIT; Babor, De La Fuente, Saunders, & Grant, 1992)

The AUDIT consists of 10 items assessing recent alcohol consumption, alcohol dependence symptoms and alcohol-related problems. Respondents are asked to choose one of 5 statements (per question)

Table 1
Means and standard deviations (in brackets) of the study variables.

	Participation in neknomination (n = 79)	Non-participation in neknomination (n = 66)
Age	20.7 (2.3)	20.9 (1.9)
AUDIT	14.6 (6.1)[a]	9.3 (4.6)
RPIS	2.8 (0.6)[a]	3.4 (2.3)

Note. AUDIT = Alcohol Use Disorders Identification Test; RPIS = Resistance to Peer Influence Scale.
[a] Pairs significantly different from each other ($p < .001$) on the basis on Mann–Whitney U tests.

that most applies to their use of alcohol beverages over the past year. Responses are scored from 0 to 4. The summary score for the total AUDIT ranges from 0, indicating no presence of problem drinking behaviour, to 40 indicating marked levels of problem drinking behaviour and alcohol dependence. Higher scores indicate higher levels of problem drinking. This self-report measure has been extensively used and possesses good validity and reliability (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001).

2.3.3. Resistance to Peer Influence Scale (RPIS; Steinberg & Monahan, 2007)

The RPIS consists of 10 pairs of statements which the respondent is asked to choose from as the best descriptor of themselves (e.g. "Some people go along with friends just to keep their friends happy" BUT "Other people refuse to go along with what their friends want to do, even though they know it will make their friends unhappy"). After deciding which descriptor in the pair best describes themselves, the participant is then asked whether the descriptor is "really true" or "sort of true" of the type of person they are. Responses are then coded on a 4-point scale for each pair, and the total score is reported as the average response across all pairs, producing a final score which ranges from 1 to 4. Higher scores indicate greater resistance to peer influence, lower scores indicate that the participant is more susceptible to the influence of their peers. This self-report measure has been found to possess acceptable psychometric properties (Steinberg & Monahan, 2007).

3. Results

3.1. Preliminary analysis of self-report data

A chi square test of independence was conducted to examine the relationship between participation in neknomination and participants' responses to the question 'Do you regularly take part in drinking games?'. Results showed that there was no significant association between these two variables, $\chi^2 = 1.2$, df = 1, $p > .05$. A Spearman's rho analysis was used to explore the correlation between neknomination participation and responses to the statement 'I have felt pressured by my friends to take part in a neknomination game' (the latter coded on a 5-point Likert scale, from strongly agree to strongly disagree). Results revealed a significant positive correlation, such that participants who had engaged in neknomination were more likely to report experiencing pressure to participate from friends than those who had not participated, $r_s = 0.58$, $p < .001$.

Table 2
Gender distribution of participation in neknomination.

Gender	Participation in neknomination (n = 79)	Non-participation in neknomination (n = 66)
Male (n = 54)	50	4
Female (n = 91)	29	62

Table 3
Summary statistics for the logistic regression equation predicting participation in nek-
nomination categorization.

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1						
Gender	−2.99	0.59	26.1	1	<0.001	0.05
AUDIT	−0.17	0.05	11.3	1	<0.001	0.85
Constant	2.57	0.60	18.16	1	<0.001	13.0
Step 2						
Gender	−2.97	0.59	25.47	1	<.001	0.05
AUDIT	−0.16	0.05	9.72	1	<.01	0.85
RPIS	0.35	0.41	0.74	1	.39	1.42
Constant	1.41	1.45	0.95	1	.33	4.11

Note. AUDIT = Alcohol Use Disorders Identification Test; RPIS = Resistance to Peer Influ-
ence Scale; n = 145.

3.2. Data configuration and difference tests

Examinations of skewness and kurtosis, as well as tests of normality, revealed that the distributions of the study variables were non-normal. As a consequence, a series of Mann Whitney U tests were conducted to identify significant differences between those who had participated in neknomination and those who had not (see Table 1). These analyses revealed that those who had participated in neknomination had higher scores on the AUDIT and lower scores on the RPIS (indicative of being more susceptible to peer influence). A Chi-Square analysis was used to explore the association between gender and participation in neknomination. This test revealed a significant association ($\chi^2 = 57.1$, df = 1, $p < .001$), such that males were significantly more likely to have engaged in neknomination than females (see Table 2).

3.3. Hierarchical binary logistic regression analysis

A hierarchical binary logistic regression analysis was conducted using neknomination participation and neknomination non-participation group membership as the outcome variable. Gender and AUDIT scores were entered into the first block, followed by RPIS in the second block (see Table 3). Results from the first step in the model indicated that gender and AUDIT were significant predictors of neknomination category ($\chi^2 = 71.7$, df = 2, $p < .001$) and that, in the second step, RPIS scores did not explain a significant amount of additional variance in the model ($\chi^2 = 1.69$, df = 2, $p > .05$).

4. Discussion

The results of our study indicated that of the 145 university students sampled 54.4% had taken part in neknomination in the previous month. Results also indicated that those who had participated in neknomination were more likely to be male and had higher scores on both the AUDIT and RPIS, though participation in neknomination was only predicted by the first two of these three predictors. The relationship between AUDIT scores and participation in neknomination suggests that those individuals who have participated are also generally more hazardous in their drinking behaviour. Results also demonstrated that there was no relationship between general engagement in drinking games and neknomination, participants who had neknominate were

significantly more likely to have reported experiencing specific pressure from their friends to do so. Thus, while the predictive utility of the RPIS as an individual difference measure seemed to be poor in this sample, future research should explore the role of behaviour-specific peer pressure on this kind of behaviour — especially given that neknomination is in itself a social media-based activity which makes it easier for a wider group of one's peers to exert their influence. It may be the case that engagement with social media in general (e.g. regular posting and documenting different types of behaviour online), alongside higher levels of hazardous drinking, would be a better predictor of participation in neknomination.

The finding that males were significantly more likely to have engaged in neknomination is consistent with UK trend data regarding rates of binge drinking. While data suggest a fall in this behaviour in general terms, males are nonetheless still far more likely to binge drink compared to females (Ons, 2013). In addition, the sample prevalence in this study of participation in neknomination suggests that the majority of respondents have engaged in this drinking game. A caveat to this finding is that the recruitment strategy used (i.e. inviting participants to take part in a survey on drinking behaviour) might have led to a biased sample of participants for whom drinking and engaging in drinking games are a more frequent activity. Certainly, the AUDIT scores identified suggest a fairly heavy drinking sample — while this to be expected amongst a university student sample (see e.g. Kypri, Cronin, & Wright, 2005; Moss, Dyer, & Albery, 2009), it is nonetheless arguably not representative of the whole population of student drinkers.

To more fully understand the role of social media in drinking games, and hazardous drinking behaviour in more general terms, future research should seek to examine the social context in which participation in games such as neknomination occur as well as overall engagement with documenting one's activities online. It is unclear, for instance, to what extent individuals engaging in this practice are being predominantly influenced by 'physically absent' peers via social media, or whether peers who are 'physically present' and involved in the behaviour are the primary source of social influence.

References

Babor, T.F., De La Fuente, J.R., Saunders, J., & Grant, M. (1992). *The Alcohol Use Disorders Identification Test: Guidelines for use in primary healthcare.* Geneva, Switzerland: World Health Organisation.

Babor, T.F., Higgins-Biddle, J., Saunders, J.B., & Monteiro, M.G. (2001). *The Alcohol Use Disorder Identification Test. Guidelines for use in primary health care.* Geneva, Switzerland: World Health Organization.

Borsari, B. (2004). Drinking games in the college environment: A review. *Journal of Alcohol and Drug Education, 48,* 29–51.

Borsari, B., & Carey, K.B. (2001). Peer influences on college drinking: A review of the research. *Journal of Substance Abuse, 13,* 391–424.

Kypri, K.Y.P., Cronin, M., & Wright, C.S. (2005). Do university students drink more hazardously than their non-student peers? *Addiction, 100*(5), 713–714.

Moss, A.C., Dyer, K.R., & Albery, I.P. (2009). Knowledge of drinking guidelines does not equal sensible drinking. *The Lancet, 374*(9697), 1242.

ONS (2013). Adult drinking habits in Great Britain. (Feb 2015) http://www.ons.gov.uk/ons/dcp171778_395191.pdf

Polizzotto, M. N., Saw, M. M., Tjhung, I., Chua, E. H., & Stockwell, T. R. (2007). Fluid skills: Drinking games and alcohol consumption among Australian university students. *Drug and Alcohol Review, 26,* 469–475.

Steinberg, L., & Monahan, K.C. (2007). Age differences in resistance to peer influence. *Developmental Psychology, 43,* 1531–1543.

Zonfrillo, M.R., & Osterhoudt, K.C. (2014). Neknominate: A deadly, social media-based drinking dare. *Clinical Pediatrics, 53,* 1215.