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Conversations about binge drinking among vocational community college students: the relation with drinking attitudes and intentions and the moderating role of conversation partner popularity

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ABSTRACT

Objective: The association between conversational valence (i.e. how positive/negative people perceive their conversations to be) and binge-drinking attitudes and intentions has been well established. However, too few studies have recognised a potential reciprocal association as well as the potential role of the conversation partner. In order to address these gaps, this study explored whether conversational valence and binge-drinking attitudes and intentions were reciprocally associated and whether this association was moderated by conversation partner popularity. **Design:** Vocational community college students ($N=112$, $M_{age} = 18.09$) participated in a two-wave study (one month between the waves). **Methods.** Binge-drinking attitudes and intentions, and popularity were measured at baseline. At the second wave, conversational valence, and binge-drinking attitudes and intentions were assessed. **Results:** In revealing that only conversational valence was indicative of binge-drinking attitudes and intentions, it was shown that conversational valence and binge-drinking attitudes and intentions were not reciprocally associated. Furthermore, it was shown that conversation-partner popularity moderated the association between conversational valence and binge-drinking attitudes. **Conclusion:** Conversational valence was shown to be indicative of binge-drinking attitudes and intentions, and not vice versa. Furthermore, after talking to a popular conversation partner, adolescents' attitudes towards binge drinking became more positive.

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Recent statistics show that in the Netherlands, 31% of vocational community students consume on average 5–10 alcoholic units, 19% consume 11–20 alcoholic units, and 14% consume more than 20 alcoholic units per weekend (Trimbos, 2015). It has been well documented that consuming more than five alcoholic units on one single

occasion is associated with negative consequences such as unintentional injuries and brain damage (e.g. Patrick et al., 2013) as well as with negative mental outcomes such as depression and anxiety (e.g. Newbury-Birch et al., 2009). These alarming facts suggest that current interventions are insufficiently successful in changing adolescent binge-drinking behaviour. A reason might be that interventions have often ignored an important factor of alcohol use, namely interpersonal communication (hereafter, IC).

Conversational valence (how negative or positive people perceive a conversation to be), is an important correlate of the adolescents' attitudes and intentions towards alcohol use (e.g. Hendriks, de Bruijn, & van den Putte, 2012; Hendriks, van den Putte, & de Bruijn, 2015). It has been found that perception of the positivity/negativity of conversations (i.e. conversational valence) about alcohol use was associated with attitudes and intentions towards alcohol use. However, David, Cappella, and Fishbein (2006) argued that this association might be reversed, that is to say, pre-existing attitudes might influence the valence of conversations. Although the latter study was conducted in the context of conversations about cannabis, the two different points of view indicate ambiguity about the nature of the association between conversational valence and health attitudes and intentions. To provide more clarity, we examined the nature of the association between conversational valence and binge-drinking attitudes and intentions.

Furthermore, we argue that the association between conversational valence and health attitudes and intentions may depend on the popularity status of the conversation partner. For example, Cohen and Prinstein (2006) showed that adolescents displayed greater conformity to health-risk behaviours of popular peers than to unpopular peers. We posit that this conformity may also occur in the context of conversational valence, for example, by conforming to conversational statements expressed by a popular conversation partner. To determine whether this was the case, we examined whether conversation-partner peer popularity moderated the relationship between conversational valence and attitudes and intentions towards binge drinking. To address the above-mentioned two lacunae, we designed a study in which vocational community college students engaged in IC about alcohol use and binge drinking. We measured binge-drinking attitudes and intentions before and after the conversations. Popularity was assessed before the conversations took place.

The relation between conversational valence and attitudes and intentions

One theory that might explain the relationship between conversational valence and health attitudes and intentions is persuasive arguments theory (Vinokur & Burnstein, 1974). The main assumption of persuasive arguments theory is that following a conversation, the people's evaluations about a conversation topic are based on their perceptions of the number and persuasiveness of positive and negative arguments given by others. In the context of the present study, persuasive arguments theory entails that when being in a conversation about alcohol use, and when the statements of the conversation partner are perceived to be predominantly positive (negative) concerning alcohol use, the people's attitudes and intentions towards alcohol use will shift toward a positive (negative) direction. Another theory that may help explain the relation

between conversational valence and health attitudes and intentions is self-perception theory (Bem, 1972). Whereas persuasive arguments theory suggests that people base their attitudes on their perceptions of the others' conversational valence, self-perception theory posits that people base their attitudes on their perceptions of their own conversational valence. When people observe themselves talk positively about alcohol, they might infer that this is because they have a positive attitude towards alcohol consumption, and not because, for example, they want to make a good impression on their conversation partner.

Previous studies on conversational valence (e.g. Dunlop, Kashima, & Wakefield, 2010; Hendriks et al., 2012) found a positive association between conversational valence and health attitudes and intentions. For instance, Hendriks et al. (2012) assessed binge-drinking intentions at baseline (T0) and through a follow-up measure (T1), which took place two weeks later. Before binge-drinking intentions were assessed at T1, participants engaged in a conversation about alcohol use. Compared to baseline binge-drinking intentions, Hendriks et al. (2012) found follow-up binge-drinking intentions to be more negative as a result of a negative conversation about alcohol use.

Although Hendriks and colleagues provided this valuable insight, in examining the relation between conversational valence and binge-drinking attitudes they assumed conversational valence to be indicative of binge-drinking intentions, and not vice versa. The latter is remarkable, because other insights by David et al. (2006) suggested that this reversed relationship might exist. That is, as a possible explanation for their finding that conversational valence in an online chat was related to cannabis use attitudes, David and colleagues suggested that a pro-cannabis conversational valence may have been the result of preceding attitudes in favour of cannabis use. Taking into account, David et al.'s explanation for their study findings, one may question the nature of the relation between conversational valence and health attitudes and intentions.

Reciprocal relations have been studied in the context of media exposure, for example through the reinforcing spirals theory (RST). The main proposition of RST is that media exposure influences attitudes, in turn influencing the selection of, and attention to media content. For instance, Brown (2000) found that exposure to sexual content in media increased interest in sexuality, which in turn strengthened interest in sexual media content, and increased the likelihood of sexual activity among adolescents. Slater, Henry, Swaim, and Anderson (2003) found that exposure to violent media was associated with more aggression in adolescents and that aggression in adolescents was associated with more exposure to violent media. Furthermore, in a study on the impact of sexually explicit internet content on perceptions of women as sex objects, Peter and Valkenburg (2009) found that, for male adolescents, attitudes suggesting women were sex objects were associated with the use of sexually explicit internet content and that the use of sexually explicit internet content was associated with male adolescents' attitudes suggesting women being sex objects. This process, as it occurred in the above-mentioned three studies, is referred to as mutually reinforcing spirals (Slater, 2007).

Although our study does not take place in the context of media exposure, but in the context of exposure to conversations, the main proposition of the RST allows us

to test whether a similar process occurs in the context of interpersonal communication. In the current study, we argue that preceding positive or negative binge-drinking attitudes and intentions have an impact on how positively or negatively people talk about alcohol use and binge drinking. In turn, we posit that conversations about alcohol use and binge drinking affect post-conversational binge-drinking attitudes and intentions. Based on the aforementioned we expect (**H1**) that vocational community college students' pre-conversation negative or positive attitudes and intentions with regard to binge drinking affects how negatively or positively they talk about alcohol and (**H2**) that how negatively or positively they talk about alcohol use and binge drinking influences the post-conversation negativity or positivity of their binge-drinking attitudes and intentions.

The relation between conversational valence and peer popularity

Besides, the relation between conversational valence, and binge-drinking attitudes and intentions, we examined the interaction between conversational valence and conversation partner popularity. We propose that the conversation partner popularity might play an important role in IC about alcohol use and binge drinking. Throughout the years, it has been shown that adolescents conform to peers with a high social status (i.e. popular peers; e.g. Cohen & Prinstein, 2006; Teunissen et al., 2012). For example, Cohen and Prinstein found that adolescents were more willing to conform to attitudes towards health-risk behaviours of popular peers than to health-risk attitudes of unpopular peers. In the context of IC, Teunissen et al. (2012) found that adolescents were more willing to conform to the alcohol norms that were expressed by popular peers than to the norms that were expressed by unpopular peers. Although Teunissen et al. (2012) provided this valuable insight, they did not examine the role of peer popularity in actual conversations. Participants were led to believe that they were enrolled in a chat room with three other classmates, yet in reality, these classmates were chat bots that were pre-programmed to give standardised answers to standardised questions. There was no actual social interaction between participants. Thus, the association between peer popularity and binge-drinking attitudes and intentions in actual interpersonal communication (IC) remains unclear. To address this lacuna, we examined the role of peer popularity in actual IC about alcohol use and binge drinking among adolescents.

An explanation for the potential role of peer popularity in IC may be found in the social cognitive theory (Bandura, 1986), which posits that people acquire behaviours by observing behaviours of role models (e.g. popular peers). This process is called modelling, which is commonly defined as the imitation of an other's behaviour (Borsari & Carey, 2001). In terms of peer popularity, modelling occurs when adolescents adapt their alcohol consumption to that of a popular peer. A major reason for this modelling behaviour is that people believe that it is beneficial because it increases their own popularity status (Balsa, Homer, French, & Norton, 2011; Moffit, 1993).

In the context of the current study, adolescents may believe that it is beneficial to conform to the conversational valence of a popular conversation partner. Therefore, we expect (**H1**) that conversational valence has a stronger effect on the adolescents'

binge-drinking attitudes and intentions when adolescents have talked to a popular than to an unpopular conversation partner.

Methods

Participants and procedure

Our study consisted of 64 (57.1%) female and 48 male vocational community students. Participants' age ranged from 16 to 25 years ($M_{\text{age}} = 18.09$ years, $SD_{\text{age}} = 2.26$). For several days a week, participants shared a classroom and were therefore well familiar with each other. After receiving ethical approval of the authors' affiliation, participants were recruited from nine different schools across the Netherlands and enrolled by giving their informed consent prior to the study. The parents of under-age participants (< 18 years) were informed beforehand by asking for their passive informed consent. The number of grades varied between 1 and 7. Most grades consisted of 15–20 students. Because of dropout (e.g. participants who were not present at the second wave or participants who refused participation at either the first or second wave), we lost a total number of 131 participants.

At the first wave, the first author visited participants during classroom hours, introduced the study, and gave further instructions. Hereafter, participants completed an online-sociometric assessment, which was used to measure peer popularity. Next, they answered an online survey (T0) through which binge-drinking attitudes and intentions were assessed. At the second wave, one month later, the author returned to the classrooms. Each participant was randomly assigned to a classmate. To ensure randomisation, for each grade, we entered the names of all students within a grade into a random generator, which generated random pairs of students. Hereafter, we created a separate chat room for each pair, which could only be entered using a unique link and password. The link and password were distributed to pairs before the online conversations.

The choice for online conversations was primarily made for practical reasons. Within a grade of 15–20 students at a vocational community college, it is not possible to achieve a process of simultaneous offline interpersonal communication and registration of the content of these conversations. In addition, previous work revealed that the mode of interpersonal communication (offline versus online) was not indicative of binge-drinking norms when conversation partners were familiar with each other, as it is the case for classmates (Hendriks, de Bruijn, Meehan, van den Putte, 2015).

Participants received instructions to chat for 5 minutes about reasons to consume or not consume alcohol, the advantages and disadvantages of drinking, what they like or dislike about drinking, and how they feel about peers who are often drunk and peers who do not drink at all. In a previous study (Hendriks et al., 2012), participants considered a similar instruction to be realistic. After the discussions, participants answered an online survey (T1) in which conversational valence and binge-drinking attitudes and intentions were assessed.

Measures

The measures concerning attitude, intention, and binge-drinking behaviour were all derived from previous work by Ajzen (2010) on how to construct a questionnaire

containing behavioural determinants, including attitude and intention. The conversational valence measure was based on previous research by Hendriks, van den Putte, et al. (2015). The conversational realism assessment, which investigated whether participants perceived their conversation to be realistic, was retrieved from a study by Hendriks et al. (2012). In addition, we measured conversational valence of oneself and conversational valence of the conversation partner. However, bivariate correlation analysis showed that both measurements were highly correlated ($r = .86$), which is a strong indication that both conversation partners had a similar valence. As a result, the separate effects of both valences cannot be reliably estimated. Therefore, we decided to combine the two measurements into one variable representing valence of the conversation averaged over the two conversation partners.

Peer popularity

Among adolescents, peer nominations are considered a valid method to assess peer-status variables, such as peer popularity (Jiang & Cillessen, 2005). Participants received a hyperlink, which led to a list of classmates, and were asked to nominate their classmates into the categories: 'popular', 'average popular' and 'unpopular'. For each participant, a total score of peer popularity was calculated by multiplying the amount of popular nominations by three, the amount of average popular nominations by two, and the amount of unpopular nominations by one. Higher scores indicated higher levels of peer popularity. The average peer popularity score of the conversation partner was assigned as a variable to all participants.

Attitude

Seven attitude items began 'If I were to drink 5 or more alcoholic consumptions on one single day during the coming month, this would be ...' and ranged from *very unhealthy* (1) to *very healthy* (5), *very negative* (1) to *very positive* (5), *very unwise* (1) to *very wise* (5), *very unpleasant* (1) to *very pleasant* (5), *very unsafe* (1) to *very safe* (5), *very unsociable* (1) to *very sociable* (5), and *very unsociable* (1) to *very sociable* (5). By averaging the attitude items, a scale score was computed.

Intention

Three intention items began 'In the coming month, I am planning to/I think I am going to/I want to drink 5 or more alcoholic consumptions on one single occasion at least once' and ranged from *no, definitely not* (1) to *yes, certainly* (5). By averaging these three items, a scale score was computed.

Conversational valence

Six items were used, three for measuring the conversational valence of the participants' own alcohol-related statements and three for measuring the conversational valence of the participants' conversation partner's alcohol-related statements. The items that assessed the conversational valence of the participants' own alcohol-related arguments began 'Indicate how negative/positive you spoke about ...' Items were 'drinking alcohol', 'being drunk', and 'drinking a lot of alcohol' and ranged from *very negative* (1) to *very positive* (5). The items assessing the conversation partner's

alcohol-related arguments were almost similar, but began slightly different, namely: 'Indicate how negative/positive your conversation partner spoke about ...'. By averaging the scores of all six items, a scale score was computed.

Conversational realism

The four items measuring conversational realism were: 'the way the conversation went, is how I usually talk', 'the way the conversation went, is how a conversation usually goes', 'the conversation went smoothly', and 'the conversation was realistic' and ranged from *totally disagree* (1) to *totally agree* (5). By averaging the items, a scale score was computed.

Control variables

At baseline (T0), participants were asked to report on their gender, age, name of school, type of education (e.g. nursing, financial administrating), grade (i.e. year of enrolment), ethnicity, and their binge-drinking behaviour during the past 12 months. The latter was measured by asking participants how many times they consumed five or more alcoholic drinks on one occasion during the past 12 months. Statements were 1 = 'I never did that before', 2 = 'once a year', 3 = 'once every few months', 4 = 'once a month' and 5 = 'weekly'.

Analysis

We applied structural equation modelling (SEM) to test our hypotheses. Using Maximum Likelihood Estimation (ML), we extracted 1,000 bootstrap samples from the data to calculate all parameter estimates and confidence intervals. We performed two path models. With our first model, we investigated the relation between pre-conversation (T0) binge-drinking attitudes and intentions and conversational valence as well as the relation between conversational valence and post-conversation (T1) binge-drinking attitudes and intentions. Bivariate correlations showed that gender and past binge-drinking behaviour (but not age, school, type of education, grade and ethnicity) correlated with attitude and intentions and were therefore added as control variables to all analyses. The second model was performed to test whether peer popularity moderated the relation between conversational valence and post-conversation (T1) binge-drinking attitudes and intentions. The interaction term in the second model was created through multiplying conversational valence and peer popularity after mean centering both variables.

To determine model fit, we assessed the models' chi-square, the Comparative Fit Index (CFI), the Tucker Lew Index (TLI), and the root-mean-square error of approximation (RMSEA). According to Hu and Bentler (1999), model fit is obtained when the chi-square is found to be non-significant, when the CFI and TLI exceed .95, and when RMSEA is $\leq .08$. Our first path model had an acceptable fit: $\chi^2(4) = 4.18$, $p = .38$; CFI = 1.00; TLI = 1.00; and RMSEA = .02 (90% CI: 0.00 – 0.15), as well as our second path model $\chi^2(8) = 5.44$, $p = .71$; CFI = 1.00; TLI = 1.00; and RMSEA = .00 (90% CI: 0.00 – 0.08).

Results

Descriptive statistics

The study's descriptive statistics are presented in [Table A1](#) (see [Appendix A](#); mean and standard deviation, and the Cronbach's alpha of each main variable) and [Table A2](#) (see [Appendix A](#); bivariate correlations between main variables). Furthermore, participants found the conversations to be sufficiently realistic ($M = 3.41$, $SD = 0.83$) and evaluated the conversational valence to be more positive than negative ($M = 3.40$, $SD = 1.05$). Attitudes and intentions towards binge drinking were slightly under the midpoint of the scale, indicating that on average adolescents were more negative than positive towards binge drinking.

Control variables

It was shown that attitudes and intentions at T0 were associated with positive attitudes and intentions at the second wave, that male participants had more positive attitudes and intentions concerning binge drinking than female participants, and that participants who engaged in binge drinking more often during the past 12 months had more positive binge-drinking attitudes and intentions than participants who did this less often.

The relation between conversational valence and binge-drinking attitudes and intentions

In examining the nature of the relationship between conversational valence and binge-drinking attitudes and intentions, path analysis ([Figure B1](#), see [Appendix B](#)) showed that conversational valence was associated with the participants' post-conversation binge-drinking attitudes ($\beta = .28$, $p < .001$) and intentions ($\beta = .20$, $p = .004$), but not that pre-conversation binge-drinking attitudes ($\beta = .05$, $p = .68$) and intentions ($\beta = .11$, $p = .45$) at baseline were associated with conversational valence.

The relation between conversational valence and peer popularity

Our hypothesis stated that peer popularity would moderate the relation between conversational valence and binge-drinking attitudes and intentions. Path analysis (see [Figure C1](#), [Appendix C](#)) revealed a significant interaction (see [Figure D1](#), [Appendix D](#)) between peer popularity and conversational valence with regard to adolescents' attitudes towards binge drinking ($\beta = .12$, $p = .04$), indicating that the relation between the participants' attitudes and conversational valence became more relevant for the participants' binge-drinking attitudes when they had talked to a popular conversation partner. We found no evidence for peer popularity moderating the relation between conversational valence and binge-drinking intentions ($\beta = .09$, $p = .38$).

Discussion

The main aim of this study was to examine the nature of the relation between conversational valence and binge-drinking attitudes and intentions. A second aim was to investigate the interaction between conversational valence and popularity status of the conversation partner. Two important conclusions can be drawn. First, it was shown that only conversational valence was indicative of post-conversation binge-drinking attitudes and intentions, and that pre-conversation binge-drinking attitudes and intentions did not influence valence. Second, we found a significant interaction between conversation partner popularity and conversational valence, indicating that conversational valence became more relevant for binge-drinking attitudes after talking to a popular conversation partner.

The relation between conversational valence and binge-drinking attitudes and intentions

The first important conclusion is that we found conversational valence to be indicative of post-conversation binge-drinking attitudes and intentions, confirming H2. As the conversation includes both valence of the conversation partner and own valence, this conclusion is in line with persuasive arguments theory (Vinokur & Burnstein, 1974), self-perception theory (Bem, 1972) and previous empirical work involving conversational valence (e.g. Dunlop et al., 2010; Hendriks et al., 2012). Unfortunately, due to the high correlation between own valence and conversation partner's valence, we were unable to discern to what extent the change in attitude could be related to own valence, conversation partner's valence or both.

The second important conclusion is that pre-conversation attitudes and intention were not indicative of conversational valence, therewith rejecting H1. An explanation for this finding might be that vocational community college students' pre-conversation binge-drinking attitudes and intentions were not stable enough to influence conversational valence over the course of one month. Instability of the adolescents' binge-drinking attitudes and intentions is in accordance with previous work showing that adolescents have less stable attitudes than older people (Krosnick & Alwin, 1989). The latter is a proposition of the impressionable-years hypothesis. According to the impressionable-years hypothesis, a major reason for the adolescents' unstable attitudes is that the social interaction they experience with others has a notable impact on their thoughts towards certain issues. For instance, when adolescents engage in interpersonal communication (IC) about a certain issue with others this IC might cause change in their thoughts and subsequent attitudes this towards issue. In the context of the current study this may indicate that the adolescents' pre-conversational binge-drinking attitudes and intentions changed because of their conversation about alcohol use.

The relation between conversational valence and peer popularity

The third important conclusion is that peer popularity moderated the relation between conversational valence and binge-drinking attitudes, partially confirming H3. A closer look at the content of our participants' conversations showed that the conversations

mostly contained arguments associated with attitudes towards alcohol use (e.g. 'Drinking makes me feel more confident', 'Too much alcohol affects my stamina'). Thus, the conversations showed that adolescents talked less about their intentions to (not) engage in binge drinking than about their attitudes towards alcohol. In light of our findings, more attitude relevant statements indicate that there are more arguments that can have an influence, which might explain the significant interaction regarding binge-drinking attitudes and the non-significant interaction between conversational valence and peer popularity concerning binge-drinking intentions.

Considerations and implications

Our study provides several valuable insights. However, there are some considerations. First, although this study, as far as we know, took a first step in examining the relation between conversational valence, and binge-drinking attitudes and intentions, and in assessing the potential moderating role of peer popularity regarding the effects of conversational valence on binge-drinking attitudes and intentions, the results were based on a relatively small sample ($N = 112$). Although our sample is small, we provided valuable information about the population of vocational community college students. Nevertheless, we stimulate future researchers to replicate our study among a larger sample.

Second, we examined the effects of interpersonal communication (IC) as a result of an in-class assignment. It is reasonable to assume that natural occurring conversations might, for example, differ in terms of involvement and content. Therefore, although participants evaluated their conversations as moderately realistic, the results should be interpreted as restricted to the classroom.

Third, we measured the effects of binge-drinking attitudes and intentions one month before the conversations. It is important to take our time frame into account. For instance, the relation between conversational valence, and binge-drinking attitudes and intentions might have been described otherwise if binge-drinking attitudes and intentions were measured directly before the conversations took place. We suggest that future researchers further examine the relation between conversational valence, and binge-drinking attitudes and intentions by testing it in the context of, for example, a cross-sectional study.

Fourth, we measured the effects of conversational valence directly after the conversations. It might be that effects of conversational valence disappear over a longer period time. For instance, due to difficulties in remembering the conversation and its valence (Stafford, Burggraf, & Sharkey, 1987). On the other hand, over time, repeated conversations about alcohol may occur, which strengthen the effects of IC. To test the effects of conversational valence over a longer period of time, we encourage future researchers to design a study that repeatedly measures conversational valence and binge-drinking attitudes and intentions.

Fifth, although we provided the insight that peer popularity moderated the effects of conversational valence on the adolescents' binge-drinking attitudes, there are other interesting interpersonal factors to consider. For instance, whether adolescents model their valence to the valence of friends and homophilic peers seems interesting to

investigate and furthers the understanding of how IC about binge drinking and alcohol among adolescents operates.

Sixth, we examined the association between IC and binge-drinking attitude and intentions. Although attitudes and intentions have been identified as important factors of adolescent binge drinking (Cooke, Dahdah, Norman, & French, 2016; Norman & Conner, 2006), we did not examine the association between conversational valence and the role of the conversation partner's popularity status herein with regard to actual binge-drinking behaviour.

Seventh, our study examined the effects of IC in the context of adolescent binge drinking. Adolescence has been well documented as a phase in which most health-risk behaviours (e.g. drug use and sex) are initiated and further developed (Steinberg, 2007). Therefore, we encourage future research to examine IC-effects in the context of other health-risk behaviours among adolescents.

Taken together, our findings hold potentially relevant implications for health research and health-promotion interventions. First, our results indicate that conversational valence is indicative adolescents' attitudes and intentions with regard to binge drinking. That is, we show that perceptions of positive alcohol-related talk results in more positive attitudes and intentions towards binge drinking. This finding implies that negative alcohol-related talk results in more negative attitudes and intentions towards binge drinking. Thus, a possible implication for developers of anti-alcohol messages might be to develop interventions in which vocational community college students are stimulated to talk negatively about alcohol use. However, before one develops such interventions, it is important to examine how negative alcohol-related speech can be best stimulated and what type of negative speech has the most healthy effect on attitudes and intentions towards binge drinking.

Furthermore, because conversational valence effects on attitudes are strengthened by popular conversation partners, one might consider recruiting popular peers to spread the word. For instance, in their review on peer training programmes to prevent adolescent smoking, McCaul and Glasgow (1985) proposed that anti-smoking interventions should communicate the negative consequences of smoking to peer leaders (e.g. popular peers) so they can reduce the smoking behaviours of others within their proximal environment. Peer leaders have been found to be successful in reducing risky sexual behaviour (Kelly et al., 1991), HIV-related stigma (Young et al., 2011), and alcohol use among adolescent class mates (Perry et al., 2002). On the basis of these findings, we suggest to develop interventions in which popular adolescents are trained or instructed to initiate conversations with their fellow peers that are negatively valenced towards alcohol use. Although using popular adolescents as diffusors of messages that are in dis-favour of alcohol use seems a promising strategy, one should be careful in selecting the 'right' popular adolescents. For instance, a popular adolescent that is well known for his/her excessive drinking might not be perceived as a trustworthy diffusor.

Concluding, our findings may be useful for developers of anti-alcohol messages, however, before implementing them in, for instance, a future anti-alcohol intervention, we suggest that future research further explores the relation between conversational valence and binge-drinking attitudes and intentions (over time) and the moderating role of peer popularity.

Disclosure statement

No potential conflict of interest was reported by the author(s)

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Appendix A. Descriptive statistics

Table A1. Descriptive statistics of main variables.

	<i>M</i>	<i>SD</i>	α
Attitude T0	2.76	0.87	0.90
Attitude T1	2.78	0.96	0.94
Intention T0	2.74	1.44	0.97
Intention T1	2.76	1.35	0.97
CV	3.40	1.05	0.92
CR	3.41	0.83	0.86
Peer popularity	29.25	12.24	N/A

Note. T0 = the first wave; T1 = the second wave. All variables are measured on a scale from 1 to 5. CV = conversational valence; CR = conversational realism.

Appendix B

Table A2. Correlations among main variables.

	1	2	3	4	5	6
1. Attitude T0	1					
2. Attitude T1	.54**	1				
3. Intention T0	.62**	.48**	1			
4. Intention T1	.48*	.73**	.54**	1		
5. CV	.10	.34**	.12	.25**	1	
6. Peer popularity	.09	.04	.10	.17*	-.08**	1

Note. T0 = the first wave; T1 = the second wave. CV = conversational valence.

* $p < .05$. ** $p < .01$.

Appendix C. Path model testing hypothesis 2

Figure B1. Path model illustrating the relation between conversational valence and binge-drinking attitudes and intentions.

Note. T0 = the first wave; T1 = the second wave. For clarity reasons, the control variables were not depicted in the model.

** $p < .01$. *** $p < .001$.

Appendix D. Interaction between peer popularity and conversational valence

Figure C1. Path model illustrating the interplay between conversational valence and peer popularity concerning binge-drinking attitudes and intentions.

Note. T0 = the first wave; T1 = the second wave. For clarity reasons the control variables were not depicted in the model.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure D1. Interaction between peer popularity and conversational valence.

Note. CV = conversational valence.