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Online and Offline Conversations About Alcohol: Comparing the Effects of Familiar and Unfamiliar Discussion Partners

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Although research has demonstrated that interpersonal communication about alcohol influences drinking behaviors, this notion has mainly been examined in offline contexts with familiar conversation partners. The present study investigated how communication mode and familiarity influence conversational valence (i.e., how negatively or positively people talk) and binge drinking norms. During a 2 (offline vs. online communication) × 2 (unfamiliar vs. familiar conversation partner) lab experiment, participants ($N = 76$) were exposed to an anti–binge drinking campaign, after which they discussed binge drinking and the campaign. Binge drinking norms were measured 1 week before and directly after the discussion. Results revealed that conversations between unfamiliar conversation partners were positive about the campaign, especially in offline settings, subsequently leading to healthier binge drinking norms. We recommend that researchers further investigate the influence of communication mode and familiarity on discussion effects, and we suggest that health promotion attempts might benefit from eliciting conversations about anti–binge drinking campaigns between unfamiliar persons.

Although binge drinking causes accidents, aggression, vandalism (Hughes, Anderson, Morleo, & Bellis, 2008; Li, Keyl, Smith, & Baker, 1997), sexual abuse (Perkins, 2002), and future alcohol addiction (Grant & Dawson, 1997), college students frequently engage in alcohol abuse (Kypri, Cronin, & Wright, 2005; Naimi et al., 2003; O'Malley & Johnston, 2002; Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994; Wechsler et al., 2002). Considering the prevalence and negative consequences of binge drinking, it is paramount to reduce this unhealthy behavior.

An important factor that influences alcohol consumption and binge drinking is interpersonal communication. That is, talking about health behaviors and health campaigns has been shown to influence determinants of health behaviors (Hafstad & Aarø, 1997; Van den Putte, Yzer, Southwell, De Bruijn, & Willemsen, 2011). Several recent studies have shown that how negatively or positively people talk (i.e., conversational valence) about binge drinking and anti–binge drinking campaigns influences drinking behaviors (e.g., Hendriks, De Bruijn, & Van den Putte, 2012; Hendriks, Van den Putte, & De Bruijn, 2014; Real & Rimal, 2007). For example, Hendriks and colleagues (2014) showed that when people talk positively about alcohol consumption and binge drinking, this results in more unhealthy binge drinking attitudes, norms, intentions, and behaviors (see also Dunlop, Kashima, & Wakefield, 2010; Frank et al., 2012; Jeong, Tan, Brennan, Gibson, & Hornik, 2015).

Some studies have tried to explain the process through which interpersonal communication influences health behaviors (e.g.,

Kincaid, 2004; Lapinski & Rimal, 2005; Real & Rimal, 2007). Lapinski and Rimal (2005) argued that interpersonal health communication plays a central role in providing and distributing normative information, especially regarding the perceived prevalence of the health-related behavior. Indeed, studies have shown that people can communicate norms about health behaviors through conversations, such as whether the behavior is approved of by others (i.e., what ought to be done; injunctive norms) and the degree to which others engage in the behavior (i.e., what is actually done; descriptive norms; Borsari & Carey, 2003; Cialdini, Reno, & Kallgren, 1990). Communicated norms can originate from multiple sources, such as from peers (e.g., others' personal experiences with alcohol) or from media messages (e.g., anti–binge drinking campaigns). Put differently, interpersonal communication can focus on the topic itself (e.g., alcohol consumption) or related media messages (e.g., anti–binge drinking campaigns; Van den Putte et al., 2011). Hendriks and De Bruijn (2015) showed that young people indeed talk about experiences with alcohol as well as alcohol-related media messages. Moreover, they revealed that young people often discuss personal experiences with alcohol in an approving manner but talk more disapprovingly about media messages such as anti–binge drinking campaigns (see also Dorsey, Scherer, & Real, 1999; Hendriks et al., 2012, 2014; Hendriks & De Bruijn, 2015).

Anti–binge drinking campaigns can thus induce conversations about the campaign itself and about the topic of alcohol consumption. During both conversations, discussants can communicate norms regarding alcohol consumption. Communicated norms in conversations can subsequently influence norms perceptions, potentially leading conversation partners to conform to the

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communicated norm. For instance, when someone talks positively about his or her personal alcohol-related experiences with a conversation partner, this could lead the conversation partner to believe that alcohol-related experiences are positive, prevalent, and generally well accepted. Similarly, when someone talks negatively about an anti–binge drinking campaign, this implies that efforts to reduce alcohol abuse are not worthwhile and therefore can communicate the norm that alcohol consumption is positive, prevalent, and generally well accepted.

Thus, conversations can influence norms perceptions regarding health behaviors. So far, this notion has predominantly been examined in conversational contexts focusing on offline (i.e., face-to-face) communication between familiar people (i.e., people who are already acquainted; Dunlop et al., 2010; Hendriks et al., 2012, 2014; Real & Rimal, 2007; Van den Putte, Monshouwer, De Bruijn, & Swart, 2010). However, the literature on interpersonal communication suggests that the influence of conversations may depend on two important conversational aspects: communication mode and communication partner familiarity. The present study therefore has two aims: (a) to distinguish between the effects of online versus offline conversations and (b) to distinguish between the effects of conversations between familiar versus unfamiliar persons.

Offline Versus Online Communication

The focus of interpersonal health communication research on face-to-face interactions stands in contrast to today's media and interpersonal communication landscape that is changing rapidly with an increasing number of interpersonal interactions taking place online (e.g., Lenhart, 2015; Thayer & Ray, 2006). Nowadays, young people spend a large amount of time online socializing with others using chat programs and social networking sites (Lenhart, 2015). It is alarming that this online activity seems particularly pronounced for the topic of alcohol consumption, with recent studies showing that alcohol-related online communication is extremely prevalent and positive about alcohol consumption (e.g., positive alcohol-related messages on Facebook; Moreno et al., 2010). For example, Zonfrillo and Osterhoudt (2014) have demonstrated the dangers of the *NekNomination* dare, an online trend in which young people share binge drinking videos on Facebook and stimulate others to also engage in this behavior.

Unfortunately, in contrast to offline communication effects, knowledge is scarce on whether and how online interpersonal health communication influences predictors of health behaviors. There is reason to believe, however, that online and offline communication effects differ, given several differences between these modes of communication. For instance, studies have shown that people feel more anonymous in online discussions (Valkenburg & Peter, 2011). Furthermore, McKenna (2007) and Suler (2004) revealed that due to greater feelings of anonymity people are less focused on the other and more focused on themselves in online discussions. This lower other-focus can subsequently lead to a reduced impact of that other. Moreover, online communication has been shown to result in less attention to social cues, potentially because these cues are not easily visible in online contexts (Dubrovsky, Kiesler, & Sethna, 1991).

These important social differences (i.e., greater anonymity, lower other-focus, and less attention to social cues in online settings) would suggest less normative influence and consequently less normative change in online communication. That is, research (Kiesler, Siegel, & McGuire, 1984; Sassenberg & Boos, 2003) has suggested that when people feel more anonymous, they are less susceptible to normative information (as provided by conversations; Real & Rimal, 2007). This is indeed what was found in an early study on computer-mediated communication by Adrianson and Hjelmquist (1991), who showed that online communication about problems resulted in less group agreement about the proper solution, less opinion change, and less conformity to the majority. Similarly, a study by Smilowitz, Compton, and Flint (1988) showed that the conformity usually observed in response to Asch's (1955) conformity task is less pronounced in computer-mediated settings (see also McGuire, Kiesler, & Siegel, 1987; Okdie, Guadagno, Bernieri, Geers, & Mclarney-Vesotski, 2011). More recently, Lipinski-Harten and Tafarodi (2012) revealed similar findings by demonstrating that online conversations with conversation partners advocating opposing attitudes induced less attitudinal change than offline conversations. Similarly, Baek, Wojcieszak, and Carpini (2012) showed lower agreement and less consensus in online as opposed to offline political discussions.

However, one study has suggested the opposite pattern. That is, Siegel, Dubrovsky, Kiesler, and McGuire (1986) showed that individuals changed their pre-discussion notions more after online discussions than after offline discussions. Thus, although most evidence points toward stronger offline than online discussion effects, some conflicting evidence urges the need to provide a clearer and more up-to-date picture about the question of whether online versus offline communication leads to more or less normative influence. Moreover, given the fact that there is no knowledge about the different effects of online and offline discussions about health topics in general, and alcohol consumption specifically, it is important to address this knowledge gap. Our study aims to provide more insight into this issue.

As argued, most evidence suggests that communicating online leads to less conforming to communicated norms between communicators than communicating offline. When focusing on conversations about alcohol and binge drinking, research has shown that the talking norm is often quite positive. For example, Dorsey and colleagues (1999) showed that students frequently talk positively about alcohol. This was also confirmed by several studies on binge drinking by Hendriks and colleagues (2012, 2014). That is, they showed that young people talk positively about alcohol and also revealed that young people speak negatively about anti–binge drinking campaigns (Hendriks & De Bruijn, 2015). As argued, research has shown that online settings result in greater feelings of anonymity, lower other-focus, less attention to social cues, and less normative pressure (e.g., McKenna, 2007; Suler, 2004; Valkenburg & Peter, 2011). Taken together, this would lead to the expectation that the norm of talking positively about alcohol and negatively about anti–binge drinking campaigns would be more influential in offline settings than in online settings, thereby leading to more unhealthy offline conversations compared to online conversations. Subsequently, these unhealthy offline conversations

should more strongly lead to unhealthy (i.e., positive) norms about alcohol compared to online communication. Based on the aforementioned, we pose the following hypotheses:

Hypothesis 1: Communication mode influences conversation effects.

Hypothesis 1a: Talking offline leads to a more unhealthy conversational valence (i.e., more positive about alcohol and more negative about anti–binge drinking campaigns) than talking online.

Hypothesis 1b: Talking offline leads to stronger effects on binge drinking norms, as indicated by stronger relations between conversational valence and norms, than talking online.

Familiarity

Research has shown that online and offline conversations are different in several respects, such as in terms of feelings of anonymity. Another communication factor that also influences feelings of anonymity is the familiarity of the conversation partner. However, existing research on interpersonal health communication has predominantly focused on offline conversations that occur between individuals who are familiar with each other (e.g., Dunlop et al., 2010; Hendriks et al., 2012, 2014; Van den Putte et al., 2010); therefore, knowledge is lacking about the effects of online and offline conversations that take place between people who are not familiar with each other. This is unfortunate because many health-related conversations take place between people who are strangers both in offline (e.g., by talking with unfamiliar others at a friend's party) and online (e.g., by discussing topics on online fora) settings.

Although research on the influence of familiarity on interpersonal health communication effects is lacking, research in other contexts has shown that talking with unfamiliar partners is related to heightened feelings of anonymity (e.g., Kiesler et al., 1984). This heightened feeling of anonymity can consequently lead to less conformity to communicated norms. This was also suggested by Van den Putte and colleagues (2010), who showed that conversations with proximate peers have a stronger normative influence than discussions with more distant peers. Similarly, Boer and Westhoff (2006) showed that discussions between persons with strong ties (e.g., friends) led these discussion partners to strongly conform to the communicated norms, whereas conversations between individuals with weak ties (e.g., strangers) did not lead the discussion partners to conform to the communicated norms.

Research thus suggests that discussions with familiar conversation partners about alcohol and anti–binge drinking campaigns have a greater normative influence than conversations with unfamiliar partners. Given the fact that the talking norm is usually quite positive about alcohol and quite negative about anti–binge drinking campaigns (Dorsey et al., 1999; Hendriks et al., 2012, 2014; Hendriks & De Bruijn, 2015), this can therefore result in more unhealthy conversations about alcohol when one is talking with a familiar person as opposed to a less familiar person. Furthermore, this unhealthy valence can more strongly lead to more unhealthy (i.e., positive) norms about alcohol.

Based on the aforementioned, we pose the following hypotheses:

Hypothesis 2: Communication partner familiarity influences conversation effects.

Hypothesis 2a: Talking with familiar persons leads to a more unhealthy conversational valence (i.e., more positive about alcohol and more negative about anti–binge drinking campaigns) than talking with unfamiliar persons.

Hypothesis 2b: Talking with familiar persons leads to stronger effects on binge drinking norms, as indicated by stronger relations between conversational valence and norms, than talking with unfamiliar persons.

Interaction Between Communication Mode and Familiarity

Both communication mode and communication partner familiarity thus seem to be important factors that can independently influence communication effects. However, the effects of both factors can be interdependent as well. That is, online communication has been found to be related to less attention to and weaker effects of social cues. For instance, Dubrovsky and colleagues (1991) showed that social factors, such as social status, influence the effects of offline communication but do not influence the effects of online communication (see also McGuire et al., 1987; Siegel et al., 1986; Suler, 2014). Given the fact that familiarity can also be deemed a social factor that influences discussion effects, it is possible that the influence of familiarity on conversation effects is more pronounced in offline settings than in online settings. This possible interaction is also addressed in the current study. We pose the following hypotheses:

Hypothesis 3: The interaction between communication mode and familiarity influences conversation effects.

Hypothesis 3a: The effect of familiarity on conversational valence is more pronounced in offline than online conversations. That is, talking offline with familiar partners leads to the most unhealthy conversational valence (i.e., most positive about alcohol and most negative about the campaign).

Hypothesis 3b: The effect of familiarity on norms is more pronounced in offline than online conversations. That is, talking offline with familiar partners leads to the strongest effects on binge drinking norms, as indicated by the strongest relations between conversational valence and norms.

Method

Participants and Design

A total of 91 students recruited at Leiden University in The Netherlands took part in a two-wave study. Fifteen participants dropped out because they or their conversation partner did not show up at the second wave, consequently resulting in 76

participants (38 dyads) to be included in the final analyses (M = 20.49 years, SD = 2.22, 64 females, 12 males). Participants were assigned to a 2 (communication mode: online vs. offline) × 2 (familiarity: familiar vs. unfamiliar) between-subjects design that included a within-subjects element (binge drinking norms were measured twice). The dependent variables were injunctive and descriptive norms regarding binge drinking (measured at Time 1 [T1] and Time 2 [T2]), conversational valence about alcohol, and conversational valence about the anti–binge drinking campaign (measured at T2). Binge drinking was defined as consuming four or more alcoholic beverages on one occasion for women and six or more alcoholic beverages for men (i.e., in line with Dutch standards). Participants received course credits or €4 for their participation.

Procedure

Recruited participants were first assigned to the familiar and unfamiliar conditions. Those assigned to the unfamiliar conditions were asked to come to the lab individually, and those assigned to the familiar conditions were asked to bring another participant, familiar to them, to the lab. During the first wave (T1), participants filled out an online questionnaire measuring baseline binge drinking norms. Approximately 1 week later, participants arrived at the research lab. All participants first viewed an anti–binge drinking campaign video in separate cubicles. The goal of this video was to investigate how negatively or positively the participants would discuss this anti–binge drinking campaign. Next the experimenter invited all participants to talk with their conversation partner about the topic of alcohol, binge drinking, and/or the binge drinking campaign for 5 minutes and indicated that some questions would be asked afterward about this discussion. This instruction has been used in other studies (Hendriks et al., 2012, 2014) and is generally considered by participants to be logical and realistic.

Next all (familiar and unfamiliar) pairs of participants were randomly assigned to an offline or online condition. In the online conditions the participants remained in their cubicle and the experimenter opened a chat program in Facebook through which participants could chat with each other. The chat function in Facebook was used because Facebook is the most popular social networking site (Newcom Research & Consultancy, 2015). Participants in the offline conditions were brought to a different room with their conversation partner and asked to start the discussion face to face. After 5 minutes, those in the offline conditions were brought back to their individual computers and instructed to start the second questionnaire (T2). In the online conditions, after 5 minutes of conversation the experimenter closed the chat program and opened the second questionnaire. Once this questionnaire was completed, participants were thanked and rewarded for their participation.

Materials

Anti–Binge Drinking Campaign
The anti–binge drinking campaign used in the present study was previously used by Hendriks and colleagues (2012) and was part of the anti–binge drinking campaign "Know Your Limits" (which aired in the United Kingdom in 2009–2010). The video shows a young woman who, before going on a night out, rips and stains her clothes, smears her makeup, and vomits in her hair. As she leaves the house a question appears on the screen: "You wouldn't start a night like this, so why end it that way?" Hendriks and colleagues (2012) conducted a pilot study that showed this video to be perceived as effective and capable of generating interpersonal discussion.

Injunctive Norms
The definition of binge drinking was provided before the measurement of injunctive and descriptive norms. Injunctive norms were measured at T1 and T2 and were calculated as the mean of three items ("Most people who are important to me would (a) appreciate it, (b) be positive towards it, (c) accept it if I would binge drink during the next two weeks") rated on 7-point scales ranging from 1 = *totally disagree* to 7 = *totally agree* (M_{T1} = 3.27, SD_{T1} = 1.82; M_{T2} = 3.24, SD_{T2} = 1.73; α_{T1} = .94, α_{T2} = .94).

Descriptive Norms
Descriptive norms were measured at T1 and T2 and were calculated as the mean of three items rated on 7-point scales: "Most people who are important to me binge drank during the last two weeks" (1 = *never* to 7 = *often*), "Most people who are important to me have likely been binge drinking during the last two weeks" (1 = *very unlikely* to 7 = *very likely*), and "Most people who are important to me have been drunk during the last two weeks" (1 = *very unlikely* to 7 = *very likely*; M_{T1} = 3.85, SD_{T1} = 1.73; M_{T2} = 3.84, SD_{T2} = 1.82; α_{T1} = .92; α_{T2} = .94).

Conversational Valence
Conversational valence about alcohol and binge drinking was measured at T2 as the mean of three questions— "How negative or positive did you speak about the following subjects: (a) alcohol consumption, (b) binge drinking, and (c) being drunk?" rated on 7-point scales ranging from 1 = *very negative* to 7 = *very positive* (M = 3.63, SD = 1.24, α = .82), based on Hendriks et al. (2012, 2014). Higher scores indicated a more positive (i.e., unhealthy) perceived valence about alcohol. Conversational valence about the campaign was also measured at T2 and calculated as the mean of three items—"How negative or positive did you speak about the following subjects: (a) the effectiveness of the campaign, (b) the persuasiveness of the campaign, and (c) whether the campaign can reduce binge drinking?"—rated on 7-point scales ranging from 1 = *very negative* to 7 = *very positive* (M = 4.58, SD = 1.31, α = .88). Higher scores indicated a more positive (i.e., healthy) perceived valence about the campaign. Participants also had the option to respond "not applicable" to the conversational valence questions. Based on the number of participants who selected this option, it became apparent that fewer participants spoke about the anti–binge drinking campaign (n = 58, 76%) than about alcohol and binge drinking (n = 76, 100%).

Results

How Mode and Familiarity Influence Conversational Valence

Two analyses of variance were conducted to explore the influence of communication mode and familiarity on conversational

Table 1. Effects of mode and familiarity on conversational valence

	Valence about alcohol ($n = 76$)		Valence about campaign ($n = 58$)	
Effect	F	p	F	p
Mode	0.44	.511	1.77	.189
Familiarity	0.70	.407	4.56	.032
Mode × Familiarity	1.26	.265	2.94	.092

valence about alcohol and about the campaign (Hypothesis 1a, Hypothesis 2a, and Hypothesis 3a). The analyses revealed no significant main effects of mode or familiarity or interaction effects on conversational valence about alcohol. Furthermore, when we focused on conversational valence about the campaign, the main effect of mode on conversational valence about the campaign was not significant, thereby not supporting Hypothesis 1a (see Table 1).

However, a significant main effect of familiarity on conversational valence about the campaign was revealed, $F(1, 54) = 4.56$, $p = .032$. Participants talked less positively about the campaign with a familiar partner ($M = 4.18$, $SD = 1.47$) and talked more positively about the campaign with an unfamiliar partner ($M = 4.92$, $SD = 1.06$), thereby supporting Hypothesis 2a. Furthermore, a marginally significant interaction effect of Mode × Familiarity on conversational valence about the campaign was found, $F(1, 54) = 2.94$, $p = .092$. The effects of

Table 2. Mean scores for conversational valence about the campaign across the conditions

		Valence about campaign	
Familiarity condition	Mode condition	M	SD
Unfamiliar	Offline	5.37[a]	0.79
Unfamiliar	Online	4.38[b]	1.12
Familiar	Offline	4.12[b]	1.49
Familiar	Online	4.24[b]	1.50

Note. Different superscript letters indicate significant differences (at $p < .05$) across conditions. The lowest possible valence (i.e., 1) indicates a very negative valence about the campaign, whereas the highest possible valence score (i.e., 7) indicates a very positive valence about the campaign.

familiarity on conversational valence depended on communication mode. That is, the aforementioned effect of familiarity tended to be more pronounced in the offline conditions than in the online conditions, thereby providing tentative support for Hypothesis 3a. Familiar participants in the offline setting engaged in the most unhealthy conversational valence (i.e., spoke most negatively about the campaign; $M = 4.12$, $SD = 1.49$), whereas unfamiliar participants in the offline setting engaged in the most healthy conversational valence (i.e., spoke most positively about the campaign; $M = 5.37$, $SD = 0.79$; see also Table 2).

How Mode and Familiarity Influence the Effects of Conversational Valence on Norms

To investigate whether the relationship between conversational valence (about alcohol and about the campaign) and binge drinking norms differed significantly across mode and familiarity conditions (Hypothesis 1b, Hypothesis 2b, and Hypothesis 3b), we conducted repeated measures analyses of variance with mode (offline vs. online), familiarity (unfamiliar vs. familiar), and conversational valence about alcohol (covariate) as independent variables and binge drinking injunctive and descriptive norms entered separately as within-subjects dependent variables (measured at T1 and T2). Similar analyses were conducted using conversational valence about the campaign as a covariate. The analyses revealed no significant two-way or three-way interaction effects between mode, familiarity, and conversational valence about alcohol (all Fs < 1.50, all ps $> .223$; see Table 3). This indicated that the relationship between conversational valence about alcohol and binge drinking norms was not significantly different across the four conditions, thereby partly contradicting Hypothesis 1b, Hypothesis 2b, and Hypothesis 3b.

However, the analyses did reveal a significant two-way interaction effect between familiarity and conversational valence about the campaign on descriptive norms, thereby supporting Hypothesis 2b, $F(1, 53) = 5.89$, $p = .019$. Moreover, the three-way interaction between mode, familiarity, and conversational valence about the campaign on descriptive norms was significant, $F(1, 51) = 5.92$, $p = .002$. This indicated that the relationship between conversational valence about the campaign and descriptive norms was different across the four conditions, thereby supporting Hypothesis 3b.

The aforementioned analyses showed that the relationship between conversational valence about the campaign and descriptive norms differed significantly across conditions. To shed more

Table 3. Interaction effects between mode, familiarity, and valence on binge drinking norms

	Valence about alcohol				Valence about campaign			
	I. norm		D. norm		I. norm		D. norm	
Interaction effect	F	p	F	p	F	p	F	p
Mode × Valence	0.03	.858	0.09	.763	0.07	.794	0.73	.397
Familiarity × Valence	0.15	.700	0.13	.723	0.82	.370	5.89	.019
Mode × Familiarity × Valence	0.70	.553	1.50	.223	0.65	.585	5.92	.002

Note. I. norm = injunctive norms; D. norm = descriptive norms.

Table 4. Relationships between valence about the campaign and descriptive norms across the four conditions

Familiarity	Mode	B	SE	β	p
Unfamiliar	Offline	−0.79	0.22	−.40	.003
Unfamiliar	Online	−0.01	0.23	−.01	.971
Familiar	Offline	0.38	0.23	.34	.129
Familiar	Online	0.10	0.27	.09	.712

light on exactly how these relationships (i.e., in terms of strength and direction) differed across conditions, we conducted subsequent regression analyses separately within each condition with valence about the campaign as a predictor and descriptive norms at T2 as the dependent variable (controlling for descriptive norms at T1). As can be seen in Table 4, there was only a significant negative relationship between valence about the campaign and descriptive norms in the unfamiliar offline condition ($\beta = -.40$, $p = .003$). Talking in a healthy valence (i.e., positively about the binge drinking campaign) in an offline setting with an unfamiliar partner led to more healthy (i.e., negative) descriptive norms toward binge drinking, whereas talking offline with a familiar partner seemed unrelated to descriptive norms or even to lead to more unhealthy (i.e., positive) descriptive norms.

Discussion

The goal of the present study was to investigate the effects of communication mode (online vs. offline communication) and communication partner familiarity (unfamiliar vs. familiar conversation partner) on conversational valence and binge drinking norms. The results illustrate three main findings. First, communication mode does not influence conversational valence or the relationship between valence and binge drinking norms. Second, in contrast, familiarity does influence discussion effects, as indicated by more positive discussions between unfamiliar persons about the campaign, which lead more strongly to healthy binge drinking norms. Third, the effects of familiarity are especially visible in offline settings.

The first main finding, that communication mode does not influence conversational valence or the relationship between valence and binge drinking norms, is not in line with Hypothesis 1 or with literature that emphasizes the differences in effects between these two modes of communication (e.g., Dubrovsky et al., 1991; Suler, 2004; Valkenburg & Peter, 2011). Although most studies have emphasized that offline discussions lead to stronger conformity to communicated norms than online discussions (e.g., Adrianson & Hjelmquist, 1991; Baek et al., 2012; Lipinski-Harten & Tafarodi, 2012; McGuire et al., 1987; Okdie et al., 2011; Smilowitz et al., 1988), some conflicting evidence has shown that online communication leads to stronger effects than offline communication (e.g., Siegel et al., 1986). In contrast, however, our findings suggest that the mode of communication itself does not lead to changes in the valence of discussions or to changes in the relationship between valence and binge drinking norms. One explanation for these discrepant findings may be that many of the previously mentioned studies

were based on a different (i.e., less recent) online environment (e.g., McGuire et al., 1987; Siegel et al., 1986; Smilowitz et al., 1988) than the online chat environment that was used in the current study. Moreover, our topic of discussion (i.e., alcohol consumption and anti–binge drinking campaigns) was different from the topics investigated in previous studies (e.g., political ideas). Because attitudes toward certain topics can be more strongly formed and less easily changeable than attitudes toward other topics (Eagly & Chaiken, 1995), these differences in topics may have resulted in varying online and offline discussion effects. It is important that future research investigates different communication settings and focuses on different health topics, particularly considering the specific context in which this study was conducted.

It is important to note, however, that the results of the current study indicate that this lack of effect of communication mode is not the whole story. When another conversational factor (i.e., familiarity) was taken into account, it was shown that communication mode was important for both conversational valence and the relationship between valence and norms. This finding can potentially provide insight into previous conflicting research findings. Because previous studies did not manipulate, or take into account, the familiarity of conversation partners, this could have led to an under- or overrepresentation of the effects of communication mode. Thus, future research should take additional communication factors, such as familiarity, into account when investigating the effects of communication mode.

Our second main finding is that familiarity influences both conversational valence about the campaign and the relationship between valence and binge drinking norms, thereby supporting Hypothesis 2. This is in line with previous studies indicating that interpersonal influence depends on the familiarity of conversation partners (e.g., Gefen, 2000; Kiesler et al., 1984; Morton, 1978; Real & Rimal, 2007). Importantly, our results reveal more healthy conversations about the anti–binge drinking campaign between unfamiliar partners and more unhealthy conversations between familiar partners. We argue that this finding can be explained by greater feelings of anonymity in conversations with an unfamiliar conversation partner, leading to less attention to social cues, consequently resulting in less normative influence of the conversation partner. Given the fact that the talking norm about alcohol among students has been shown to be quite positive about alcohol and quite negative about anti–binge drinking campaigns (Dorsey et al., 1999; Hendriks et al., 2012, 2014; Hendriks & De Bruijn, 2015), this results in relatively more healthy conversations between unfamiliar conversation partners than between familiar conversation partners.

Although the finding that the influence of conversational valence depends on the familiarity of the conversation partner is in line with our expectations, the result that the strongest and most significant relationship between conversational valence about the campaign and norms is found in the (offline) unfamiliar condition is not. A potential explanation for this unexpected finding may be that whereas familiar conversation partners may have knowledge regarding each other's binge drinking behaviors and their degree of acceptance of binge drinking, unfamiliar conversation partners do not have this information before engaging in the discussion, consequently resulting in a discussion

that provides more new information. This new information can consequently have a stronger influence on changes in norms, thereby potentially leading to stronger discussion effects between unfamiliar communicators.

The third main finding is that the influence of communication mode and familiarity on discussion effects appears to be interdependent. The results suggest that the effects of familiarity depend on communication mode; that is, the effects of familiarity are especially visible in offline settings, thereby confirming Hypothesis 3. This is in line with evidence that there is a weaker effect of social cues, such as familiarity, in online compared to in offline communication (e.g., Dubrovsky et al., 1991; McGuire et al., 1987; Siegel et al., 1986). The interaction between communication mode and familiarity, as shown by this study, highlights the need for future research to not only study the effects of communication factors independently but also focus on the interplay between communication factors.

It is interesting that the offline unfamiliar condition especially led to the most healthy conversational valence (i.e., positive about the campaign), and that this healthy valence most strongly led to healthy (i.e., negative) binge drinking norms. Thus, it is not necessarily the case that offline conversations with familiar others stimulate unhealthy conversations and norms, but it appears that offline conversations with unfamiliar others especially lead to more healthy conversations and norms. This has important implications for health promotion attempts and is particularly important for the issue of binge drinking given its prevalence and the myriad of related negative consequences (Hughes et al., 2008; Naimi et al., 2003; Wechsler et al., 2002). The findings suggest that health promotion attempts should stimulate offline conversations between unfamiliar people. A potential implementation can be to organize discussion groups in which unfamiliar participants discuss anti–binge drinking campaigns with each other. These conversations will likely have a healthy conversational valence and result in healthier binge drinking norms.

Limitations and Future Research Suggestions

Although our study yields interesting new insights into the effects of communication mode and familiarity on conversation effects, some limitations should be noted with regard to the present research. First, although we took conversational valence into account, we did not code the specific content of the conversations. It is possible that the conversations in our study not only differed across conditions in terms of valence but also differed in the discussed topics. That is, due to the fact that familiarity increases self-disclosure (Morton, 1978), it is possible that in conversations with strangers, discussants may have talked less about their own experiences and more about the experiences of others. This might explain why conversations with unfamiliar discussants had the strongest influence on descriptive norms regarding people who were important to the discussants, because the discussants may have focused especially on the experiences of these important others. However, because this explanation is still speculative, more research is needed in which conversations are coded for specific alcohol-related content.

Second, our study focused on the rigid distinction between familiar and unfamiliar conversation partners in order to get a clear picture of the effects of familiarity on discussion effects. However, familiarity can also be seen as a continuous, instead of a strictly dichotomous, variable. That is, whereas some people (e.g., colleagues) are merely acquainted with each other and only know a few descriptive things about each other, others (e.g., friends) may have known each other since they were children and are privy to detailed personal information. Thus, although the present study reveals new insights into the role of familiarity for discussion effects, more research is needed on how varying levels of familiarity influence offline and online conversation effects.

Conclusion

To conclude, this study shows that although communication mode does not influence conversational valence or binge drinking norms, familiarity does influence discussion effects. Moreover, the influence of familiarity depends on communication mode given the fact that the effects of familiarity are especially visible in offline settings. Future researchers should further investigate the influence of the interplay between these communication factors on discussion effects. Our findings suggest that health promotion attempts might benefit from eliciting conversations between unfamiliar persons about anti–binge drinking campaigns because these discussions tend to be positive about anti–binge drinking campaigns and result in healthy binge drinking norms.

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