Online identities and social influence in social media gambling exposure: A four-country study on young people

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ABSTRACT

Social media tends to gather users around social cliques consisting of similar-minded individuals and shared identities. These online group processes can have significant influence on user behavior, which is alarming when considering risky behaviors such as gambling. This study examined how online clique involvement predicts young people's interest in gambling content and following observed group norms on social media. Survey respondents were 15–25-year-olds from Finland ($n = 1200$), the United States ($n = 1212$), South Korea ($n = 1192$) and Spain ($n = 1212$). A self-reported measure of online clique involvement and a gambling-related social media vignette experiment were utilized. The results show that online clique involvement was related to higher interest in gambling content. Content liked by a majority gathered more interest, indicating conformity to a group norm. This finding was especially true among participants with past involvement in online cliques, and the association was strongest in South Korea. The tendency to participate in online clique behavior creates a potentially risky setting when encountering online gambling content, because it may accentuate the effect of observed group norms. Interacting with gambling content increases the visibility of such content due to algorithmic filtering technologies, which can fuel gambling-related intentions and behaviors, and normalize gambling.

1. Introduction

Humans are inherently social (Baumeister and Leary, 1995), and social media offers diverse platforms and interactional tools to fulfil this basic human need. Social media are online platforms that provide means for interaction, social networking, content sharing, and identity development with other people. Facebook, Instagram, and YouTube are common forms of social media that allow users to create and share content, as well as communicate with and react to others' posts (Aichner et al., 2020). Young people, particularly adolescents and emerging adults aged 15–25, are often active social media users worldwide. They adopt new technologies upon which social media operate and using such technologies is a natural part of their daily lives (Ahn, 2011; Davis, 2012; Lenhart et al., 2015). For today's youths, social media provide an important context for identity development and a source of information (Lehdonvirta and Räsänen, 2011; Mikal et al., 2016). Peers are also an important source of influence for young people, which accentuates the role of peer

activity on social media (Boyle et al., 2016; Gardner and Steinberg, 2005).

Information and content shared on social media and online networks can be misleading and harmful by nature. An important area in this regard is the increased visibility of gambling content on social media. Gambling operators use social media platforms to advertise gambling and often depict gambling as a glamorous lifestyle without mentioning gambling-related risks and harms. By doing so, they normalize and encourage gambling activities (Gainsbury et al., 2015), which may be alluring to young individuals in particular (Binde, 2014; Derevensky et al., 2010). In addition to gambling ads, youths can be exposed to their online friends' gambling activities, such as sharing gambling-related content. As active online users, young people are prone to exposure to various gambling content, which is alarming given that youths are a group at risk for developing gambling problems (Calado et al., 2017). In social media, users tend to trust in information that comes from similar others and in-group members (Flanagin et al., 2014). Thus, exposure to gambling content and related norms could shape and influence users' attitudes toward gambling, particularly when information comes from trusted in-group members.

Active social media use and strong attachment to online networks may lead to the formation of online bubbles (i.e., online cliques) characterized by reduced diversity of contacts and information due to personal preferences and platforms' filtering technologies. A recent social psychological contribution in this regard is the identity bubble reinforcement model (IBRM), which examines individuals' social identification with online networks, tendency to seek out similar others, and reliance on them as an information source (Kaakinen et al., 2020; Keipi et al., 2017). Therefore, the theory builds on the social psychological tradition of studying group behavior and extends understanding of grouping behavior in the online context. The social-psychological approach afforded by the IBRM emphasizes how users cognitively relate to their social networks and information on social media. Applying the model could thus contribute to a deeper understanding of the online bubble phenomenon and provide valuable insight about the underlying mechanisms behind social media behavior (Kaakinen et al., 2020). Understanding social media behavior such as the tendency to form and orient toward online cliques could also help scholars recognize the key social factors that may accentuate the effect social media gambling content has on young people via observed norms.

Drawing on the theoretical framework of IBRM, we examine how involvement in online bubbles (i.e., online cliques) predicts reported interest in and following of group norms in presented gambling-related social media scenarios among young people across four countries: Finland, the United States, South Korea, and Spain. Research has shown that social media usage across these four countries shares similar features (Gómez et al., 2017; Kaakinen et al., 2020; Keipi et al., 2017; Kim et al., 2011; Nielsen and Schrøder, 2014; Näsi et al., 2014), making it meaningful to examine social media behavior in these countries. These countries have cultural variations in gambling regulations; however, extended online gambling opportunities make gambling activities visible and accessible even for those individuals who are not legally able to gamble (Clemens et al., 2017; Griffiths and Parke, 2010; King and Delfabbro, 2016; O'Leary and Carroll, 2013; Sirola et al., 2018). Data from these countries with distinct cultural characteristics and norms will provide a much richer understanding of whether and the extent to which the IBR model works.

First, we provide a brief overview of the formation of online cliques, after which we discuss how online content may be evaluated via social norms and social influence. Next, gambling and social media behavior are considered from a cross-national perspective. We then move on to describing the current cross-national study.

2. The formation of online cliques

Humans have a basic tendency to interact and identify with like-minded people (McPherson et al., 2001). Social media facilitates this need for homophily because social media tends to gather like-minded users together (Kang and Chung, 2017). Personal preferences together with platforms' algorithmic systems may lead to "echo chambers" and "filter bubbles," in which certain beliefs are reinforced without exposure to contrasting views, and the diversity of content and contacts is limited due to platforms' filtering technologies (Geschke et al., 2019; Pariser, 2011; Zollo et al., 2017). These perspectives on online bubbles have mainly focused on describing the structural elements of online communication, such as the spread of and exposure to information on specific online platforms. From a social psychological viewpoint, understanding how online users perceive their attachment to online networks and why they trust information disseminated therein is crucial, because these personal preferences intertwine with platforms' filtering technologies.

According to the IBRM, individuals can use social media to actualize and promote their identities, but the online environment also shapes and validates their identities (Keipi et al., 2017). The preference to seek out and interact with other users and online content that are compatible with one's identity also strengthens shared identities among social media users. According to the IBRM, this kind of identity-driven social media use can lead to the formation of so-called online identity bubbles (i.e., online cliques), which are reflected in three elements: social identification, homophily, and information bias (Kaakinen et al., 2020; Keipi et al., 2017).

The first element, *social identification*, derives from a social identity approach that states individuals are likely to identify with meaningful groups and value their in-group even on a minimal basis (see Tajfel et al., 1971). The second element, *homophily*, has as its premise that individuals prefer to interact with like-minded others (see McPherson et al., 2001). The third element, *information bias*, addresses the tendency to be dependent on information shared in one's networks, which may result in reduced and one-sided information exposure. The IBRM model suggests that its three elements—social identification, homophily, and information bias—are correlated and effectively reflect the formation of online cliques in social media. Moreover, individuals involved in online cliques tend to identify strongly with their online networks, prefer interacting with like-minded others, and rely on information provided by their online in-group members (Kaakinen et al., 2020). As such, involvement in online cliques may also play a role in evaluation of perceived online content and a tendency to rely on others' opinions.

3. Evaluating online content: social norms and social influence

A central characteristic of an average social media platform is the visibility of other users' reactions and evaluations of shared content. For example, users can express their positive or negative opinion of social media content by giving it a "thumbs up" (i.e., "like") or "thumbs down" (i.e., "dislike"), and the reactions the content has gathered are visible to other users. These features, however, are highly platform-dependent; some platforms utilize more nuanced ways of expressing one's reactions to the content (e.g., sadness, anger, or amusement), but others are limited to simpler expressions, such as mere likes. Overall, these kinds of user evaluations provide descriptive information on majority opinions and group norms in an online community. For example, content that has gathered many likes or other positive reactions by other users indicate a positive group norm, whereas mostly negative reactions (e.g., dislikes) indicates an overall negative group norm concerning the content. Observed norms may also shape a user's interest in the content and facilitate processes of social influence.

Social influence refers to the extent of following and conforming to perceived behavior and actions (Jahoda, 1959). The concept of social influence can be divided to *informative* influence and *normative* influence. The former refers to reliance on others' opinions as accurate evidence of reality (particularly in ambiguous situations), whereas the latter means conforming to the majority's opinions, behaviors, or values to fit into a group and gain social acceptance (Deutsch and Gerard, 1955; see also Cialdini and Goldstein, 2004). Informative and normative social influences are not mutually exclusive, but they often intertwine (Kaplan and Miller, 1987). Here, we primarily focus on normative influence in terms of how individuals follow observed majority social norms when evaluating content in social media settings. However, we argue that informational influence may also occur on social media because observed norms can shape one's opinions, intentions, and behaviors. This can be particularly true among individuals who have a tendency toward online clique behavior, because individuals in online cliques tend to trust in information shared by one's in-group (Kaakinen et al., 2020).

In the abundance of information, online users tend to follow and conform to observed in-group norms and values (Flanagin, 2017; Flanagin et al., 2014; Hocevar et al., 2014; Shin et al., 2017), such as perceived reactions and comments. For example, popular online content that has gathered many "likes" tends to gather even more interest and reactions that are positive (Sherman et al., 2016). Social endorsement may play a particularly important role in shared group identity. In the social identity approach, identification with an in-group is seen as a starting point for social influence (Turner, 1985), because individuals value their in-group and become sensitive to contextually relevant group norms (Abrams and Hogg, 1990; Postmes et al., 1999). When people perceive others as similar to oneself (i.e., sharing the same social identity), they are more likely to agree with others' reactions and evaluations in their behavior (Turner and Oakes, 1986).

According to the social identity model of deindividuation effects, the relatively anonymous nature of online platforms enhances contextually relevant group identities and thus makes it easier to identify with perceived in-group members (Lea et al., 2001; Postmes et al., 1998, 2001; Reicher et al., 1995). Established group norms define and influence individuals' behaviors in a specific online in-group (Postmes et al., 2000). Strong identification with a group makes group norms more salient and facilitates mechanisms of social influence (Postmes et al., 1998, 2001), making individuals increasingly susceptible to following peers' evaluations of online content (Chung, 2018; Pegg et al., 2018; Walther et al., 2010). Anonymity in online settings can be approached as continuum, because the level of anonymity varies between social media platforms (Van der Nagel and Frith, 2015). These levels range from full anonymity to pseudonyms, names, avatars, profile photos, and even face-to-face interaction via video connection, but interaction on most platforms is characterized by reduced visual cues and co-presence such as nonverbal cues of others (Keipi and Oksanen, 2014; Keipi, 2018). This kind of visual anonymity on the Internet and social media can accentuate the effects of social influence and adherence to group norms through activated group-identity consciousness (Postmes et al., 2001).

4. Gambling and social media behavior from the cross-national perspective

Gambling is an activity characterized by wagering or betting mechanisms involving the use of real money, typically with chance-determined outcomes (King et al., 2015). Gambling activity often starts during adolescence and gambling problems are most common in emerging and young adulthood (Derevensky et al., 2019; Salonen and Raisamo, 2015). Worldwide, approximately 0.2%–12.3% of youths qualify as problem gamblers (Calado et al., 2017). Across different countries, men tend to more actively engage in gambling activities and suffer from gambling problems more often than women do (Chóliz et al., 2019; Hing et al., 2016; Salonen and Raisamo, 2015; Weidberg et al., 2018; Welte et al., 2015), but evidence shows the number of women who gamble and the associated problems are increasing (Holdsworth et al., 2012; Salonen et al., 2017). The four countries included in this study have cultural variations on gambling regulation, prevalence, and attitudes, providing an interesting context for comparison.

In Finland, the legal age for gambling is 18 (Nordmyr and Österman, 2016), and problem gambling is highest in the 18–24 age group (Salonen et al., 2019). However, high problem gambling prevalence rates are also observed among 15–28-year-old individuals; approximately 13.6% of men and 4.6% of women in this age group qualify as problem gamblers (Edgren et al., 2016). A recent Nordic comparison found that Finnish youths had higher gambling and online gambling rates when compared to their counterparts in other Nordic countries (Spångberg and Svensson, 2020). Gambling attitudes in Finland have recently shifted toward a more positive direction, although this shift has not been observed among the 15–17 age group (Salonen et al., 2017).

In the United States, gambling opportunities have expanded, and they have increasingly become legalized in several states during the past decades (Horváth and Paap, 2012). The minimum age for gambling varies between states, but typically ranges from 18 to 21 (National Research Council, 1999). Gambling is a largely acceptable activity in the country and most people do it for entertainment (National Council on Problem Gambling, 2020; Neighbors et al., 2002). Gambling problems are most common among males and in the 18–30 age group, and approximately 5% of individuals older than 18 qualify as problem gamblers (Welte et al., 2015).

Spain legalized online gambling in 2012, resulting in increased legal gambling opportunities and the risks associated with gambling (Chóliz, 2016). The legal age for gambling in Spain is 18 (European Casino Association, 2017), but according to Gómez et al. (2019), adolescents aged 12–17 have also adopted these new online gambling opportunities. Among people younger than 26, 51% had gambled during their lifetime, and approximately 1% suffer from pathological gambling, men more often than women (Chóliz et al., 2019).

South Korea strictly regulates gambling activities. Only a few forms of gambling are legal, such as lotteries and some sports betting (Jang et al., 2019). The legal age for gambling is 18 (Calado and Griffiths, 2016). Overall, Koreans hold rather negative attitudes toward gambling. The majority (77%) of respondents to a survey believed gambling is morally wrong, and accordingly, gambling and problem gambling prevalence rates in South Korea are relatively low (Williams et al., 2013). The same authors reported that the past-year prevalence rate in 2013 among South Koreans older than 19 was 41.8% for gambling and 0.5% for problem gambling. However, research has also suggested that young Korean males in particular would be more exposed to gambling and gambling problems (Jang, 2013; Jang et al., 2019).

Despite the differences in gambling regulation and cultural acceptance, the Internet and its extended gambling opportunities make gambling activities, platforms, and networks visible and accessible even for those who are not legally allowed to gamble (Clemens et al., 2017; Griffiths and Parke, 2010; King and Delfabbro, 2016; O'Leary and Carroll, 2013; Sirola et al., 2018). Accordingly, young people are easily exposed to various gambling content even in countries where gambling is strictly regulated. Many online gambling sites have deficient age monitoring systems, making gambling accessible for underage individuals (Griffiths and Parke, 2010). Evidence shows high exposure to online gambling content such as advertising influences gambling-related attitudes, intentions, and behavior and make gambling appear more socially acceptable to young people, which may increase the risk of problematic gambling (Bouguettaya et al., 2020; King et al., 2010). Thus, social media may play an important role in the development and maintenance of gambling-related attitudes and problems among youths (King et al., 2010; Sirola et al., 2018).

In each of the four countries, a majority of young people have constant Internet access, particularly through mobile phones, and they use social media extensively (OECD, 2018). In Finland, 100% of 16–24-year-olds own a smartphone and have Internet access, and nearly 93% of them use social media platforms (Official Statistics of Finland, 2019). According to a recent report, up to 95% of U.S. teens have access to a smartphone and 45% of them report being online on a near-constant basis. The most popular social media platforms among American teens are Facebook, YouTube, Instagram, and Snapchat (Anderson and Jiang, 2018), whereas 90% of American young adults indicate using some form of social media (Statista, 2019). In Spain, nearly 95% of young people own a smartphone (Silver, 2019). The Spanish National Institute of Statistics (Instituto Nacional de Estadística (INE), 2019) reported that the most skilled Internet users in the country are people aged 16–24; 93% of them use the Internet daily and 90% use social media. Most Spanish youths between 16 and 25 years old use the Internet on their mobile devices to chat with others (De-Sola et al., 2019). In South Korea, 95% of the population own a smartphone (Silver, 2019). The Internet penetration rate and online availability in the country are among the highest in the world. Nearly 100% of Korean people between 10 and 29 years of old are connected to the Internet (Waldeck, 2020a), and approximately 87% of Koreans aged 20 to 29 use social media (Waldeck, 2020b).

Although the motivations and patterns of social media use have notable similarities in the countries of interest, they are also culturally distinct. Finland and the United States are generally regarded as highly individualistic countries, and South Korean culture is known to be more collectivist in nature (Hofstede, 1984; Hofstede and Bond, 1984). Spanish culture, in contrast, is considered to have individualistic and collectivistic features (Gouveia et al., 2003; Hofstede, 1984). Therefore, cultural differences in perceiving and evaluating online content may exist, even though few, if any, cross-cultural studies have been conducted related to online gambling content. In Song and colleagues' (2016) study of online health-information seeking, Koreans considered experience-based health information sources more trustworthy than Americans did, but Americans preferred expertise-based health information. This difference can be explained by Easterners' holistic worldview characterized by intuitive reasoning, compared to Westerners' analytical thinking grounded on formal logic (see Kim et al., 2010; Nisbett et al., 2001). Holistic thinking is also more group-oriented and context-dependent than analytical thinking is. In Eastern holistic cultures, objects and individuals are perceived through their similarities and relationships as inseparable parts of the whole, whereas in Western analytical cultures, grouping is mostly based on categorization rules and formal logic that dismisses the importance of the context (Nisbett et al., 2001). These cultural differences might be reflected in social media behavior such as the tendency to follow situationally relevant group norms.

5. The current study

In this experimental four-country study, we provided an empirical analysis based on the IBRM. Our aim was to examine how self-reported involvement in online cliques predicts interest in gambling-related social media content and conformity to group norms among young people in Finland, the United States, South Korea, and Spain.

Our first hypothesis is grounded on recent research on IBRM, stating that individuals who are involved in online cliques are active social media users and generally interested in various online content (Kaakinen et al., 2020). Thus, we state our first hypothesis:

H1: Young people who are involved in online cliques express more interest in various types of online gambling content (i.e., pro-gambling and anti-gambling) than those who are not involved in online cliques do.

Our second hypothesis is grounded on the social identity approach and social identity model of deindividuation effects. These theoretical approaches state that under the condition of shared and valued group identity, individuals become more sensitive to contextually relevant group norms and susceptible to social influence (e.g., Lea et al., 2001; Postmes et al., 1999, 2001; Turner, 1985). From the viewpoint of IBRM, it can be expected that individuals whose social media behavior in general is characterized by strong attachment to their online networks (i.e., online cliques) are particularly prone to follow observed group norms in social media

scenarios. Thus, we formulate our second hypothesis:

H2: Young people who are involved in online cliques are more likely to follow the observed group norms in their evaluations of online content than are those not involved in online cliques.

Even though social media usage follows similar patterns in all four countries, differences also exist concerning gambling prevalence, regulation and attitudes. Additionally, these four countries have cultural variation in terms of individualistic and collectivistic values. These differences may affect how online gambling content and perceived group norms are evaluated in social media scenarios. Thus, we investigated potential differences between countries in relation to H1 and H2. Additionally, we investigated potential interaction effects of age and gender.

6. Methods

6.1. Participants

Participants in this study were 15–25-year-old adolescents and emerging adults from four countries: Finland ($n = 1200$, $M_{age} = 21.29$, $SD = 2.85$, 50% female), the United States ($n = 1212$, $M_{age} = 20.05$, $SD = 3.19$, 50.17% female), South Korea ($n = 1192$, $M_{age} = 20.61$, $SD = 3.24$, 50.42% female), and Spain ($n = 1212$, $M_{age} = 20.07$, $SD = 3.16$, 48.76% female). The Finnish sample was collected from March to April 2017, the American and South Korean samples from January to February 2018, and the Spanish sample in January 2019. The participants from all four countries were recruited from a pool of volunteer respondents via Dynata (formerly Research Now and Survey Sampling International). As compensation for successful participation, Dynata rewards survey participants with points they can exchange for vouchers or cash. All the samples were demographically balanced, and they showed good resemblance with the current population estimates.

6.2. Procedure

Participants completed a comprehensive *YouGamble* online study in each country. In the invitation letter, participants were told that the survey study mainly focused on how young people evaluate gambling-related content on social media. The study included a survey section with questions on social media use, social relations, gambling and addiction problems, and a social psychological vignette experiment. In this paper, we only report results of the self-reported measure of online identity bubble involvement (IBRS) and the experimental part of the study (more comprehensive results of the survey section are reported elsewhere, see, e.g., (Oksanen et al., 2019; Savolainen et al., 2020a,b,c; Sirola et al., 2018, 2019). The surveys in the four countries were mainly identical; however, minor modifications were made to fit the various cultural settings better. The survey was originally developed in Finnish, and then translated and back-translated to English, Korean, and Spanish to ensure linguistic validity and the items' accuracy. All four *YouGamble* surveys were conducted using LimeSurvey software and optimized for computers and mobile devices. All respondents were aware they could withdraw from the study at any time. The Tampere Region Academic Ethics Committee reviewed the research plan in December 2016 and determined the research did not contain ethical problems.

The experimental part of the study included a gambling-related social media vignette experiment. To observe the desired group effects, a vignette experiment utilized a $2 \times$ between-person and $2 \times 2 \times 2$ within-person experimental design (see Fig. 1). For the between-person factor, we first randomly divided respondents into two groups. Those in the experimental condition were told they had been placed in "Group C," which consisted of participants who provided similar answers to previous survey items concerning their social media use. Control group members were not given any group information. Next, each respondent was shown four gambling messages (see Appendix A) and asked to rate his or her interest in each one's content.

Each message was framed with manipulated reactions seemingly provided by other respondents of the survey (i.e., by "other Group
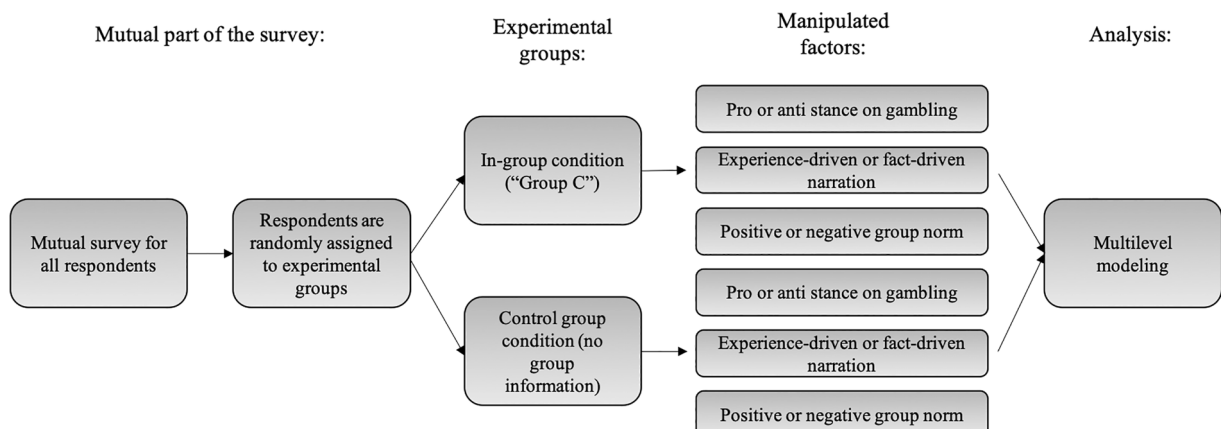

Fig. 1. The experimental vignette design.

C members" for the experimental group condition): *positive group norm* messages were framed as majority (about 85%) likes, and *negative group norm* messages were framed as majority (about 85%) dislikes. Social media scenarios were visually anonymous in the sense that participants did not have visual cues of other respondents or the sender of the gambling messages. We also manipulated the narration of the message in the vignettes (message written in first-person as an experience-driven narration vs. message written in third-person as a fact-driven narration) and the stance on gambling (pro-gambling vs. anti-gambling) expressed in the gambling messages. Therefore, half of the gambling messages were presented as subjective gambling experiences and half of the messages as objective research facts about gambling. Similarly, half of the messages discussed the upsides of gambling (e.g., its entertainment value), and the other half discussed the negative effects of gambling (e.g., gambling causes problems). The exact manipulations of the vignettes can be found in Appendix A, and an example of the visual stimuli shown to participants can be found in Appendix B.

The vignette scenarios in our $2 \times 2 \times 2$ within-person factorial design resulted in eight different vignette scenarios that we partitioned into two vignette sets (four vignettes in each). These vignette sets were balanced in a manner that allowed us to estimate all the main effects of our manipulated factors and so that the main effects were not confounded by the two-way interactions between the manipulated factors (for a similar design, see Atzmüller and Steiner, 2010). In both vignette sets, all factor levels occurred twice (e.g., the sets included two pro-gambling and two anti-gambling vignettes). In addition, the two-way interactions between the factor levels were balanced. For example, each factor level (pro-gambling or anti-gambling content; experience-driven or fact-driven narration) was depicted as liked and disliked once.

6.3. Measures

6.3.1. Dependent variable

Reported interest toward online gambling messages was used as the dependent variable. It was measured with six questions presented after each vignette message. Respondents were asked the following: How likely, based on the given description, 1) would you find the message interesting? 2) would you open the link attached? 3) would you share the link in social media? 4) would you seek similar content online in the future? 5) would you recommend the linked website to your friends? 6) would your friends in social media be interested in the linked website?

All six items had a scale ranging from 1 (*not at all likely*) to 10 (*very likely*), and questions were summed up to a composite variable. The Cronbach's alpha coefficient for the measure ranged from 0.95 to 0.96 between vignette messages.

6.3.2. Independent variables

The IBRS-6 (Kaakinen et al., 2020) was used to measure the respondents' self-reported involvement in online cliques on social media. The measure includes subscales of social identification, homophily, and information bias. Items for social identification measure the sense of belonging to communities that are an important part of the participant's identity and of which they feel proud. Items for homophily measure the preference to interact on social media with similar-minded others. Items for information bias measure the trust in information shared on social media and the perception that others on social media think alike. All items had a scale ranging from 1 (*does not describe me at all*) to 10 (*describes me completely*). The scale showed good to excellent internal consistency with Cronbach's alpha values of 0.80, 0.90, 0.93, and 0.86 in the Finnish, American, South Korean, and Spanish samples, respectively.

The positive or negative group norm concerning the gambling content was measured with a dummy variable indicating whether the content was presented as liked by most (1 = *positive group norm*) or disliked by most (0 = *negative group norm*). In addition, the information about whether the respondent was included in the experimental or the control group was added in the analyses.

Finally, the respondents' gender, age, and country information were added into the analyses for estimation of potential cross-country differences in reported interest toward the vignettes' contents.

6.3.3. Statistical analyses

We calculated the mean values and standard deviations for both of our self-reported measures (i.e., interest toward the social media vignettes and involvement in online cliques [Table 1]). To assess the success of our randomization, we tested whether there were statistically significant differences in gender or age distribution, or in involvement in online cliques between the group and the control conditions. For the gender distribution, we used cross-tabulation and a corresponding two-tailed Chi-squared test. For the age and online clique involvement, we used two-tailed *t*-tests. To test our hypotheses, we conducted a multilevel linear regression analysis with random coefficient modelling. This method allows for analysis of within-subject-level and between-subject-level effects and cross-level

Table 1
Descriptive Statistics on Our Self-Reported Measures.

Continuous variables	Range	Total		Group condition		Control condition	
		M	SD	M	SD	M	SD
Reported interest	6–60	22.62	14.73	22.67	14.67	22.57	14.79
IBRS	6–60	32.41	11.86	32.51	11.89	32.31	11.83
Age	15–25	20.50	3.15	20.43	3.17	20.58	3.14
Categorical variables	Coding	n	%	n	%	n	%
Female	0 = male, 1 = female	2400	49.8	1221	49.1	1179	50.6

Note. M = Mean. *SD* = Standard Deviation. IBRS = Identity Bubble Reinforcement Scale.

interactions between them. In the multilevel models, our experimental manipulations (positive/negative group norm, first-person/third-person narration, and pro/anti stance on gambling) were added as within-person level predictors, and the involvement in online cliques and experimental condition were added as between-person predictors.

We performed our analyses in two steps. First, we estimated a model with our within-subject and between-subject level predictors and a random intercept and random slope for positive majority (Model 1). We used this first model to estimate the association between involvement in online cliques and reported interest toward the gambling-vignette content (H1). To determine whether this association differed by gender, age, experimental conditions, or respondents' country, we conducted an additional analysis by including two-way interactions between online clique involvement and gender, age, and respondents' country information in Model 1 (these additional analyses are only reported in text). To enhance the interpretation of our findings, we added the interaction terms separately to Model 1.

In the second model (Model 2), we added the hypothesized cross-level interaction between positive group norm and online clique involvement (Table 2). We used this second model to determine whether online clique involvement moderated the association between positive group norm and reported interest toward vignette content (H2). To determine whether this interaction differed by gender, age, experimental conditions, or country samples, we conducted additional analyses by adding three-way interactions between positive group norm and online clique involvement, and gender, age, experimental condition, and country information in the Model 2 (these additional analyses are only reported in text). Here again, the additional three-way interactions were added separately to the Model 2 in order to improve the interpretation of our finding. However, the same two-way and three-way interactions remained significant when added simultaneously to the models.

For our models, we reported unstandardized regression coefficients (b) along with their standard error and statistical significance (p-value) estimates. The hypothesized interaction effect between positive group norm and online clique involvement was elaborated with a simple slope graph (Fig. 2).

7. Results

Randomization to experimental and control conditions was successful, as there were no statistical differences between group and control conditions in terms of gender (χ^2 (1) = 1.00, p = 0.316), age (t(4814) = −1.6, p = 0.117), or online clique involvement (t (4814) = 0.6, p = 0.557).

Self-reported involvement in online cliques had a positive association with reported interest toward gambling content (b = 0.50, p < 0.001; see Table 2), thus supporting our first hypothesis. Positive group norm had a positive effect on the respondents' reported interest toward the gambling content (b = 1.34, p < 0.001). In terms of our other predictors, experience-driven narration (b = -0.99, p < 0.001) and pro-gambling stance (b = -3.35, p < 0.001) had a significant negative effect on self-reported interest toward gambling content. Females reported less (b = -3.28, p < 0.001) and older respondents reported more (b = 0.41, p < 0.001) interest toward gambling content. In addition, country differences emerged in self-reported interest, as Finnish respondents reported less (b = -2.68, p < 0.001) and American (b = 1.38, p = 0.002) and Spanish (b = 4.23, p < 0.001) respondents reported more interest toward various gambling content than South Koreans did. The experimental condition, however, did not predict self-reported interest (b = 0.06, p = 0.844).

According to our additional analyses of two-way interactions, the association between online clique involvement and reported interest was higher in the South Korean sample (b = 0.54, p < 0.001; used as a reference category) than in the Finnish sample (b = −0.22, p < 0.001) (not reported in the tables). Gender differences were also found. Relative to males (b = 0.58, p < 0.001; used as a reference category), the positive association between involvement in online cliques and reported interest toward gambling content was weaker for females (b = −0.17, p < 0.001; not reported in the tables). In addition, the association between online clique involvement and self-reported interest was stronger among older respondents (b = 0.02, p < 0.001; not reported in tables). The association between

Table 2
Multilevel Regression Models Predicting Interest toward Experimental Vignette Content.

Fixed	Model 1			Model 2		
	b	SE	p	b	SE	p
Constant	0.47	1.23	0.701	1.11	1.24	0.373
Experience driven	−0.99	0.11	**<0.001**	−0.99	0.11	**<0.001**
Pro-gambling stance	−3.35	0.11	**<0.001**	−3.35	0.11	**<0.001**
Positive group norm	1.34	0.11	**<0.001**	0.08	0.33	0.803
IBRS	0.50	0.01	**<0.001**	0.48	0.01	**<0.001**
Group condition (ref. = control condition)	0.06	0.31	0.844	0.06	0.31	0.844
Female	−3.28	0.31	**<0.001**	−3.28	0.31	**<0.001**
Age	0.41	0.05	**<0.001**	0.41	0.05	**<0.001**
Country (ref. = South Korea)						
Finland	−2.68	0.45	**<0.001**	−2.68	0.45	**<0.001**
United States	1.38	0.45	**0.002**	1.38	0.45	**0.002**
Spain	4.23	0.45	**<0.001**	4.23	0.45	**<0.001**
Positive group norm*IBRS				0.04	0.01	**<0.001**
Log likelihood	−71813.00			−71804.57		

Note. IBRS = Identity Bubble Reinforcement Scale. Ref. = reference group. Bold font indicates statistical significance (p < 0.05)
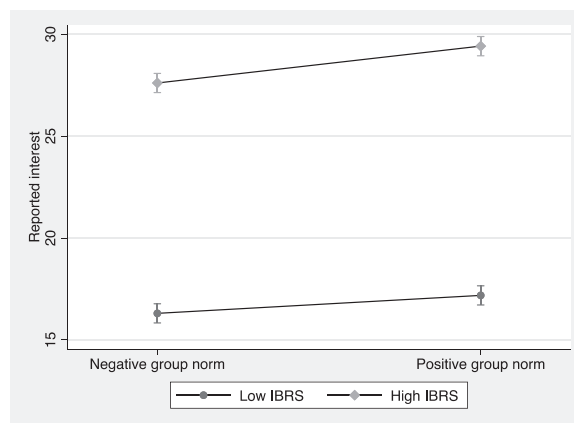
Fig. 2. Involvement in identity bubbles moderating the effect of positive group norm. Adjusted predictions of reported interest with 95% CIs for the positive and negative group norms with low (1 standard deviation below mean) and high (1 standard deviation above mean) IBRS. IBRS = Identity Bubble Reinforcement Scale.

online clique involvement and self-reported interest did not differ across experimental conditions ($b = -0.03$, $p = 0.225$; not reported in tables).

According to our moderation analysis in Model 2, the interaction term between positive group norm and online clique involvement was a significant predictor of self-reported interest ($b = 0.04$, $p < 0.001$). According to this moderation, self-reported online clique involvement enhanced the effect of positive group norm (see Fig. 2), thereby supporting our second hypothesis. To determine whether this moderation was dependent on gender, experimental condition, age, or the respondent's country, we added three-way interactions to the model (not reported in the tables). According to this additional analysis, the interaction between positive group norm and online clique involvement was weaker for females than males, yet this difference was not statistically significant ($b = -0.01$, $p = 0.683$). The moderation effect was stronger in the control condition than in the group condition, but this difference was not significant ($b = 0.01$, $p = 0.647$). Compared to the South Korean sample ($b = 0.09$, $p < 0.001$; used as a reference category), the moderation effect was weaker in the American ($b = -0.07$, $p = 0.009$) and Spanish ($b = -0.07$, $p = 0.008$) samples. The moderation was also weaker in the Finnish sample ($b = -0.05$, $p = 0.086$), but the difference was not significant. Age did not affect the interaction between online clique involvement and self-reported interest ($b = -0.00$, $p = 0.920$).

8. Discussion

In this cross-cultural study, we examined how participants' self-reported involvement in online cliques predicts their interest toward social media gambling messages and following group norms among young people from Finland, the United States, South Korea, and Spain, and whether any observable country-based differences emerged. Individuals who were involved in online cliques, according to the self-reported Identity Bubble Reinforcement Scale, reported more interest toward online gambling content, thus supporting our first hypothesis (H1). This result is in line with earlier research on the IBRM, indicating that those involved in online cliques are active social media users and interested in various online content (Kaakinen et al., 2020). However, we also found cross-country and gender differences in this association; in Finland, involvement in online cliques had a weaker association with reported interest than in other countries. Finnish young people also generally reported less interest toward gambling content compared to other countries. These findings may reflect the fact that, in Finland, young people have more negative gambling attitudes compared to older age groups (Salonen et al., 2017).

The association of online clique involvement and reported interest toward gambling content was stronger among males than females, which may reflect gender differences in social media use and underlying motivations. According to a recent study, men are motivated to use social media to gain information, whereas women are motivated to maintain social ties (Krasnova et al., 2017). Thus, online clique behavior may reflect gender differences in motivations, inclinations, and consequences, as men may be, in general, more interested in information shared on social media and in online cliques. Additionally, our finding suggests that men and women may differ in the kinds of online cliques in which they are involved. As gambling is a more common activity among men than women (Chóliz et al., 2019; Hing et al., 2016; Salonen and Raisamo, 2015; Welte et al., 2015), it is plausible that men are, in general, more likely to seek gambling-related content and networks that provide information concerning gambling. Future studies should explore these gender and motivational differences in more depth to determine whether online clique behavior poses different risks for men than women.

As expected, the respondents reported more interest toward content that was presented as liked by most others (i.e., positive group norm), indicating that liked content appeared more interesting. Our second hypothesis (H2), based on a moderation effect, was also supported: Participants with high involvement in online cliques expressed more interest toward gambling content when the content was shown as liked. This finding suggests that those involved in online cliques are more susceptible to social influence, in terms of conforming to observed group norms in their own evaluations. These findings support earlier research on conformity to observed

group norms on social media (Flanagin, 2017; Flanagin et al., 2014; Sherman et al., 2016; Winter et al, 2016), while adding an important social psychological insight by examining the role of online cliques in such behavior.

The moderation effect was found in all countries, but it was strongest in the South Korean sample, which is plausible, given the highly collectivist and group-oriented culture of South Korea (Hofstede, 1984; Hofstede and Bond, 1984; Nisbett et al., 2001). Thus, it seems that South Korean youth with a tendency toward online clique behavior are particularly prone to rely on observed group norms in their evaluations of online gambling content. Even though gambling activities are strictly regulated and gambling attitudes are fairly negative in South Korea (Jang et al., 2019; Williams et al., 2013), social media gambling content and underlying group processes pose a risk for Korean youth by potentially shaping their gambling attitudes, intentions, and behaviors via observed norms.

The results have important implications concerning youth's social media gambling exposure and underlying social mechanisms. Former studies have shown that online gambling content, such as gambling advertising that depicts gambling in a positive light, normalizes gambling behavior and makes it appear acceptable and as an easy way to become wealthy, which can be particularly alluring and risky for young people (Binde, 2014; Bouguettaya et al., 2020; Derevensky et al., 2010; Gainsbury et al., 2015). In adolescence, many harmful patterns, such as gambling activities, are adopted (Derevensky et al., 2019), and social media can play an important role in the establishment of gambling habits. According to this study, observing salient positive group norms, such as a higher amount of likes versus dislikes, makes gambling content appear more interesting, which increases the likelihood of interacting with such content and seeking out similar content in future.

Additionally, the results showed that a tendency toward online clique behavior accentuates the effect of observed group norms. This is particularly worrying, given that young people worldwide are active social media users and social media is increasingly used as an information source (Rowlands et al., 2015; Stevens et al., 2017). In addition, young people are susceptible to peer influence in risky behaviors (Boyle et al., 2016; Gardner and Steinberg, 2005). Even if most countries have legal age restrictions and various regulations for gambling, social media provides a risky context for dissemination of and exposure to gambling activities. The results of this study emphasize the risk potential of social media in gambling content exposure and shaping young people's attitudes and behaviors concerning gambling.

Even though following observed group norms may be a result of social pressure and desire to be accepted by peers (i.e., normative influence), rather than a shift in actual attitudes and behavior (i.e., informational influence), online clique behavior may make youths increasingly susceptible to informational influence, as individuals trust information shared in their networks (Kaakinen et al., 2020). Thus, relying on shared content and observed norms may shape one's opinions and intentions toward the topic, such as gambling, particularly if an individual does not have a strong opinion beforehand. Additionally, social media and its algorithmic filtering systems play a crucial role in filtering content based on the user's social media behavior and preferences. Thus, interacting with and seeking content that appears interesting and liked by one's online networks is likely to make similar content more visible in future, which may accentuate the effect of these content. In terms of risky content, such as gambling, increased exposure increases the possible risks associated with such content, for example, by making gambling seem like a normal and acceptable activity (Bouguettaya et al., 2020).

A major concern related to social media group processes and social influence is that online cliques can be formed around problematic and even harmful behavior, such as promoting excessive gambling (Sirola et al., 2018). Self-categorizing oneself through the lens of mutual group identity rather than personal identity may strengthen a group's impact and undermine individual judgements, even on maladaptive group norms and behaviors. In addition, as the social identity model of deindividuation effects theory suggests, online platforms' visual anonymity enhances identification with the group (Lea et al., 2001; Postmes et al., 2001) and increases social influence (Chung, 2018; Reicher et al., 1995). Together with the importance of peer influence in adolescence and young adulthood and its potential to affect attitudes and risky behavior (Boyle et al., 2016; Huang et al., 2014), forming strong social ties and validating each other's identities in these kinds of maladaptive online communities may have detrimental effects.

Drawing on the social psychological IBRM (Kaakinen et al, 2020; Keipi et al., 2017), this study contributed to online bubble research by scrutinizing the role of online cliques and social influence in young people's social media gambling exposure. The results demonstrated that tendency toward online clique behavior that is characterized by strong identification with online networks, preference to interact with similar others, and reliance on disseminated information, provides a potentially risky setting when encountering and evaluating online gambling content. The findings help us understand how social media behavior and attachment to online networks can accentuate the effects of observed group norms in social media gambling exposure. Youth gambling and gambling problems are growing concerns worldwide (Calado et al., 2017), and the Internet and social media provide a particularly risky context for gambling dissemination that may shape gambling attitudes and behavior. The role of social media and social psychological group processes in gambling-related intentions and behaviors should be acknowledged in interventions and treatment designed for young problem gamblers.

Understanding online group processes and identity bubbles is ever more important, as technology and social media have become embedded in individuals' everyday lives and social interaction around the globe. Constant Internet access offers virtually endless possibilities to seek and consume online content and form social cliques and groups around shared identities and interests. A user's preferences, together with algorithmic filtering systems, decrease the diversity of exposure, which may lead to the formation of online cliques and pose further risks (Kaakinen et al., 2020; Keipi et al., 2017). Future research should continue exploring the social-psychological side of the online-bubble phenomena in various cultural settings to gain understanding of underlying cultural, social and individual mechanisms that may affect users' social media behavior and susceptibility to observed norms. This study has shed light on how these mechanisms work in online gambling content exposure among young people, but it is important to extend the scope to other phenomena as well, to see whether these mechanisms work in a similar manner. Many harmful patterns and behaviors take place in adolescence and emerging adulthood, such as those related to self-harm or eating disorders. Earlier research has already acknowledged the risky role of online communities and peer influence in these behaviors (Moreno et al., 2016; Oksanen et al., 2016),

but a perspective of online cliques and social psychological group processes would further extend the understanding of why young people become interested and immersed in these kinds of harmful activities.

9. Limitations

Notwithstanding the strengths of this study, we also acknowledge its limitations. First, we only utilized quantifiable information to represent positive and negative group norms in social media vignettes. It may be that comments of others would have had more influential value than merely presenting the content as liked or disliked (see Winter et al., 2015). Second, as this study used a self-reported measure of individuals' involvement in online cliques, it is susceptible to biases, such as socially desirable responses. Therefore, utilizing the IBRS measure with naturally occurring social media behavior would allow for more detailed analysis (Kaakinen et al., 2020). Finally, the detected interaction effect between positive group norm and online clique involvement was relatively weak. It should be noted, however, that an effect was found in the case of manipulated group membership, in contrast with self-selected group memberships in real social media environments. Therefore, stronger effects would likely be found for more authentic and meaningful online groups with shared social identity.

10. Conclusion

Utilizing data from three continents, this study's results provided additional information about the role of online cliques in social media gambling exposure among young social media users. Our results suggest that young people who are involved in online cliques are active social media users and more likely to express interest toward online gambling content. The observed mechanisms of online clique involvement and following group norms were found in all countries, but the association was strongest in South Korea. The results emphasize the risky potential of social media and emerging group processes in online gambling exposure among young people, with some similarity, as well as variability, on different continents. Social media clique behavior provides a potentially risky setting when encountering gambling content and accentuates the effect of observed group norms. Observed group norms and responses given by online in-group members may affect one's own evaluations and attitudes concerning gambling and other risky behaviors. Further, interacting with content that appears to be interesting to one's online network is likely to increase the visibility of such content in future, due to algorithmic filtering systems. Online cliques and their influential power are particularly worrisome if cliques are formed around harmful behaviors, such as promoting or normalizing excessive gambling. Our findings highlight the importance of social cliques in the examination of risk behavior, such as gambling and related social norms, in online space.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A

English-Translated Vignettes and Manipulations Used in the Survey Experiment

Condition	Vignette
Experience-driven, pro-gambling	*Me and many of my friends* **gamble**. Gambling **brings** *me* **enjoyment**, and it *has brought significant benefits to me and my family's well-being*. Behind the following link, you can read more *about Americans' experiences* on gambling.
Fact-driven, pro-gambling	*According to a recent report, 77% of Americans* **gamble**. Gambling **brings** **enjoyment,** and it *brings significant benefits to the society and people's well-being*. Behind the following link, you can read more *research findings* on gambling.
Experience-driven, anti-gambling	*Me and many of my friends* **suffer from gambling problems**. Gambling **causes** *me* **problems**, and it *has caused significant damage to me and my family's well-being*. Behind the following link, you can read more *about Americans' experiences* on gambling.
Fact-driven, anti-gambling	*According to a recent report, more than 5 million Americans* **suffer from gambling problems**. Gambling **causes** **problems**, and it *causes significant damage for the society and people's well-being*. Behind the following link, you can read more *research findings* on gambling.

Note. Italics indicate fact-driven/experience-driven manipulations. Bold font indicates pro-gambling/anti-gambling manipulations. Gambling rates presented in the messages were modified for each country to mirror its current estimated gambling rate.

Appendix B

An example of the visual stimuli shown to participants in an experimental vignette design.

0% ▭▭▭ 100%

English ⏷

*

Imagine that you encounter the following message shared by another user in social media:

"According to a recent report, 77 % of Americans gamble. Gambling brings enjoyment, and significant benefits to the society and people's well-being. Behind the following link, you can read more research findings on gambling."

The application will allow you to either like (thumbs up) or dislike (thumbs down) the messages.
Other survey respondents have so far reacted to the message in the following way:

- 👍 I like this (10)
- 👎 I don't like this (65)
- no reaction (3)

How would you react to this message in social media?
Please select one of the following options:

- ○ 👍 I like this
- ○ 👎 I don't like this
- ○ no reaction

---

* **How likely, based on the given description…**

	1 not at all likely	2	3	4	5	6	7	8	9	10 very likely
…would you find the message interesting?	○	○	○	○	○	○	○	○	○	○
…would you open the link attached?	○	○	○	○	○	○	○	○	○	○
…would you share the link in social media?	○	○	○	○	○	○	○	○	○	○
…would you seek similar content online in the future?	○	○	○	○	○	○	○	○	○	○
…would you recommend the linked website to your friends?	○	○	○	○	○	○	○	○	○	○
…would your friends in social media be interested in the linked website?	○	○	○	○	○	○	○	○	○	○

Next ▸

Exit and clear survey

Appendix C

Descriptive Statistics of our Self-Reported Measures in Finnish and American Samples

		Finland			United States		
	Range	Total *M(SD)*	Group *M(SD)*	Control *M(SD)*	Total *M(SD)*	Group *M(SD)*	Control *M(SD)*
Reported interest	6–60	17.2(11.6)	17.4(11.8)	17.0(11.3)	24.7(15.8)	24.2(15.5)	25.2(16.1)
IBRS	6–60	27.8(10.0)	27.8(9.8)	27.8(10.2)	35.7(12.6)	35.8(12.8)	35.7(12.4)

Note. IBRS = Identity Bubble Reinforcement Scale.

Appendix D

Descriptive Statistics of Our Self-Reported Measures in South Korean and Spanish Samples

		South Korea			Spain		
	Range	Total *M(SD)*	Group *M(SD)*	Control *M(SD)*	Total *M(SD)*	Group *M(SD)*	Control *M(SD)*
Reported interest	6–60	21.5(14.0)	21.6(14.0)	21.4(14.0)	26.9(15.3)	27.5(15.2)	26.3(15.3)
IBRS	6–60	31.6(11.4)	31.8(11.3)	31.4(11.6)	34.5(11.6)	34.8(11.8)	34.1(11.4)

Note. IBRS = Identity Bubble Reinforcement Scale.

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