Do Social Networking Sites Enhance the Attractiveness of Risky Health Behavior? Impression Management in Adolescents’ Communication on Facebook and its Ethical Implications

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Social networking sites (SNS) are of increasing importance for adolescents’ social life. As adolescents are prone to display risky health behavior in the offline world, it is likely that they use their online profiles and communications to report on unhealthy behaviors, too. This may in turn enhance the perceived attractiveness of risky behavior within the adolescent cohort. Drawing on the insights of impression management theory, we argue in this article that adolescents use a variety of impression management tactics in their SNS profiles and communications. Following this assumption, our empirical analysis of 5851 Facebook posts (profile texts, comments, photographs, etc.) shows that the users tend to associate risky health behaviors with positive attributes, such as accomplishment or sociability, to present themselves in an attractive way to their online peer audience. We argue that this raises two ethical issues relevant to health promotion: Adolescents’ health may be challenged by interaction on SNS, as their engagement in online impression management blanks out any health problems or critical assessments of risky health behavior. At the same time, the semi-public nature of the communication arena re-enforces the tendency to value unhealthy behavior as more attractive than in offline social interactions.

Introduction

Today, social networking sites (SNS)—such as Facebook—do not only play an important part in adolescents’ social lives but are also a venue in which teenagers communicate about a variety of health-related issues. For the offline world, public health research has shown that risky health behavior is common in teenage and adolescent years and that risky health behavior in later life often develops in this stage of life (Blum et al., 2012; Patton et al., 2012). In particular, adolescents engage in high alcohol consumption and tobacco use (Hair et al., 2009; Aicken et al., 2011), display unhealthy eating patterns (including the development of obesity) with too much intake of fat and fast food and too little intake of fruit, vegetables and grains (Martin et al., 1999; Neumark-Sztainer et al., 2002; Bauer et al., 2009). As young people are prone to display these kinds of risky behavior in the offline world, it is likely that they use their online profiles and communications to report on these kinds of behaviors as well. Displaying risky behavior information on web profiles may in turn affect other teens by normalizing risky behavior within the adolescent cohort (Moreno et al., 2007). In addition, certain elements of online applications might also influence the way risky behavior is displayed by the respective user and received by others, although this has not been analyzed in detail yet. Therefore, public health research and practice should be concerned with the social construction and formation of adolescent...
and young adult peer norms related to unhealthy behavior on SNS.

Drawing on the insights of impression management theory, we assume in this article that young people use a variety of social self-presentation strategies in their Facebook communications (Krämer and Winter, 2008; Rosenberg and Egbert, 2011). Following this assumption, our empirical analysis of 5851 Facebook ‘posts’ (comments, profile texts, photographs, etc.) of 30 students shows that to present themselves in an attractive way to their online peer audience, the Facebook users tended to associate risky behaviors with positive attributes, such as achieving something or being social. This raises two ethical issues relevant for health promotion: Health-related communication on SNS by adolescents tends to blank out critical awareness of health issues and health problems, and the semi-public nature of the communication re-enforces the construction of social norms, which render risky behavior even more attractive than in offline social contexts.

The Role of Online SNSs in the Social Interaction of Adolescents

By today, the Internet has reached near ubiquity and is generally regarded as an indispensable communication tool throughout the developed world (Bennett and Glasgow, 2009). The way the Internet is used has changed significantly during the past decade. The standard on which the Internet is now based is known as Web 2.0. The term Web 2.0 refers to web applications that allow end users to interact and collaborate as content creators, rather than the one-directional information on relatively static ‘Web 1.0’ websites dated pre-2004 (Centre for Health Promotion and Women’s and Children’s Health Network, 2012; Gold et al., 2012). Social media is part of the Web 2.0 movement and is defined as a means to allow information sharing and interactive activities among online communities. Examples of social media include SNSs such as Facebook and MySpace. The primary feature of these sites is that users upload personal details about themselves to their own profile page and then link their page to the pages of their ‘friends’, creating a social network (Freeman and Chapman, 2008). The past years have seen a tremendous and rapid growth in usage and popularity of these sites among ever younger users (Freeman and Chapman, 2008; Gold et al., 2012). Results from many surveys performed with adolescents show that Facebook, MySpace and other SNSs have become an integral part of their daily life. In 2012, Facebook had >900 million members world-wide, 187 million of which lived in the European Union (Miniwatts Marketing Group, 2012). 77–88 per cent of 14–19-year-olds in Germany use Facebook (Ebert et al., 2011; Busemann and Gscheidle, 2012); users of SNSs, e.g. Facebook, usually log in daily (Joinson, 2008; Raacke and Bonds-Raacke, 2008; Busemann and Gscheidle, 2011; Frees and Fisch, 2011) and spend an average of 0.5–2 h a day communicating on the respective site (Lampe et al., 2006; Joinson, 2008; Raacke and Bonds-Raacke, 2008; Hargittai and Hsieh, 2010; Kneidinger, 2010; Facebook, 2012). Surveys showed that the main activities pursued on SNSs are getting to know new people, staying in touch with friends, receiving and sharing information, having fun and increasing one’s popularity (Lampe et al., 2006; Joinson, 2008; Raacke and Bonds-Raacke, 2008; Hargittai and Hsieh, 2010; Kneidinger, 2010; Facebook, 2012).

The Role of Web 2.0 for Public Health

Because of this popularity as an arena of social communication, SNS do not only play an important part in young people’s social lives as a place for identity formation and peer group interaction (Moreno et al., 2009) but are also a venue in which teenagers and young adults communicate about a variety of health-related issues. This may also include reports, opinions or comments on behaviors that are linked to health (tobacco consumption, alcohol misuse, physical activity, sexual behavior, eating habits, etc.). US studies of publicly accessible MySpace profiles found that approximately half of 16–18-year-olds display information about risky behaviors, including alcohol, drug and cigarette use (Moreno et al., 2007, 2009). Based on these findings, it can also be assumed that the way young people communicate about these topics may influence the acceptability of these behaviors and thus shape preferences and behaviors of peers who are also part of the online network (Moreno et al., 2007). However, public health research and practice do not know much yet on health-related contents and communication about risky or health-promoting lifestyles in online social networks. The main reason for this is that the contents of these communications are not, or hardly, accessible for researchers, who are not ‘friends’ with adolescents who have a profile on Facebook or any other SNS. In addition, recently, public profiles of private persons (such as
have been studied in the US context) have become less and less popular in Western countries.

Still, using SNSs such as Facebook or MySpace as venues for preventive measures in youth is increasingly subject to discussion (Moreno et al., 2009; Gold et al., 2012). Public health organizations have not capitalized on the utility of using Web 2.0 yet to deliver interventions (Freeman and Chapman, 2008; Bennett and Glasgow, 2009). Before adequate preventive strategies can be developed, however, we need to better understand the way in which the special communicative setting of Facebook governs social interaction, and how this affects displayed as well as actual risk behavior.

Studies of television media suggest that exposure to alcohol cues in advertising and videos are associated with increased likelihood of initiating alcohol use (Robinson et al., 1998). There is a key difference, however, between consuming traditional media and SNS because the content of SNS is created and displayed by a young person’s peers (Moreno et al., 2010). Facebook or MySpace profiles thus serve as a stage on which users can make public or semipublic presentations of themselves, and users may strive to portray themselves in a positive light. As this self-image is publicly displayed to a peer audience and subject to constant sanctioning via public feedback, it is even more important to the SNS user to be perceived as role model or as compliant to peer norms. It is therefore plausible to assume that SNS users use strategies that assist in presenting (and promoting) themselves as attractive to the audience. These strategies are known as ‘impression management’ (Goffman, 1959) in sociology and social psychology, a phenomenon that has been described for social interaction in the offline world and on SNSs, but has not been studied with a view to reported health-related behavior yet.

Impression Management in Real Life and Web 2.0

Theoretical concepts of social interaction point out that people tend to not only interact with others for the sake of that action or in a task-oriented way, but they engage in social performances and intentionally create images of themselves vis-à-vis their social counterparts (Mummendey, 1995). Goffman compares people’s everyday self-presentation to stage acting (1959): To him, most of the time when interacting with others, individuals are ‘performers’ who play social roles for different ‘audiences’ in a ‘front stage’ area, and they only sometimes retreat to a ‘backstage’ arena where they will allow themselves to change back to a non-performer role. When performing, people engage more or less consciously in self-presentation and impression management (Tedeschi and Riess, 1981; Leary, 1996). All research on impression management is based on the assumption that individuals want to be perceived as attractive and likeable by others and therefore act accordingly (Leary, 1996). Depending on social and cultural contexts of social interaction, different images and attributes are considered to be desirable (Karl et al., 2010). In addition, research has shown that the more public one’s impression is, the more likely the individual is to engage in impression management (Schlenker and Weigold, 1992; Leary, 1996).

Most of the theories on self-presentation were developed long before the Internet created new opportunities of communicative interaction of people. When looking at SNS and communication on the Web 2.0, research on self-presentation and impression management is therefore confronted with innovative ways of social interaction that may differ from face-to-face interaction. First, one may ‘inspect, edit and revise’ (Walther et al., 2001) one’s self-presentation on the Internet before making it available to others. This social arena of ‘editable self-presentation’ may increase the motivation to intentionally engage in tactics of impression management and may also lead to a more intense use of pro-active assertive self-presentation. Second, the communication and social interaction on SNS are more public than traditional face-to-face communication. This may as well increase the tendency of users to engage in self-presentation because the audience watching tends to be larger than in daily offline social contexts.

Empirical Findings: A Study of Facebook Communication on Health (Risk) Behavior Among Young Medical Students

To find out whether and how SNS users engage in impression management in their health-related communication, we conducted an exploratory study and analyzed the Facebook communication about different types of health-related behavior (alcohol consumption, (un)healthy eating, physical activity and smoking) among first and second year medical students.
Methods

Data collection

The participants were asked to be present in a room with IT facilities at a certain point of time and were given an introduction into the study by one of the authors (V.L.). After consenting to participating in the study, they printed out their private Facebook profile, a protocol that documents all posted reports, photographs, comments and so forth (so-called ‘posts’) of a user, that covered a period of 9 months before the time of the study (09/2011–05/2012). The posts on the print-outs were de-identified afterwards by the respective participants using special pens to protect privacy. All viewable elements of the printed profiles were investigated including text, photographs and documented ‘likes’.

Sample

The participants (n = 30, 60 per cent female) were aged 21.6 ± 2.0 years. According to recent concepts of adolescence (Coleman and Roker, 1998; Christie and Viner, 2005), which also include financial dependence as well as education and training, we consider the sample’s psycho-social stage as late adolescence.

It was difficult to recruit young people who were willing to (i) appear in person at a certain point of time in a certain venue and (ii) lay open their (more or less) complete Facebook communication of the past months. Owing to the authors’ teaching activity in the first and second year of medical school, there was a good access to young medical students, to whom the study could be explained in detail within the context of lectures, and who were offered to report to the study staff directly following a course or lecture, thus lowering the barriers for participation. Therefore, the study sample is a convenience sample that consists of a selected, but very homogeneous group of young people in late adolescence with a certain interest in health issues. The users in the studied sample had 379 ± 180 friends [the average Facebook user is reported to have 190 connections (Ugander et al., 2011)].

The ethics committee of the University of Regensburg was consulted on the project and decided that there were no ethical concerns that would require further authorized approval processes (reference number 12-160-0080).

Content analysis

In a pre-study, we performed an explorative qualitative content analysis of Facebook protocols of 24 heterogeneous users, according to the methodology proposed by Mayring (2010) and Glaser and Strauss (1967). A codebook was developed, which was used for a quantitative assessment of the contents of the medical students’ Facebook accounts. The coding matrix is detailed in Table 1.

According to evidence from public health and preventive medicine—as documented, for example, by the World Health Organization (2009)—, we selected three central risky behaviors to be analyzed in the Facebook protocols (alcohol use, tobacco smoking and unhealthy diet), as well as two central health-promoting behaviors (physical activity and healthy diet). To reduce unnecessary complexity of data for categorization of eating behavior, we chose a list of healthy and unhealthy ‘indicator’ articles of food (healthy: e.g. fruit, vegetable, whole-grain products; unhealthy: e.g. fatty or sugared snacks, soda drinks) according to Eichhorn et al. (2007). ‘Neutral’ food articles such as coffee were not categorized. We are well aware that a one-time consumption of an alcoholic beverage or of a chocolate bar is not detrimental to health per se, but only regular drinking or a diet with high intake of sweetened and fatty snacks and low in e.g. fruit and vegetables. However, the data material does not allow to trace back or reconstruct the complete lifestyle of the participants, e.g. daily or monthly patterns of drug use, food intake or physical activity. Therefore, we classified activities that are known to be hazardous to health/positive for health if they are part of a regular behavioral pattern as ‘risky’/‘health-promoting’.

Results

We conducted a content analysis of 5851 posts, 6.5 per cent of which related to one of the selected health-related (risk) behaviors (n = 381). Thirty per cent of the posts with a reference to health (risk) behavior were photographs, and 70 per cent were text messages. In all, 27/30 studied profiles contained at least one reference to a risky behavior (alcohol consumption or unhealthy eating).

Two hundred sixty-seven of all 381 health-related posts (70 per cent) referred to risky activities (alcohol consumption 42 per cent, unhealthy nutrition 28 per cent), whereas 30 per cent referred to health-promoting activities (physical activity 26 per cent, healthy eating 4 per cent). Smoking did not appear in the Facebook communication in the studied sample. The vast majority of references to health (risk) lifestyles did not, however, display an association to health concerns, but were presented in other contexts such as sociability, fun or...
<table>
<thead>
<tr>
<th></th>
<th>Codebook for Categorizing the Facebook Posts</th>
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<tbody>
<tr>
<td>1.</td>
<td>Theme: What health-related behavior is reported, presented or referred to?</td>
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<tr>
<td></td>
<td>(A) Healthy eating, consumption of healthy food</td>
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<tr>
<td></td>
<td>(B) Unhealthy eating, consumption of unhealthy food</td>
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<tr>
<td></td>
<td>(C) Physical activity, sports performed by users</td>
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<td></td>
<td>(D) Alcohol, alcohol consumption</td>
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<td></td>
<td>(E) Smoking, tobacco consumption</td>
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<td></td>
<td>(F) Other behavior clearly health-promoting (e.g. sun protection) or issue related to health</td>
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<tr>
<td></td>
<td>(G) Other behavior clearly risky to health (e.g. illicit drug use, unsafe sex)</td>
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<td>2.</td>
<td>Classification of health-related behavior: According to medical/public health evidence, the behavior can be classified as risky to health or health-promoting</td>
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<td></td>
<td>(A) Health-promoting behavior (themes A, C, F)</td>
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<tr>
<td></td>
<td>(B) Risky behavior (themes B, D, E, G)</td>
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<tr>
<td>3.</td>
<td>Form of message: In what way is the health-related behavior presented?</td>
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<tr>
<td></td>
<td>(A) Only text</td>
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<tr>
<td></td>
<td>(B) Image, photo</td>
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<td></td>
<td>(C) Multimedia format (e.g. video clip)</td>
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<td>4.</td>
<td>Context: What is the presented behavior associated with?</td>
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<td></td>
<td>Open category, categories can be freely ascribed to analyzed messages, e.g.</td>
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<tr>
<td></td>
<td>– health/illness</td>
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<tr>
<td></td>
<td>– sociability, companionship</td>
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<tr>
<td></td>
<td>– achievement; accomplishment of a difficult/challenging performance</td>
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<td></td>
<td>– reward</td>
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<td>– . . .</td>
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<td>5.</td>
<td>Seasonal reference/event: Is the behavior linked to a certain (seasonal) event, e.g. eating cookies on Christmas?</td>
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<td>(A) Public festival, fair</td>
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<td></td>
<td>(B) Advent, Christmas</td>
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<td></td>
<td>(C) New Year’s Eve</td>
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<td></td>
<td>(D) Travelling, holiday</td>
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<td></td>
<td>(E) Birthday</td>
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<td></td>
<td>(F) Season (e.g. winter season)</td>
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<td>6.</td>
<td>Appraisal of reported/demonstrated behavior: Is the report or illustration of the behavior (explicitly or implicitly) assessed or framed in a positive or negative way?</td>
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<td>Appraisal of one’s own behavior by oneself</td>
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<td>(A) The way the user presents his/her behavior can be classified as positive (e.g. pride, joy, humor, etc.)</td>
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<td>(B) The way the user presents his/her behavior can be classified as negative (e.g. regret, anger, fear, etc.)</td>
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<td>(C) The way the user presents his/her behavior can be classified as neutral (e.g. simple report)</td>
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<td>Appraisal of one’s behavior by others (i.e. by one’s ‘friends’)</td>
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<td>(A) The way the behavior is commented by a user’s friend can be classified as positive (e.g. approval, praise, admiration, etc.)</td>
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<td>(B) The way the behavior is commented by a user’s friend can be classified as negative (e.g. disapproval, criticism, reproach, disgust, etc.)</td>
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<tr>
<td></td>
<td>(C) The way the behavior is commented by a user’s friend can be classified as neutral</td>
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<td>Number of ‘Likes’ per post</td>
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accomplishment. Risky health behavior was always presented in a positively connoted way. In detail, we found the following context categories in which health-promoting or risky behavior were displayed.

Sociability
A commonly displayed association with healthy as well as risky behaviors was companionship and chumminess, especially the topics alcohol consumption and eating of unhealthy food. In some cases, the health-related behavior was the main reason for the joint activity of a group, e.g. partying by drinking alcohol or having fun buying alcohol in a store together. In other cases, the (un)healthy behavior was an attendant phenomenon of the group activity, e.g. celebrating someone’s birthday and having a cake. The latter category often applied to photograph posts.

Achievement
In some posts referring to nutrition and physical activity, individuals call attention to their accomplishments, e.g. managing to bake (one’s first) muffins or have swum or run a certain distance. In these cases, the reports are often connected to pride (‘project First Cheese Cake succeeded more or less (Smiley)’). Posts on physical activity also highlight physical efforts and endeavors required for the activity.

Fun
Alcohol consumption as a risky behavior is frequently presented as an activity, which is amusing and enjoyable, although this is mostly connected to social interaction. In addition, the participants stated or conveyed that physical activity, especially outdoor sports, is fun.

Reward
Consumption of alcohol or of unhealthy food (e.g. chocolate bar) is sometimes displayed as a reward, especially for studying and learning hard or for passing a test. For example, one photograph depicts the user and his friends, still wearing white coats, celebrating a passed test and holding beer cans in their hands.

Purposeful Insensible Behavior
If negative consequences of risky behavior are reported, they are mostly presented in a charming, funny or ironic, self-mocking way, which implies that the users report on a violation of norms that is socially accepted (or even appreciated) in their peer group. This encompasses posts on occasional binge eating as well as posts on alcohol hangovers. Examples include ironic descriptions such as ‘No, we are not drunk at all, grin, grin!’, or humorous statements such as ‘I’m about to burst, have munched sooo much popcorn!’.

Alcohol and Food as Icons
Several photographs feature alcohol beverages (e.g. beer or wine glasses), sometimes in front of a scenery or in front of a textbook, or food (e.g. cake, burger); most of the food images present food that has been prepared by the users.

We also analyzed how many likes each post on risky or health-promoting behavior obtained, i.e. how many friends of the user clicked the ‘like button’ related to the respective post. We found that no matter how ‘healthy’ the posted behavior was, it was liked by 2–4 persons on average.

Discussion: Ethical Implications of Health-Related Impression Management on Facebook
The results of the exploratory study of Facebook communication show that 90 per cent of adolescent medical students’ profiles contain references to risky behavior; the most commonly displayed risky behavior is alcohol use. This corresponds to findings from Moreno et al. (2007), who also identified alcohol to be the most frequently disclosed risky behavior on public US MySpace profiles. Moreno found a smaller percentage of users referring to risky behavior (47 per cent) than we did; however, the SNS users in their study were younger (16–17 years), and the analysis did not include unhealthy eating.

Our analysis indicated that the adolescents position health-related behaviors—be they health promoting or risky—in a positive context and thus in a favorable light. Likewise, Moreno et al. found that publicly displayed alcohol references of US adolescents aged 17–20 year were associated with positive aspects such as peer activity or dancing/partying. Only 2 per cent of the reports referred to negative consequences such as hangovers (Moreno et al., 2010). We postulate that the studied Facebook users (explicitly or implicitly) emphasize positive side effects of risky behavior (such as sociability, achievement, or reward), but not because they...
consciously intend to defend risky behavior or to raise its attractiveness. Rather, in an attempt to receive acceptance and recognition from their peer group, users use the communication about alcohol consumption, eating of unhealthy food or physical activity as a vehicle to make a desired impression on their Facebook friends. This implies that young people do not only report on their health-related behavior, but also use these reports as a form of positive self-presentation and impression management. Neither health-promoting nor risky behavior is linked to health or health problems in the Facebook posts of our study. Critical comments or utterance of concerns on health problems or risks seem to be left out not to spoil or damage the own self-presentation. If potentially problematic aspects are related, e.g. headache after massive alcohol consumption or abdominal fullness after binge eating, the participants tend to use humor and self-mockery. Blanking out negative effects of risk behavior or health concerns seems to give users free room for loading the posts with positive or apologetic signals and emotional content that they can use to manage their social image. This is especially remarkable as the participants, being first or second year medical students, can be expected to be more aware of health issues, and being beyond the age of puberty with its need for adventure-seeking. The comments and ratings of the user’s posts show that reports on risk behavior are exclusively rated as positive and are appreciated no less than reports on health behavior. The strive for attention, attractiveness and positive feedback might be the main (unconscious) motivator for referring to risky behavior in attractive contexts. As this seems to be appreciated by the users’ ‘friends’, communicating about risk behavior in a certain way may seem to be attractive to others, thus motivating to behave in a certain (risky) way.

It can be assumed that also in the offline world, young people use communications on health-promoting and risky behaviors to express a specific (positive) image to others as well. So what is the difference to the communication about health-related behavior on Facebook or MySpace? We postulate that communication on online social networks may have a stronger impact on how risky behavior is perceived in a certain group of users. Therefore, it may raise the attractiveness of risky behavior, and thus it may even more strongly shape the way young people behave than traditional face-to-face communication. This can mainly be attributed to the specific set of rules and structures that govern online activities and enhance the possibilities of impression management through risky behaviors: (i) the public nature of the communication, (ii) the restricted possibilities of social interaction, (iii) the public display of feedback, and (iv) the broad sharing of photographs.

The (Semi-)Public Nature of Communication

The impressions that a user can generate of his or her own identity are of a public nature if conveyed on Facebook. Facebook is not an intimate venue for personal conversation, but its core concept is that a user can simultaneously broadcast information to a large number of individuals. In our study, the users in the studied sample had an average of over 300 ‘friends’, i.e. 100s of people could read (and react to) the posted reports and photographs. (The ‘semi’ refers to the fact that although communications can be followed by a large group of a users ‘friends’, and therefore have a ‘public’ dimension, most private Facebook sites are not publicly accessible for everyone). In a personal face-to-face interaction, an individual might boast about some risky behavior to a certain group of acquaintances, but also talk about concerns, fears or negative experiences with closer friends. In social online networks, the communication is—due to the technical structure of these applications—usually directed to numerous ‘friends’ simultaneously. Owing to this public nature, it can be assumed that positive images of risk behavior will prevail. In our study, among the 267 posts that displayed a risky behavior, there was not a single one that seriously drew attention to negative consequences of risky behavior, or raised concerns about the risky behavior.

The Restricted Possibilities of Social Interaction

Whereas the activities pursued in SNS may be manifold, there is one limitation: all these forms of interaction consist of communication. On SNS, people produce social relationships and interpretations of reality only by exchanging written information back and forth, whereas social interaction in real life (e.g. face-to-face) relies to a great extent on a (much more immediate) exchange of non-verbal communicative signals. Thus, a sort of fiction can be created around the displayed or reported behavior, which is easier to uphold in the online context compared with the offline interaction. Visible signs of emotional or physical distress, e.g. worries or hangovers, can easily be hidden and thus help create the social arena of ‘editable self-presentation’ aforementioned.
The Public Display of Feedback

Individuals use Facebook to seek online social support and strive to look popular (Zywica and Danowski, 2008). The impressions that a user likes to achieve by social interaction are likely to be stronger when making them online rather than face-to-face because they are enhanced by the (semi-)public visibility of the feedback. This can be provided by written comments relating to a user’s posts, or the ‘like-button’, a feature that was introduced to Facebook sites in 2010. With the click of the like-button referring to a text report or photograph, Facebook users indicate approval with a quick and easy form of social interaction (Wilson et al., 2012). By monitoring their like-button-feedback, profile owners may monitor the reputation of their own reports. The number of likes received from other users can help to estimate which topics and presentations are well-received among one’s friends and can be adapted in future posts. At the same time, the fact that the number of one’s friends’ clicks on the like-button is publicly displayed on one’s profile (‘x people like this’) increases pressure for everyone to join a competition for popularity (Rosen, 2012). Thus, SNSs have become ‘a platform for self-promotion, a place to boast and preen and vie for others’ attention’ (Cassidy, 2006). A user is led into displaying any behavior—and risky behavior as well—in a funny, positive, self-promoting way to receive as many likes as possible and thus be able to show off his or her popularity. In our study, the posts on risky behavior were exclusively commented on by others in a positive way, or were ‘liked’. This will convey the conviction that a positive depiction of risky behavior will raise someone’s popularity on Facebook, thus increasing the proportion of positive (funny, proud) references to risky behavior. This may help to build up and maintain a positive image of risky behavior and thus raise the attractiveness of alcohol consumption or unhealthy eating.

The Broad Sharing of Photographs

The means of photography allows to draw the attention to risky activities or present regalia of risky activities: drawing attention to alcohol as a ‘companion’ of desirable behavior (e.g. images showing a group of laughing friends, holding wine glasses), or putting insignia of risky behavior centre-stage in the attempt of a funny link (e.g. beer in front of a textbook). These phenomena were observed in our study. Again, this applies to the real life world as well where photographs can be shown around; again, the main difference is the dimension of publicity. Photographs on Facebook are shared by hundreds of users immediately, and because sharing them is so easy, this feature is popular (in our study, 30 per cent of all posts with a link to health-promoting or risky behavior were photographs). Research on the effects of verbal versus photographic contents on Facebook showed that photographs more strongly influence judgments of others. According to the ‘visual primacy-negativity perspective’, especially positive-valued photographs are suitable for impression management processes, as they their impact on others is less radical and still more modificable in future impression management procedures (Van Der Heide et al., 2012).

Conclusion

In sum, there are two assumptions to be drawn concerning the health-related impression management of adolescents on Facebook: First, there is a lack of critical communication on health problems, and second, owing to the nature and structure of communication, there may be amplifying effects on social norms, which make risky behavior even more attractive than in the offline world. One might argue that this was shown only for young medical students, a subgroup of adolescents that cannot be considered to be vulnerable, due to state of cognitive development, their mostly excellent education and privileged status. However, it is realistic that the results can be transferred to younger and less advantaged adolescents, especially given that in other adolescent groups than medical students, aspects such as peer pressure, identity seeking, deliberate risk behavior and ignorance of health concerns can be expected to be even more present.

For public health and health promotion, this raises the question of how to deal with this potential threat to young people’s health. Several preventive options have been described for the offline context; we will discuss them ethically with a reference to the online setting:

Information and Education

Designing public health interventions that raise awareness on the issue and educate users in the offline world by informing them about the structure-induced normative biases in online communications would be an important first step. For example, as SNS users are ever younger today, it may be useful to provide children and adolescents in school with information and support on how to deal with SNS social interaction in a healthy and responsible way and on how to succeed in
cognitively separating their risk-prone online identities and their offline way of life. As information is the foundation for making autonomous and informed decisions, this option is ethically unproblematic—provided that those who are socially disadvantaged and less literate have the same access to and understanding of this information not to widen the health literacy gap on this issue.

Motivation and Persuasion

In addition, to reach young people, educative messages can be enhanced by using emotions such as appeals to fear (e.g. showing the deploring or shocking situation of a child who has been led into some risky behaviour by peer pressure exerted via SNS). However, this strategy can easily verge on manipulation and could therefore be considered to be ethically critical (Loss and Nagel, 2010; Tengland, 2012).

Incentives and Sanctions

Rewarding or punishing a certain health-related behaviour, e.g. financially, can sometimes be effective measures of prevention (e.g. increasing taxes on alcohol or discounting health insurance rates for people enrolled in sports clubs). In the case of SNS, public measures (e.g. increasing costs of internet use or charging a fee for SNS use) seem to be ethically problematic as its side effects are unknown; other internet and social media options that can be beneficial to health can be negatively affected (e.g. driving-safety groups, support groups for chronic or addictive diseases). Rather, smaller scale projects should try to address SNS users and ask them to eliminate all references to risky behaviour, e.g. substance abuse [as done by Moreno et al. (2009)], and link the fulfillment of this criterion to awarding money. Whether this would be an efficient and ethically acceptable measure, however, needs to be proven in practice.

Restrictions

Restrictive policies, e.g. legislation on smoke-free restaurants or safety-belt use, are the most effective public health measures. In case a substantial threat to young people’s health by SNS use is proven in the future, it seems legitimate to discuss restrictive steps as well. Any attempt to restrict access to the SNS social interaction on the whole, however, is neither realistic nor ethically desirable: SNS are well-established communication platforms giving (young) people a voice and an opportunity to exchange their views and to organize.

In addition, on the basis of this first exploratory study, the freedom of speech as one of the highest values in Western democracies could not be outweighed by the aforementioned health concerns. One should rather identify and then address those elements and applications on SNS that are specifically inducing adolescents to engage in and/or display risky behavior, e.g. banning photographs showing consumption of legal and illegal drugs, or limiting the use of the ‘Like’ button and so forth. This would require further research that could link certain SNS applications to health risks, and it would demand putting pressure on the (multinational) corporations that own and operate the social media websites.

Therefore, before deciding on any adequate measures or interventions, public health needs to gain more insight in specific health risks and processes of norm construction in online interactions. Thus, there is a need to undertake more research to understand better the implications discussed earlier in the text and to enrich our assumptions with more empirical evidence. In addition, as our preliminary study was conducted with medical students who are known to be a selected population with relatively low health risks, future research should engage in analyzing online impression management tactics of other adolescent target groups as well, e.g. younger and socially disadvantaged persons, and should include also other applications of social media, e.g. mobile phone SNS platforms. The underlying health concerns and the scarcity of evidence in this area seem to ethically justify such research. However, one has to be aware of the ethical problems associated with research on SNS communication: (i) for a detailed and comprehensive content analysis of Facebook profiles, one needs access to private sites that can only be accessed by a user and his or her consented ‘friends’. Therefore, a researcher can gain access to the data material only by asking users to (a) print their complete protocols, or (b) be allowed to log in on their personal profiles, to be able to screen all posted text messages and photographs for health-related content. This is highly invasive form of social research, and it is hard to make sure that children or young adolescents (and their probably Facebook-inexperienced parental authorities) do fully comprehend what they would consent to. (ii) Facebook protocols always contain a mixture of the user’s posts and comments/messages from this user’s friends. There is up to date no technical possibility to blank out the comments and names from third parties on a Facebook site, neither on screen nor in print. Therefore, by analyzing a person’s SNS profile, a researcher inevitably has access to data from identifiable other persons who have not
consented to be studied within a research project. This is a serious ethical problem, which, in our study, was tried to be solved by asking the participants to cross out all data from third parties on the print-outs with non-transparent permanent markers, before handing over the print-outs to the researchers. This, however, further complicates the data collection.

Therefore, it seems necessary to develop ethical standards of data collection for SNS studies, to facilitate research in this area and gain more insight needed for developing adequate public health strategies.

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Conflict of Interest

None declared.

References


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