Health Communication

Health communication is a central field of health prevention and health care. The field embraces any type of communication about health and illness that either occurs incidentally, for example in the transmission of health information via soap operas on television, or is initiated with the intention to inform or educate, promote health or prevent diseases. Health communication has been defined in various ways. Due to its broad scope it seems reasonable to define the area rather broadly. In the words of Jackson and Duffy (1998, p. ix-x), the “study of health communication focuses on the interaction of people involved in the health care process and the elucidation and dissemination of health-related information.”

Health communication can be found on four different levels:

- intrapersonal communication—psychological and communicative processes within individuals;
- interpersonal communication—the exchange of information between individuals (e.g., provider–patient interaction);
- organizational communication in the context of health institutions (e.g., public relations of hospitals); and
- mass media communication (Signitzer, 2001).

Within the latter field, different areas can be identified according to the traditional research areas in communication science: journalism studies (e.g., medicine journalism), media content (e.g., depiction of health issues in the media), media use (e.g., selective exposure to health content), and media effects (e.g., impact of media on health-related perceptions, attitudes, and behavior; and suitability of message types to persuade and motivate individuals to engage in healthy behavior) (Viswanath, 2008; Walsh-Childers & Brown, 2009). One of the central questions in the history of mass media health communication is the development of communication campaigns for health promotion and prevention, the focus of the present chapter.

Health Communication Campaigns

As with health communication in general, health communication campaigns are defined in several ways. One of the most cited definitions stems from E. M. Rogers and Storey (1987, p. 821).
According to them, four elements are crucial for communication campaigns: “(1) a campaign intends to generate specific outcomes or effects (2) in a relatively large number of individuals, (3) usually within a specified period of time, and (4) through an organized set of communication activities.” Rice and Atkin (2009) expanded their definition and describe public communication campaigns as:

(1) purposive attempts (2) to inform, persuade, or motivate behavior change (3) in a relatively well-defined and large audience, (4) generally for noncommercial benefits to the individuals and/or society at large, (5) typically within a given time period, (6) by means of organized communication activities involving mass media, and (7) often complemented by interpersonal support (p. 436).

Even if the term “health campaigns” is often used in everyday language many scholars (e.g., E. M. Rogers & Storey, 1987; Rice & Atkin, 2009) refer to the broader term “communication campaigns,” indicating that it applies to health issues as well as other social issues. Communication campaigns are only one strategy among several to solve social problems such as health problems. Accordingly, social problems can only be solved effectively by combining technical developments (e.g., pharmaceuticals), legal regulations (e.g., smoking ban), and economic regulations (e.g., tobacco tax) with communication campaigns. Although they are related, communication campaigns are not equal to advertising, marketing, public relations, mass media communication, or interpersonal communication; however, they make use of these elements (Bonfadelli & Friemel, 2010).

Even in the early eighteenth century, sporadic trials to improve public health with communicative measures were being implemented: to impede the smallpox epidemic (Atkin & Marshall, 1996), for instance. It was not until the mid twentieth century, however, that campaign developers and scholars began to collaborate in order to improve campaign design and implementation. The acknowledgement of individual lifestyles as important determinants of health beyond biological and genetic factors played a major role in strengthening the impact of health promotion; this connection was established in the “Ottawa Charter for Health Promotion” by the World Health Organization (World Health Organization, 1986; Fertman, Allensworth, & Auld, 2010).

**Classification of Health Communication Campaigns**

Health communication campaigns as an important measure of health promotion appear in numerous different forms and can be differentiated along several dimensions. First, they vary according to the health domain. Frequently addressed domains are tobacco consumption, coronary diseases, alcohol and drug abuse, and cancer prevention (Wakefield, Loken & Hornik, 2010). Furthermore, campaigns vary according to the stakeholder involved: governmental organizations (e.g., Center for Disease Control and Prevention, USA, or European Center for Disease Control and Prevention), non-profit institutions (e.g., foundations, associations), health insurances, or pharmaceutical companies. Campaigns also vary according to the receiver they address. They address a certain target group either directly or indirectly via individuals or groups who influence their peers via interpersonal communication (opinion leaders, peer groups, role models). If communication campaigns use a policy strategy, they address politicians at first who in turn are to change the relevant social and legal conditions (Rice & Atkin, 2009, p. 440).

A further fundamental distinction refers to the question of whether a campaign is aimed at health promotion (healthy behavior such as physical activity is to be enforced or stabilized) or prevention (unhealthy behavior, e.g. drug abuse, is prohibited) (Silk, Atkin & Salmon, 2011). Furthermore, campaigns can be distinguished according to the outcome they address. On the individual level communication campaigns address affective, cognitive, behavioral, or physiological outcomes. Affective outcomes are emotional reactions to health information (trust, fear, uncertainty), cognitive outcomes...
refer to knowledge, perceptions, or attitudes, behavioral outcomes become evident in altered health or information behaviors. Also physiological effects play a role in the health domain: for instance, weight reduction or a reduced blood cholesterol level (Kreps, O’Hair, & Clowers, 1994). As E. M. Rogers (1994) pointed out a characteristic of health communication as compared to other communication domains is its general focus on positive outcomes. Indeed, health communication campaigns are usually intended to have a positive effect, such as improving people’s health behavior. However, sometimes they are also intended to cause negative emotional reactions first in order to reach positive behavioral outcomes in the end (e.g., fear appeals causing fear in order to provoke behavior change; see below).

Further distinctions of health communication campaigns refer to the use of different message types (informing, explaining, persuasive) that are distributed via different channels or combinations of channels (television, radio, print media, interactive media, mobile media, interpersonal communication) (Wakefield et al., 2010; for further classifications see Rice & Atkin, 2009, p. 436).

**Effectiveness of Health Campaigns**

According to E. M. Rogers and Storey (1987), research on campaigns can be divided into three eras. The 1940s and 1950s mark the peak of the era of minimal effects. In this early stage of campaign research most of the campaigns failed to reach their target outcomes. The 1960s and 1970s fall into the era in which campaigns could succeed, if they “were carried out in a more strategic way” (p. 829) using formative evaluation, setting reasonable campaign goals, audience segmentation, and considering the role of interpersonal communication. Thus scholars began to detect, formulate, and standardize the principles of campaign development and design. With this approach more successful campaigns were implemented with promising results, one of which was the outstanding “Stanford Heart Disease Prevention Three Community Program” (Maccoby & Altman, 1988). The 1980s and 1990s designate the era of moderate effects. The effectiveness of campaigns further increased, while scholars examined both the conditions that increased campaign effectiveness and their limitations. Supplementing these three eras Noar (2006) identified a new era of campaign research beginning in the new millennium and still continuing at present: the conditional effects era (p. 22). During this era the developed and learned principles of campaign development have been implemented more effectively and creatively, whereby the effectiveness of campaigns has been further increasing.

However, the effectiveness of campaigns varies according to the addressed outcome. Specifically, the impact of communication campaigns on knowledge or risk perception seems to be stronger as compared to their impact on attitudes, which in turn are influenced more easily as compared to health behavior (Silk et al., 2011). Several meta-analyses (Derzon & Lipsey, 2002; Snyder & Hamilton, 2002) and reviews (Silk et al., 2011; Wakefield et al., 2010) identified factors that are able to increase campaign effectiveness even in the context of behavior change.

First, a high reach has a positive influence on the effectiveness of campaigns. Furthermore, enforcement messages, new information, and distribution via audiovisual and multiple channels are effective factors. At the same time, the chance to introduce new behaviors is higher as compared to changing existing behaviors. Singular or episodic behavior (e.g., skin cancer screening) can be influenced more easily than recurring habitualized behavior (e.g., nutrition, physical activity). Policy measures and public relation activities as complementary strategies to conventional mass media campaigns are also able to increase campaign effectiveness. Not least, interpersonal communication and communication via new technologies (interactive web applications, mobile media) are important ways to improve campaign effects. In contrast, campaign effectiveness is reduced by opposing messages in media coverage, entertainment or advertising (e.g., advertisements for unhealthy food); by social norms (e.g., tobacco consumption within certain peer groups); by addiction; and by the increasing fragmentation of media audiences that makes it harder to reach target groups via specific
channels. Further factors that can lead to reduced campaign effects are distorted risk perceptions (e.g., optimistic bias or third-person perceptions; see Chapin, 2000; Weinstein, 1980) as well as reactance (e.g., Hong & Faedda, 1996) and boomerang effects (for an overview, see Wakefield et al., 2010).

**Strategic Campaign Development**

Because the effectiveness of communication campaigns depends on numerous factors, determinants, and conditions, one of the most important requirements to enable effective campaigns is a strategic campaign development.

As mentioned earlier, E. M. Rogers and Storey (1987) indicated four strategies to design successful communication campaigns, which had previously been identified in the 1960 and 1970s era of potential campaign effects: formative evaluation, reasonable campaign goals, audience segmentations, and interpersonal channels. Later on further important strategies were identified. Even if there is no clear consensus as to the labels and order of the strategic steps, there is a broad consensus among health communication scholars as to which strategic steps are essential in order to improve campaign effects (e.g., Bonfadelli & Friemel, 2010; Noar, 2006; Silk et al., 2011).

**Strategic Steps**

1. The starting point is the problem identification and situational analysis examining the present situation, its causes, determinants, and opportunities for change (also *formative evaluation*). In this context the central determinants of a target behavior are to be identified against theory- and evidence-based knowledge. If the available evidence (e.g., from previous research or literature reviews) is insufficient, this step also comprises the implementation of qualitative or quantitative studies (e.g., focus groups, surveys).

2. Another important step in campaign development involves the specification of the target group or several target groups (*audience segmentation*). The target group can be specified against the background of several relevant criteria, which typically include demographic attributes (e.g., age, gender, education), media consumption behavior, and lifestyle patterns. These criteria may also include the degree to which individuals of a certain target group are affected by the health problem or risk behavior in question, behavioral determinants, and the preparedness to change behavior (described as “stage of change” in Prochaska, Redding, & Evers, 2008). As a general rule a combination of these criteria should be applied in order to identify and describe the target group that is to be addressed; in no case is it advisable to address a campaign to the general population without any further specification.

3. Also the *goals of the campaign* have to be clearly specified. In this context the direct receiver of the campaign messages and the specific outcomes are defined. In some cases the specified target group is directly addressed; in other cases the campaign is addressed to relevant social groups (e.g., parents, teachers), which in turn disseminate the messages to the target group (e.g., their children). As with the classification of outcomes mentioned above, campaigns can be aimed at cognitive, affective, behavioral, or physical outcomes. In some cases the appropriate outcome is public awareness: for example, if the problem is rather unknown. In other cases it is appropriate to aim the campaign at behavior change.

4. Against the background of the previous steps an adequate *campaign strategy* is to be chosen. Which message is suitable to reach the target group? Which message appeals are to be used (e.g., fear appeals, gain-framed messages, humor, or erotic appeals)? Should the tone of the message be informing, explaining, or persuasive?
5. The next step refers to the implementation of the campaign. Campaign developers have to decide which media channels, specific genres, and programs to use, and which ways of interpersonal communication to choose for the dissemination of the campaign messages. These decisions again depend on the previous steps and decisions (e.g., the target group will affect the implementation).

6. The last step refers to the evaluation of the campaign effectiveness. Within this step are a few things that have to be kept in mind. First, the evaluation results largely depend on the intended outcomes and campaign goals. Second, it is important to distinguish between effects (any changes in outcome variables that can be traced back to the campaign), effectiveness (effects consistent with the previously defined campaign goals), and efficiency (economic balance between costs and outcomes) (Bonfadelli & Friemel, 2010). Third, evaluation embraces summative evaluation, after a campaign has been run; formative evaluation, previous to the campaign development (problem analysis); evaluation during campaign development (test of messages and message types); and evaluation during the implementation of a campaign.

In short, the crucial strategies for successful campaign planning, development, implementation, and evaluation are (Noar, 2006, p. 25) as follows: formative evaluation (problem identification), theory-based campaign development, segmentation of the target group, development and design of messages suitable for the target group, dissemination via channels the target group uses, summative evaluation with adequate methods (for an overview see also Bonfadelli & Friemel, 2010; Finnegan & Viswanath, 2008; Silk et al., 2011).

**Theoretical Foundation**

As outlined above, use of theory is an essential strategy in order to increase the effectiveness and efficiency of a campaign (Finnegan & Viswanath, 2008; Noar, 2006). Apart from epidemiological and medical findings on the effectiveness of lifestyle and health behavior changes (e.g., increasing physical activity in order to prevent diabetes type 2), results from communication science on the uses and effects of mass media channels, findings from cognitive psychology and communication research on information processing and persuasion strategies, and knowledge from health psychology explaining the determinants of health behavior are important to consider (Rossmann, 2010a; see also Figure 27.1).

**Behavioral Theories**

Social psychology and health psychology provide several theories explaining (health) behavior and behavioral determinants, for example social-cognitive theory (Bandura, 2001), transtheoretical model (Prochaska et al., 2008), health belief model (Champion & Skinner, 2008), and theory of planned behavior (TPB) (Ajzen, 2005; Fishbein & Ajzen, 2010). Basically, each theory is useful to determine the relevant factors of a specific behavior. Specifically, the well-established TPB together with the Integrated Behavioral Model (IBM) (Montano & Kasprzyk, 2008), which adapted the TPB to the health domain and integrated further relevant constructs, provides a good theoretical starting point. These two models not only identify the main factors but also the underlying beliefs determining behavioral intentions and behavior. Hence, referring to TPB and IBM enables health scholars to measure the determinants of health behaviors—for example, physical activity—very precisely. Figure 27.2 shows an integrated version of the model as adapted to physical activity in the context of diabetes prevention.

According to the TPB, behavior (e.g., physical activity) depends on the intention to perform the behavior (e.g., “Do I want to engage in physical activity?”) in the first place (Ajzen, 2005; Fishbein &
The intention to perform a behavior is driven by three specific components: attitude towards the behavior (e.g., “Is it good to engage in physical activity?”), subjective norm (e.g., “Do important others think it is good to engage in physical activity?”), “Are important others engaged in physical activity?”), and perceived behavioral control (e.g., “Am I able to engage in physical activity?”). These three components are determined by specific beliefs. Attitude towards the behavior depends on so-called behavioral beliefs, which consist of perceived consequences of a behavior (e.g., “Physical activity makes me feel better”) and the evaluation of these consequences (e.g., “It is good to feel better”). Subjective norms describe the perceived social pressure to perform a specific
behavior. They are also a function of specific beliefs (normative beliefs): a person’s belief that important others approve or disapprove of performing the behavior (e.g., “My husband thinks it is good to engage in physical activity”), that they are engaged or not engaged in the behavior (e.g., “My husband is engaged in physical activity”), and the motivation to comply with this person or group (e.g., “What my husband thinks is important”). Perceived behavioral control, the third major determinant of intentions, is a function of the so-called control beliefs, which are based on perceived factors facilitating or impeding the performance of a behavior (e.g., “I don’t have time to engage in physical activity”) and the perceived power of the factor to facilitate or inhibit the performance of the behavior (e.g., “Having no time hinders me very strongly from engaging in physical activity”).

In the past decades numerous studies and several meta-analyses have been carried out which confirm the assumptions of the TPB for different issues both in the health domain and in other contexts (Albarracín, Johnson, Fishbein & Muellerleile, 2001; Armitage & Conner, 2001; Sheeran & Taylor, 1999; Sheppard, Hartwick & Warshaw, 1988. For an overview see Fishbein & Ajzen, 2010; Rossmann, 2010b). To provide an example, research consistently confirms the TPB in the context of physical activity behavior. Based on a meta-analysis of 31 studies Hausenblas, Carron, and Mack (1997) concluded that physical activity could well be explained by the TPB components. Hagger, Chatzisarantis, and Biddle (2002) confirmed this observation with a meta-analysis of 72 studies. However, including past behavior and self-efficacy as additional behavioral determinants (beyond attitudes, subjective norms, and perceived behavioral control) improved the model. It was able to explain 60% of the variance for intentions to engage in physical activity and 47% of the variance for actual behavior. Downs and Hausenblas (2005) conducted a further meta-analysis of 111 studies and confirmed the power of the TPB in explaining physical activity.

Application of Behavioral Theories to Identify the Key Message

Hence, the TPB provides a fruitful theoretical tool for the development of health campaigns to promote physical activity. Specifically, the TPB should be applied to formative research in order to identify the most important determinants of health behavior, such as physical activity, together with the underlying behavioral, normative, and control beliefs. Even if most studies indicate that behavioral intentions are influenced by attitudes, subjective norms, and perceived behavioral control, one can assume the individual effect sizes for the three components to be unequal. Research has shown subjective norms to have a smaller impact on intentions as compared to the other two components (Singh, Leong, Tan, & Cheong Wong, 1995). In addition, scholars have observed different effect sizes for the three components depending on varying target groups (see Trinh, Rhodes & Ryan, 2008, for differences between women and men; and Plotnikoff, Karunamuni & Brunet, 2009, for differences between patients with type 1 and type 2 diabetes). Depending on the effect sizes of attitudes, subjective norms, and perceived behavioral control within a specific target group, it will be adequate to address the campaign message to one of the components. Assuming perceived behavioral control has a strong impact on intentions to engage in physical activity, whereas attitudes and subjective norms are only marginally related to these intentions, it will be reasonable to address a campaign to the perceived behavioral control component. Knowing that perceived behavioral control is the crucial determinant one has to identify which control beliefs are most strongly related in the next step. Thus, it is possible to identify factors and thus message content that should be most effective in changing health behavior.

Exemplary Studies

Maddock, Silbanuz, and Reger-Nash (2008) applied this strategy to the identification of effective messages for a mass media campaign to promote physical activity in the USA. The authors conducted
a TPB study among the target group, in order to find out which of the TPB components had the strongest impact on intentions to go for a walk for at least 30 minutes a day. Their results showed that perceived behavioral control was the strongest determinant of regular physical activity. Perceived behavioral control in turn depended most strongly on lack of time: that is, the more people felt they didn’t have enough time to go for a walk every day, the less they felt able to perform the behavior. Against this background, the authors developed the so-called “Step it up” campaign with the message that it was easy to go for a walk for at least 30 minutes a day if one separated the time-span into three 10-minute walks (see Hawaii Department of Health, 2009).

Also, Rossmann (2013) applied this strategy to the identification of the determinants of physical activity among German adults between 30 and 60 years of age. At first, they conducted qualitative interviews with ten German adults aged between 30 and 60 years in order to identify diabetes-specific beliefs with regards to physical activity behavior within this subpopulation. The most frequent answers were selected and integrated into the quantitative survey. With regards to perceived consequences of regular physical activity (behavioral beliefs) the participants mentioned “I feel better”, “I am in a better mood” or “I lose weight” fairly often; important others (normative beliefs) were partners, children, parents/siblings, colleagues, and friends. Factors facilitating or impeding the performance of physical activity (control beliefs) were “being active with someone else”, “having people who motivate me”, “being close to exercise facilities”, “being physically active is expensive”, “being physically active is time consuming” or “suffering from physical discomfort.” As a second step, computer-aided telephone interviews were conducted with a random sample of German adults between 30 and 60 years of age (n = 1006 respondents). The TPB components (behavioral intentions, attitudes towards physical activity, subjective norms, perceived behavioral control, as well as behavioral, normative, and control beliefs) were collected following the guidelines to the measurement of TPB constructs as provided by Ajzen (2006; also see Rossmann, 2010b). Further data were collected on self-efficacy, habit, knowledge about causes and consequences of diabetes, health prevention behavior, and past physical activity behavior. For the background factors demographics, media use, diabetes risk, as well as reactance, third-person perception, and optimistic bias were assessed.

The results revealed a consistent pattern. Altogether, the TPB components explained people’s intentions fairly well, whereas the impact of perceived behavioral control was considerably stronger as compared to attitudes and subjective norms. In the next step, the control beliefs underlying perceived behavioral control were analyzed. The results showed some of the beliefs to be more important than others. Specifically, the belief that it is easier to engage in physical activity if one has other people joining one, turned out to be the most important one. In sum, the results indicated that German adults aged between 30 and 60 years would be more willing to be physically active, if they believed they were able to do so. Perceived behavioral control was strong, if people had others accompanying them. Therefore, campaigns addressing perceived behavioral control in combination with companionship and community should be more effective than campaigns addressing knowledge, attitudes, or subjective norms.

This strategy allows for the identification of message content able to reach the specific target group and change their respective behaviors. Even if the effectiveness of the identified messages still has to be evaluated for the studies described above, a series of evaluations in other health domains has demonstrated interventions addressed to one of the TPB components to be effective in changing different health behaviors (Albarracin et al., 2003; Albarracin et al., 2005; J. B. Jemmott, L. S. Jemmot & Fong, 1992; Kalichman, 2007; Kamb et al., 1998; Rhodes, Stein, Fishbein, Goldstein & Rotheram-Borus, 2007).

**Design and Dissemination of the Campaign Message**

Knowing just the message content that is suitable to reach and convince a specific target group might not be enough to actually reach the campaign goals. In the next steps, theories and empirical
evidence from cognitive psychology and communication theory as well as knowledge of media use patterns within the target group in question have to be considered in order to decide how to present the message, whether to confront the target group with fear appeals or humorous appeals, and whether to spread the campaign via information or entertainment programs on television, newspapers, or posters.

**Message Design**

In general, health messages can be framed in many different ways. One of the most common, but also most challenged ways is the use of fear appeals. Fear appeals are defined as “persuasive messages designed to scare people by describing the terrible things that will happen to them if they do not do what the message recommends” (Witte, 1992, p. 329). Fear appeals comprise three different elements: fear, perceived threat (severity and susceptibility), and perceived efficacy (self-efficacy and response efficacy) (R. Rogers, 1975; Witte & Allen, 2000). As research shows, fear appeals do not always yield positive results; indeed they can provoke (usually unintended) negative effects, such as ignorance or reactance (Witte & Allen, 2000). Therefore, health messages should always combine fear appeals stressing the health risks or negative consequences of unhealthy behavior with information on how to reduce these risks. Since Janis and Feshbach’s (1953) pioneer study researchers have produced a vast amount of literature on this topic (Ordoñana, González-Javier, Espín-López, & Gómez-Amor, 2009, p. 195). Also a series of meta-analyses have been conducted. Confirming previous meta-analyses (Boster & Mongeau, 1984; Mongeau, 1998; Sutton, 1982) Witte and Allen (2000, p. 595) found a positive relationship between the strength of a fear appeal and message effectiveness: The greater the perception of threat and efficacy, the stronger its influence on attitudes, intentions, and behavioral change. Thus, findings of earlier studies that indicated a curvilinear relationship (e.g., Kohn, Goodstadt, Cook, Sheppard, & Chan, 1982) or a negative relationship (e.g., Janis & Feshbach, 1953) have not been confirmed. More recently, de Hoog, Stroebe, and de Wit (2007) conducted a meta-analysis and differentiated the influences of vulnerability and severity of a risk. They found slightly different effects for vulnerability and severity, although the general tendency of the results was consistent with those of previous meta-analyses (e.g. Witte & Allen, 2000).

Fear appeals can appear as drastic phrases presented within a written text (e.g., the worst possible consequences of a certain disease) or as threatening images (e.g., an image of a damaged lung on a cigarette packet). Images seem to be especially effective in communicating health risks. In general, research has shown that threatening or nauseating images increase the attention paid to and the time spent with a health message (e.g., Leshner, Vultee, Bolls, & Moore, 2010; Zillmann, Knobloch, & Yu, 2001). In their meta-analysis, de Hoog et al. (2007) compared two ways of operationalizing severity: images (pictures or films) and written information. They found only slight differences between the effects of fear-arousing images and written information, but both had a significant positive effect on attitudes, intentions, and behavior.

Even if promising in many cases, under some circumstances fear appeals might not be the adequate way to present and illustrate campaign messages. Considering, for instance, the exemplary studies on physical activity described above, a fear appeal does not seem to be suitable, because the crucial determinant of physical activity was not fear or risk perception but the perceived ability to engage in physical activity. In this case, other message appeals might be more effective, for example gain-framed messages (O’Keefe & Jensen, 2008), messages with humor (Conway & Dubé, 2002), with sex appeal (e.g., Reichert, Heckler & Jackson, 2001; C. Struckman-Johnson, D. Struckman-Johnson, Gililand & Ausman, 1994), or with exemplars or narrative information (e.g., Betsch, Ulshöfer, Renkewith & Betsch, 2011; Jansen, Croonen & de Stadler, 2005; Kim, Bigman, Leader, Lerman & Cappella, 2012).
As discussed in the context of fear appeals, messages can be transported via written texts (e.g., slogans) or images. Sometimes a picture might say even more than words. This was the conclusion of a study the author carried out in the context of physical activity promotion among German adults. In order to evaluate the effectiveness of the identified message (see above) an online experiment was conducted with a convenient sample of adults aged between 30 and 60 years (n = 513). The subjects saw fictive campaign posters with a slogan and an image, depicting people engaged in physical activity (e.g., cycling, hiking). The posters were varied in a three by two design. Factor 1 was the slogan, which was varied according to the three TPB-components (slogan 1 addressed the attitude component: for example, “exercising is healthy”; slogan 2 addressed the norm component: for example, “the others do it, too”; slogan 3 addressed the perceived behavioral control component, e.g. “it is easier together”). Factor 2 was the type of the image, which showed either one person engaged in physical activity or a group of people. According to the results of the TPB study outlined above, the slogan with the behavioral control component and the picture with a group of people was expected to be more effective than the other versions. However, the results showed that the slogan itself did not have an effect on people’s perceptions, attitudes, and behavioral intentions, whereas the image did have an effect. Specifically, the image depicting a group of people had a stronger impact as compared to the image depicting only one person. Consequently, in this case, the illustration of the campaign message in the picture was more effective as opposed to the merely textual message.

Considering the numerous possibilities to frame a campaign message (fear appeals, gain frame, humor, sex-appeal, etc.) and the different ways to depict them (words, pictures) it becomes clear that the best way is not easy to find. Therefore, it is advisable to test different possibilities in a subsample of the target group before finally implementing a campaign.

**Media Channels**

No matter how well a campaign message is prepared it will only have an effect on individuals’ cognitions and behaviors if it reaches them. Due to their high reach the traditional mass media channels (television, radio, newspapers, magazines) provide a good way to reach many people all at once. However, it is important to be aware of the specific media use patterns of the target group that is to be addressed. To illustrate that, we return to the already mentioned campaign to increase physical activity among German adults. As part of the telephone survey (n = 1006) media use was assessed. The results showed that television and radio were the main media sources within this target group similarly to typical media patterns in Germany. Among the relevant television genres, German adults were specifically interested in information, health, and, most importantly, entertainment programs. This pattern holds true for many other target groups as well. Accordingly, various scholars suggest that the entertainment–education approach is an effective strategy to promote health: “[E]ntertainment-education is the process of purposely designing and implementing a media message to both entertain and educate, in order to increase audience members’ knowledge about an educational issue, create favorable attitudes, shift social norms, and change overt behavior” (Singhal, Cody, Rogers & Sabido, 2004, p. 5). In the course of this process, health messages are implemented, for instance, into the plot of a soap opera, which enables viewers to learn health messages incidentally.

Print media, too, are a suitable channel for campaign messages aimed at increasing physical activity among German adults aged between 30 and 60 years. Because the target group reads at least one newspaper, six days per week, and two magazines per month, this channel is a good way to disseminate information, in spite of the decreasing importance of print media in the general population, especially among age groups born before 1984.

Besides the traditional mass media channels the Internet has become an increasingly important channel. As the survey results showed, the Internet is a major source of information for German adults between 30 and 60 years, but it is even more important for target groups under 30 years of age.
The relevance of the Internet for conveying health messages was acknowledged in the early days of the web (Suggs, 2006). Indeed, online health information has great potential because the Internet is comfortable to use, cheap, and rather independent of time and place. Hence, it reaches target groups traditional channels often fail to reach. Furthermore, online health information is interactive and can be tailored to the particular needs of single target groups, if not individual users (Kreuter, Farrell, Olevitch, & Brennan, 1999; Strecher, Shiffman & West, 2005). Hence, health promotion via the Internet combines mass media’s broad reach with the strong effects of interpersonal communication, thus improving intervention effectiveness (Neuhauser & Kreps, 2003).

In recent years scholars have emphasized Web 2.0 applications as a promising way to disseminate health messages. Besides their hybrid character, combining the reach of traditional mass media with the interactivity and dynamism of interpersonal communication, social media provide the opportunity to become an active part of information creation and dissemination, in that users are able to create their own blogs, videos, or posts with regard to health risk issues. In the course of doing so, users’ involvement increases, which in the end amplifies potential effects on risk perception, attitudes, and behavior. Furthermore, social media provides an easy opportunity to express support for an issue and forward information to friends without any great effort: for example, just by one mouse click on the “Like Button” or “Forward to a Friend” link. In this way, not only do health risk messages reach a greater audience but, more importantly, they are also disseminated by people whom the originators of the messages know and trust and who are thus, it can be argued, more influential than strangers in shaping beliefs, attitudes, and behavior (Betsch et al., 2012; Abrons & Lefebvre, 2009; Thackeray, Neiger & Hansons, 2008).

Finally, mobile media and mobile health applications (e.g., text messages, apps), providing the opportunity to reach individuals anywhere, anytime, and regularly, with tailored health messages, have also been discussed as promising tools to disseminate messages for health promotion (Noar & Harrington, 2012).

Challenges and Perspectives

No matter how well a communication campaign is developed and implemented it will always be difficult to change perceptions, attitudes, and behaviors in the population, not only in the health domain but also in other areas of strategic communication (e.g., political communication, environmental communication, advertising). People are surrounded by numerous influences and messages in their everyday life. Behaviors are not easy to change due to deeply ingrained habits (e.g., eating habits), due to addiction, and due to the belief that certain behaviors (e.g., unhealthy behavior such as buying fast food) are easier than other behaviors (e.g., healthy behavior such as cooking healthy meals). Moreover, the channels campaigns use for disseminating their messages (e.g., television) transport numerous messages at the same time, thus contradicting campaign messages and diminishing their effects (e.g., unhealthy messages such as smoking protagonists on soap operas, advertising for sweets and fast food).

Another problem that comes along with communication campaigns is that they are often accompanied by a series of unintended effects. Cho and Salmon (2007) identified 11 types of unintended campaign effects in the health domain that can also be adapted to other fields of strategic communication: (a) campaigns can cause misperceptions of health risks (obfuscation), (b) they can cause dissonance reactions, which in the worst case lead to (c) boomerang effects. Also (d) exaggerated sorrows (epidemic of apprehension) or (e) desensitization against health risks are possible consequences of health communication campaigns. Although the previous effects directly affect individuals, further unintended effects rather pertain to the societal level, specifically (f) unintended social norming, (g) distorted causal attributions (culpability), (h) opportunity costs, (i) social reproduction of existing attitudes or behaviors, (j) enforcement or image-promotion of engaged stakeholders (enabling), and finally (k)
influences on social groups who in turn moderate campaign effects on the actually addressed target
group (system activation).

Against this background, ethical questions may arise (Rice & Atkin, 2009, p. 439) that go beyond
the manipulation debate in other fields of strategic communication such as advertising, public relations,
and political communication. Campaign developers have to rely on medical and epidemiological
findings as to what is the right way to prevent a certain disease. But also epidemiological findings
change (e.g., knowledge on nutrition, such as fat, cholesterol, sugar, sweetener, etc.), thus, messages
that seem to be true today, might turn out to be false in future. Consequently, we have to ask
ourselves whether it is right to disseminate certain messages if they might be wrong or might harm
people. Furthermore, the population has to face not one, but numerous health issues (e.g., obesity, diabetes, coronary diseases, cancer, vaccination). Who decides which health issue is important
enough that a communication campaign in this domain is more urgent than one in another domain?
When deciding which audience to address, again ethical questions arise, because it is not easy to
decide who is most in need while acknowledging that other target groups might be ignored at the
same time. Furthermore, campaigns might not have the same positive influence on all target groups.
For instance, a campaign against obesity might help overweight people to change their behavior,
but it might also reinforce unhealthy eating habits of people with eating disorders. Are fear appeals
ethically justifiable, if they intentionally provoke negative emotions, such as fear? And finally, can
we justify strategies that disseminate health messages and persuade people without letting them know
that they are persuaded, such as entertainment–education approaches do?

One can argue that dealing with health messages means dealing with pro-social messages, that
are spread in order to help people. However, as outlined before, the actual benefits or harm are not
always evident. Of course, this ethical dilemma cannot be solved within this chapter. Nevertheless,
one step in the right direction is to reveal persuasion intentions. In the context of entertainment–
education, research indicates that the disclosure of persuasion intentions does not have a negative
effect on the effectiveness of the program (Lampert, 2007). In the end, the solution cannot be to stop
communicating health issues. However, scholars and practitioners should be aware of these questions
in order to communicate about health effectively and ethically in future.

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