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REVIEW

Improving Medical Decision Making and Health Promotion through Culture-Sensitive Health Communication: An Agenda for Science and Practice

Cornelia Betsch, PD Dr phil Dipl-Psych, Robert Böhm, Dr Dipl-Psych, Collins O. Airhihenbuwa, PhD, MPH, Robb Butler, MA, Gretchen B. Chapman, PhD, Niels Haase, Dipl-Psych, MA, Benedikt Herrmann, Dr, Tasuku Igarashi, PhD, Shinobu Kitayama, PhD, Lars Korn, MSc, Ülla-Karin Nurm, Dr, Bernd Rohrmann, MSc, Dr phil, Dr phil habil, Alexander J. Rothman, PhD, Sharon Shavitt, PhD, John A. Updegraff, PhD, Ayse K. Uskul, Dr

This review introduces the concept of culture-sensitive health communication. The basic premise is that congruency between the recipient's cultural characteristics and the respective message will increase the communication's effectiveness. Culture-sensitive health communication is therefore defined as the deliberate and evidence-informed adaptation of health communication to the recipients' cultural background in order to increase knowledge and improve preparation for medical decision making and to enhance the persuasiveness of messages in health promotion. To achieve effective health communication in varying cultural contexts, an empirically and theoretically based understanding of culture will be indispensable. We therefore define culture, discuss which evolutionary and structural factors contribute to the development of cultural diversity, and examine how differences are conceptualized as scientific constructs in current models of cultural differences. In addition, we will explicate the implications of cultural differences for psychological theorizing, because common constructs of health behavior theories and decision making, such as attitudes or risk perception, are subject to cultural variation. In terms of communication, we will review both communication strategies and channels that are used to disseminate health messages, and we will discuss the implications of cultural differences for their effectiveness. Finally, we propose an agenda both for science and for practice to advance and apply the evidence base for culture-sensitive health communication. This calls for more interdisciplinary research between science and practice but also between scientific disciplines and between basic and applied research. ***Key words:*** *disease and infection control; health communication; targeting and tailoring; treatment choice; basic and applied research.* ***(Med Decis Making 2016;36:811–833)***

Health communication can have different goals. While approaches in medical decision making strive to support informed and unbiased shared decision processes (e.g., between different cancer treatments), health promotion practices strive to change people's behavior toward a desired end state (e.g., taking up a healthy lifestyle). This article will focus on both medical decision making and health promotion and the interplay between the displayed information or message and the cultural background of the recipient. We argue that the way in which a message takes cultural differences into account will affect understanding and the effectiveness of health communication. From an extensive literature review, we derive conclusions directed to scientists working in the fields of medical decision making and health promotion as well as to field workers in health organizations, hospitals, or agencies who are charged with developing decision aids and crafting and disseminating health messages.

Medical decision making is often understood as a patient-centered approach in which evidence-based information facilitates shared decision making

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and helps to evaluate the option in the light of the values held by the patient.[1–16] This type of decision making is also called *preference-sensitive choice*. This means that in such type of medical decisions, there is no best choice, but the values of the options are strongly determined by the personal values and preferences of the decision maker (e.g., the decision for or against the use of postmenopausal hormone therapy). Since the shared decision-making paradigm is central to treatment decision making,[17] decision aids in the form of computerized systems have been designed as one tool among others[18,19] to support a balanced presentation of options[20] and to communicate risks and benefits in an unbiased way.[21] They serve the purpose of presenting evidence-based treatment options in situ. International Patient Decision Aids Standards[22] strive for improving patient decision aids to foster patients' understanding of the alternatives' costs, benefits, and lifestyle implications[4] and how the alternatives relate to personal values.

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Address correspondence to Cornelia Betsch, Center for Empirical Research in Economics and Behavioral Sciences (CEREB), University of Erfurt, Nordhaeuserstrasse 63, Erfurt, 99089, Germany; telephone: +49 361-737 1631; fax: +49 361-737 2209; e-mail: cornelia.betsch@uni-erfurt.de.

In contrast to the medical decision-making approach, health promotion strategies strive to persuade or nudge the recipient to take up healthy or to stop unhealthy behaviors (e.g., wash their hands, exercise, eat healthy, quit smoking). This goal of health promotion is usually ethically justified when there is agreement that the behaviors have exclusively or mostly positive consequences. Decades of health promotion research have suggested ways to present information in a way such that the desired behavior becomes more likely.[23,24] Techniques such as framing or nudging are deliberately used to make health promotion more effective.[25,26] Individual and cultural differences are known to moderate some effects, such as effects of framing messages in terms of gain or loss.[27] For health promotion, the evaluation criteria are usually changes in attitudes, intentions, or behaviors.[28,29]

One may raise doubt, however, as to whether unbiased decision processes exist at all, because decision aids have to choose one way or another to present risk information or information about treatment options. Minimal pieces of information, such as the framing of the decision task in terms of gains or losses,[28] can influence the decisions remarkably[29] and are known to be moderated by individual and cultural differences. Likewise, characteristics of the receiver can systematically influence the way in which information is processed. In the area of medical decision making, individual differences such as numeracy seem to play a role.[30] The medical decision-making literature, however, shows a considerable gap regarding the role of cultural differences,[28] which may affect the effectiveness of health promotion programs as well. Hence, a fit between individual differences and characteristics of the decision support will enhance the decision aid's effectiveness.[28]

Receivers of the very same messages can vary remarkably in their cultural background. This may be the case due to human mobility in the form of internal and external migration and growing shifts in population and language dynamics, even if message recipients live in the same continent, country, or state. This proves particularly challenging for both international health agencies such as the World Health Organization (WHO) or European Centre for Disease Prevention and Control (ECDC), who strive to serve and support national health entities with their communications and advocacy, and the national Centers for Disease Control and Prevention (CDCs) or public health institutes responsible for supporting their health care personnel by offering information, messages, and materials. Even if interventions, decision aids, or messages are designed based on theories of shared decision making, preventive health behavior, or behavior change,

these theories usually do not account for cultural differences, as will be outlined below. Further, designing health messages in a culture-sensitive way is a challenge.[31] Thus, the effectiveness of materials produced by international and national agencies—in terms of enhancing understanding and leading to behavioral change—is not well understood, both from a theoretical and practical point of view.

This contribution discusses how the interplay between the health message and the recipients' cultural characteristics will influence the understanding and effectiveness of health communication. The basic premise is that congruency between the recipient's cultural characteristics and the respective message as stated in the cultural congruency hypothesis[27] will increase message effectiveness, leading to deeper processing and better understanding in the case of decision support or to changes in behavior in the case of health promotion. Culture-sensitive health communication will help to reduce disparities in health outcomes by making messages equally understandable, meaningful, and effective.[22,32] To achieve effective health communication in varying cultural contexts, an empirically and theoretically based knowledge of culture is indispensable. In the first part of the article, we will therefore provide in-depth definitions of culture and discuss the etiology of cultural differences. We will then outline different psychological models of culture. As theories of (preventive) health behavior and medical decision making do not explicitly incorporate culture as a determinant or moderator, we will discuss how central theoretical constructs such as perceptions of health, attitudes, or risk vary as a function of culture. We will also summarize how culture affects the effectiveness of communication channels and how it moderates well-established effects such as framing. Based on this focused overview of the literature, we will provide suggestions for improving culture-sensitive health communication in practice (Table 1). We will finally propose an agenda for health communicators for how to improve structural requirements for culture-sensitive health communication. Because of the current state of the research literatures, the proposals identified in this article are evidence-informed rather than evidence-based. Thus, we will also suggest an agenda for scientists to further improve the evidence base for culture-sensitive health communication.

DEFINING CULTURE-SENSITIVE HEALTH COMMUNICATION

The idea that medical interventions and treatments should be evidence based is well accepted.[33] In the area of health promotion, there is growing interest in the acknowledged idea that ''informing, influencing, and motivating individual, institutional, and public audiences about important health issues'' is an art and science itself.[34,35] Further, there is growing understanding that audience insight and application of the social sciences and medical humanities to diagnose, define, design, and test communication interventions is crucial for optimal effectiveness and impact[36] (for an example of increasing audience insight, see the *Guide to Tailoring Immunization Programs (TIP)*[37] or publications on health communication produced by ECDC[38]). Psychological research demonstrates that messages will be processed more thoroughly[28] and be more persuasive and effective if their content is tailored to the recipients' cognitive, affective, and motivational characteristics[39] (for a broad overview on person $\times$ situation models, see ref. 40). These characteristics of the recipient depend largely on his or her cultural background. This suggests that effective message design would depend on understanding these characteristics as they relate to the cultural infrastructure of message delivery.[41] Further, congruency between the message design and the receiver's cultural characteristic will enhance message persuasiveness (cultural congruency hypothesis[27]). Thus, when health messages are designed to encourage people to exercise, eat less, floss, get vaccinated, or wash their hands, the message's congruence with the recipient's cultural background and the context in which it is delivered affects the effectiveness of the message in eliciting individual health behaviors. Beyond this, targeting (general cultural adaptation) and tailoring (adaptation to individual differences within a culture) are not only relevant methods in the area of health promotion[28,42] but also useful to make the contents of a decision aid more relevant and understandable to members of different cultures. For example, Hispanic Americans may perceive the consequences of treatments not only as relevant for the self but also for related others such as family.[28] When the information offered is congruent with cultural values, the content is likely to lead to ''deeper thinking, which should in turn, improve important accuracy regarding possible benefits and harms, choices that are more consistent with informed values, and increased participation in decision making.''[28(p3)] Thus, the design of decision aids should also take cultural differences into account. We therefore define culture-sensitive health communication as the deliberate and evidence-informed adaptation of health communication to the recipients' cultural background in order to increase knowledge and improve preparation for medical decision

making and to enhance the persuasiveness of messages in health promotion.

Figure 1 illustrates the idealized process and the interdisciplinary nature of health communication. Further, it shows where culture-sensitive health communication should be included in the process of designing decision aids or health promotion messages. Findings from medical science (e.g., about treatments or preventive measures) form the basis of evidence-based information (facts) that is to be communicated. Behavioral, social, and communication science informs the process of message and information design (e.g., questions concerning decision processes, determinants of health). To increase the effectiveness of messages,[31,43,44] health communicators then adapt these inputs to the receivers' individual psychological characteristics, in this case, their cultural background. This can be done, for example, by targeting cultural subgroups in a campaign with peripheral or linguistic adaptations[28] or by tailoring contents displayed in a decision aid to cultural aspects that are assessed at the beginning of a decision aid (for examples and items to assess cultural aspects, see Kreuter and others[45]; Alden and others[28]).

CULTURE AND CULTURAL DIFFERENCES

Having explicated the definition and need for culture-sensitive health communication, we will now take a closer look at culture as a scientific construct, which evolutionary and structural factors contribute to the development of cultural diversity, and how cultural differences are conceptualized as scientific constructs in current models.

Defining Culture

Culture is a collective sense of consciousness with both quantifiable and unquantifiable components that can audibly or silently reveal themselves through history and language.[46] Culture is never static and is commonly reinforced through structures, even though those structures are not always palpable and visible as are physical structures.[47] Cultural norms may be acquired, in large part, through reinforcement learning. While interacting with other members of the society, individuals are likely to infer what norms, expectations, and rules might exist in specific social situations. Once such social rules are inferred, the individuals will organize their behaviors accordingly. If the behaviors are accepted or approved by the others because they are, in fact, congruent with the relevant social norms held by others, the inferred rules will be reinforced and thus will gradually be internalized as perceived social norms. Recent research showed that individuals differ in the degree to which cultural norms are successfully inferred and acquired—carriers of certain alleles showed more pronounced cultural differences.[48,49] Thus, not everyone in a cultural group may internalize the norms of their cultures to the same degree, which leads to individual differences within a culture. Cultural norms, beliefs, and practices are influenced by a variety of ecological factors such as traditions in herding versus farming, which could explain some of the systematic cultural variability across different regions of the world today. Compared to herding, farming requires greater degrees of social coordination and interdependence with others (v. independence of each individual).[50] Moreover, as compared with wheat farming, rice farming requires far greater extents of social coordination.[51] It is plausible then that one important reason why Asians tend to be more interdependent and collectivistic today relative to Western Europeans is that in Asia (but not in the rest of the world), rice has been the primary crop of the region over the past several thousand years. Culture can also be influenced by numerous relatively more short-term factors such as settlement histories. Some of the factors that encourage independence of the self from others (as opposed to social relations and interdependence with others) include high residential mobility,[52] low population density, or the absence of social infrastructures.[53–56] Moreover, recent cultural neuroscience work has shown that this cultural influence is truly ''deep'' in the sense that it is inscribed into brain mechanisms.[57,58]

Psychological Models of Cultural Differences

A number of organizing dimensions and frameworks have been proposed to account for the observed cultural differences and provide a theoretical stage for testing predictions. One major dimension of cultural difference is the distinction between independence and interdependence of the self vis-à-vis others in the same community.[59] In a broad sense, contemporary Western cultures tend to be more independent, whereas contemporary Asian cultures tend to be more interdependent. Cultural systems organized by independence or interdependence influence every aspect of human psychology, including cognition, emotion, and motivation.[57,59] Other dimensions include tight versus loose cultures,[60,61] masculine versus feminine

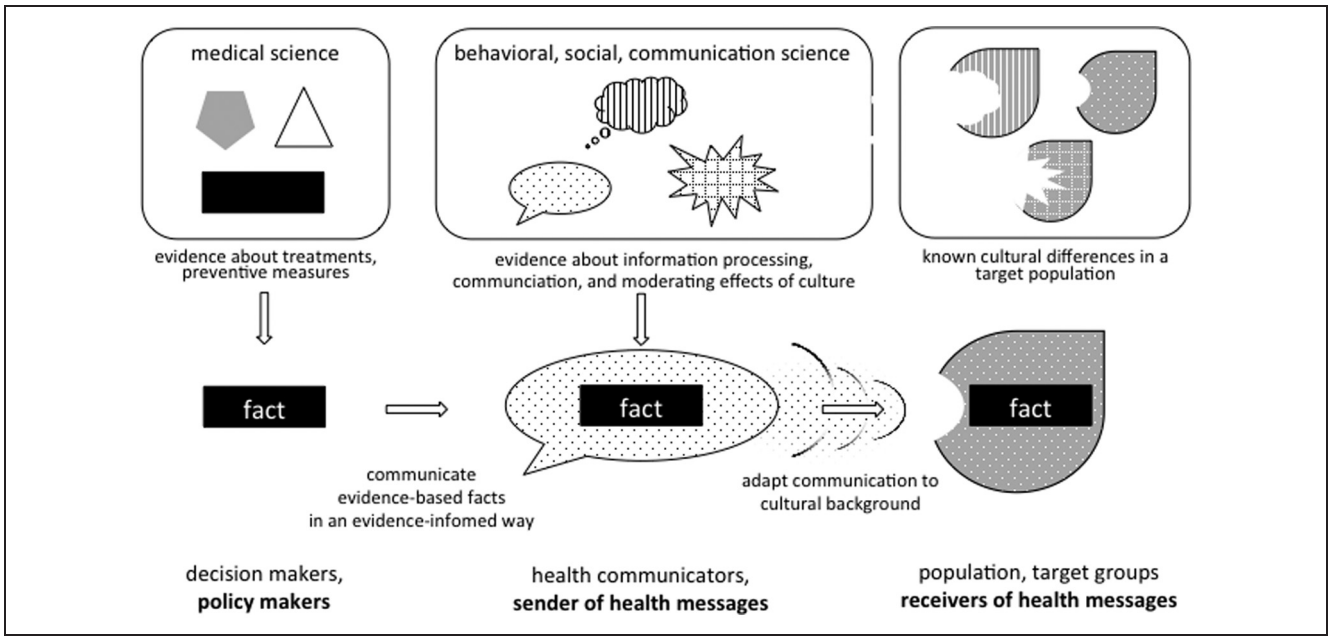

Figure 1 The idealized process of culture-sensitive health communication as an evidence-informed way of communicating evidence-based medical information, adapted to the cultural background of the message's receiver.

cultures,[62] survival versus self-expression,[63] and cultures of honor versus dignity versus face.[64] Some of the proposed frameworks emphasize the systemic interactions between, or mutual constitution of, social/ecological environments and human mind/behavior (e.g., the socioecological model,[65–67] the cultural ecosystem model,[68] and sociocultural models[69–71]). Although the field is increasingly witnessing the examination of different constructs and frameworks, to date the one dimension that has captured most attention is the one noted above, namely, individualism and collectivism[59,60,62,72,73] at the level of cultural norms, or, independence and interdependence at the level of individual differences.

Individualism refers to a cultural syndrome that is organized by the model of the self as independent. In individualistic cultures, internal attributes are seen as self-defining, and both personal autonomy and self-expression are considered as major cultural tasks.[59,60,61,73,74] Moreover, individuals tend to focus on rights (above duties), with greater priority placed on their personal goals over social welfare or social goals. They view themselves as agentic, using their personal goals and desires to regulate their decisions and actions. In terms of their self-regulatory tendencies, they are more motivated toward promotion (that is, pursuing opportunities) rather than toward prevention (that is, not making mistakes), focusing on the positive outcomes they hope to approach rather than the negative outcomes they hope to avoid.[75] By contrast, collectivism implies a cultural syndrome that is organized by the model of the self as interdependent. Collectivistic cultures are characterized by context dependency, malleability, and heavy reliance on social relations and memberships in groups for one's self-definition.[59,60] In such cultures, the focus is on social, mutual obligations, the fulfillment of in-group expectations, and maintenance of group harmony.[59,60,62,73] In terms of self-regulatory tendencies, in collectivistic cultures, people are more motivated to not make mistakes than to pursue opportunities, focusing on the negative outcomes they hope to avoid rather than the positive outcomes they hope to achieve.[75–77] The notions of independence and interdependence (or individualism and collectivism) have been useful to understand and predict cross-cultural differences in a variety of psychological processes including health promotion.[78] There are several scales available that are designed to assess these differences (individualism and collectivism on the level of cultural norms,[62] and independent v. interdependent self-construals on the level of individual differences,[79] and for a short list of items to include as a measurement in health promotion tools, see ref. 80).[81,82] There remains some debate on the validity of these measures as applied to indices of cultural syndromes.[83]

Tightness versus looseness is another way to conceptualize cross-cultural differences in psychological processes. This dimension was initially introduced by anthropologist Pelto[84] and has received attention more recently.[61,85] According to this perspective, tight cultures are those that have many enforced rules and in which individuals' tolerance for deviance is low, and loose cultures are those that have few strongly endorsed rules and in which individuals' tolerance for deviance is high. It has recently been shown that there are cross-country[61] and within-country[85] differences on this dimension, and it can be used to account for cultural (or state-level) variation in personality traits, several societal institutions and practices, and level of constraint in everyday situations. In this recent research, tightness versus looseness has been measured to assess individuals' perceptions of the tightness versus looseness of the social norms in the society that they are part of[81] rather than individuals' subjective orientations as tight or loose people. To our knowledge, however, there is no research to date that has employed this dimension to investigate (or predict) cross-culturally variable psychological outcomes related to health communication.

In sum, culture seems to be a product of historical developments in herding and farming, of social learning, and the internalization of norms. This accounts for measurable differences in individualism and collectivism or, equivalently, independence and interdependence, which is the most researched conceptualization of cultural differences. The following section focuses on psychological constructs of theories of (preventive) health behavior where literature suggests systematic cultural differences.

CULTURE AS CONTEXT OF HEALTH BEHAVIOR THEORIES

Theories of preventive health behavior assume that the attitude toward a preventive behavior predicts uptake of this behavior (e.g., theory of planned behavior,[86,87] theory of reasoned action[88,89]) and that higher perceived risk will increase preventive behavior (e.g., health belief model,[90,91] protection motivation theory, [92,93] overview[94,95]). Interventions directed at health promotion often aim at influencing such constructs in order to increase healthy or preventive behavior; however, the predictive validity of the constructs or the structure of the constructs itself may vary according to cultural background.[96–98] Interventions that aim at supporting unbiased decision making require that the decision makers have a thorough understanding of the displayed information (e.g., of risk information or information relevant to form an attitude toward an intervention or treatment).[99] A mismatch between the culturally bred mind-set and the information format, however, may impede thorough understanding.[28] One of the reasons for this may be that the aforementioned theories, which inform the interventions, are not designed to address cultural differences regarding the structure of attitudes or the propensity to risky behavior. Further, the motivational basis for maintaining health may also vary among cultures. From a public health point of view, maintaining health relies on the contribution and cooperation of a large number of individuals—ideally, the whole society. This is especially relevant for controlling communicable diseases.[100] To reach societal goals, cooperation among individuals is necessary. Cooperation in structurally similar decision situations (e.g., public goods games) has been shown to vary across cultures.[101,102] The next paragraphs will therefore discuss findings suggesting that if interventions aim to influence such basic concepts, communicators need to consider the recipients' cultural background. Table 1 summarizes the discussed aspects and conclusions for culture-sensitive health communication.

Culture and the Concept of Health and Illness

Culture is an essential building block for constructing personal understanding of health and illness, whether it is in relation to perceptions people may have about their health or in describing their health-seeking practices. Understanding the structural influences of dominant cultures is particularly important in any examination of health disparities and health decision making. The cultural differences in the views of the self and relationships discussed above have implications for how health and illness are experienced and acted upon. Individualism, on one hand, is likely to make individuals focus on the physical body and wellness; thus, having a healthy body can be characterized as a goal within an individualistic frame. In literature focusing explicitly on American individualism, the health-individualism linkage becomes evident[103,104] in the American cultural focus on wellness, avoidance of illness, and improvement of health, which is linked to the American cultural focus on self-actualization and personal responsibility. Similarly, Americans' desire to maintain their health matches their desire to be autonomous individuals.[105,106] Collectivism, on the other

Table 1 Summary of Cultural Differences and Implications for Culture-Sensitive Health Communication Supporting Medical Decision Making and Optimizing Health Promotion

Cultural Differences Regarding	Description	Implication for Culture-Sensitive Health Communication
Perception of health and illness	Individualism: Focus on physical body, wellness, avoidance of illness serves goals of self-actualization, personal responsibility, and autonomy. Collectivism: Illness as a to-be-avoided breakdown in one's abilities to carry out obligations; concerned with the social consequences of health problems; health is a resource that facilitates fitting into the social order.	*Medical decision making*: Personal values may vary according to cultural background. Decision support should provide necessary information (e.g., about social implications of treatments) for the value clarification process. *Health promotion*: Communication strategies should address different goals of health or preventive measures: self-actualization, personal responsibility, and autonomy in individualistic cultures and social functioning and social consequences in collectivist settings.
Attitudes	Individualistic cultures: Person-centric model of attitudes. Assumed agency of the individual; stable personal preferences guide independent choice. Collectivistic cultures: Normative-contextual model of attitudes. Attitudes contingent to context and integrate the views of others and norms.	*Medical decision making*: Decision support should provide necessary information (e.g., about social implications of treatments) for the value clarification process. *Health promotion*: While communication strategies in individualistic settings should focus on changing personal preferences (e.g., quitting smoking is good for your skin), strategies in collectivistic settings should focus on explicating, installing, or emphasizing normative factors (e.g., quitting smoking reduces secondhand smoke and benefits the persons around you).
Risk propensity	Dread risk and unknown risk are the main drivers of risk perceptions across cultures. Members of collectivist cultures may rely on social resources when taking (financial) risks but at the same time try to avoid being a burden to others when it comes to health.	*Medical decision making*: Risk communication focusing on dread risk (low probability, high consequences) is likely to affect members from different cultures similarly. For value clarification, it seems necessary to include information about treatment effects for the self and others, depending on cultural context. *Health promotion*: Communication strategies directed to members from collectivist cultures should stress the avoidance of potential losses (loss framing).
Cooperation	Punishment is more effective in promoting cooperation in high-trust cultures than in low-trust cultures.	*Health promotion*: Communication strategies that rely on punitive incentives of health-related cooperation (e.g., vaccination) should be used only in high-trust societies.
Concepts of power	Vertical individualist cultural orientation: achieving status and recognition from others through competition; power is used for advancing one's personal agenda. Horizontal collectivist cultural orientation: sociable and benevolent relations with others; power is used for benefiting others.	*Patient-doctor relationship*: Physicians' communication strategies that emphasize empathy and compassion should be used in horizontal collectivistic cultures compared with vertical individualistic ones.

(continued)

Table 1 (continued)

Cultural Differences Regarding	Description	Implication for Culture-Sensitive Health Communication
Framing	Individualism: Approach-oriented; more sensitive and responsive to positive outcomes emphasized in gain-framed messages. Collectivism: Prevention or avoidance oriented; more sensitive and responsive to negative outcomes emphasized in loss-framed messages.	*Medical decision making*: To enhance information processing and understanding, framing of the information should be tailored to the individual cultural background and be thus congruent with the patient's mind-set; e.g., loss-framed messages for collectivist individuals and gain-framed messages for individualistic individuals. *Health promotion*: Communication strategies to promote a particular health behavior should use loss-framed messages for individuals from collectivistic cultural backgrounds, whereas gain-framed messages are likely to be more effective for individuals from individualistic cultures.
Social norms	Individualism: Individual attitudes rather than norms predict behavior. Collectivism: Social norms predict behavior Tight societies: Violations of norms seen as a disruption of social harmony; low tolerance for deviance. Lose societies: High tolerance for deviance from social norms.	*Health promotion*: Communication strategies addressing norms in health messages should be used in collectivistic and tight cultures rather than in individualistic and loose cultures. Strategies relying on punishment should be used in tight rather than loose cultures. Strategies that aim at changing the personal attitude toward a behavior should be used in individualistic rather than collectivistic cultures.
Trust in the media and (health) organizations	individualism: Societal components as atomistic, autonomous agents, and inorganic. Collectivism: Social entities are perceived as relational, dynamic, and human-like.	*Medical decision making and health promotion*: Communication strategies to deliver health-related messages by professional organizations in individualistic cultures should be more human-like than in collectivistic cultures.
Social networks	Individualism: Companionship and emotional support within large networks. Collectivism: Practical assistance and advice within small networks.	*Medical decision making*: Communicate not only to the patient but also to the family or social network when the patient has a collectivistic cultural background. *Health promotion*: Communication strategies in collectivistic cultures should aim at finding an entering point in small networks (family or intimate peers) and spread from there, while in individualistic cultures, messages from a larger network may also be accepted.

hand, is likely to posit illness as a to-be-avoided breakdown in one's abilities to carry out obligations.[107,108] Having a healthy body can be characterized as a resource that facilitates fitting into the social order within a collectivistic frame. Thus, for collectivists, the desire to avoid the negative social obligation consequences of ill health is likely to matter. Although cultural differences and similarities in how health is perceived have been understudied, available evidence linking self-construal to several health- and illness-related outcomes provides important insights. For example, individuals rating themselves as relational and collective report being more concerned with the social consequences of health

problems, such as being a burden to and unable to fulfill responsibilities toward loved ones.[107] Similarly, collectivistic individuals report experiencing emotions that are more socially engaging when thinking about imagined and real physical health problems,[109] for example, shame and embarrassment, both of which help the individual continue engaging in and assimilating in relationships.[58,110] This could have consequences for decision aids, for example, by using tailoring to selectively implement information about social consequences of treatments in decision aids or by implementing this in the process of clarifying values.[28,45] Thus, culture may determine the motivation behind preventive health behavior or medical decisions. Pointing to the pursued goals may be a potential strategy to adapt communication to cultural differences.

Culture and the Structure of Attitudes

Attitude toward a behavior or toward treatments is an important predictor in health theories (e.g., theory of reasoned action,[88,89] theory of planned behavior[86,87]). The currently dominant view of attitudes emphasizes the centrality of personal preferences, their stability, and their internal consistency. This person-centric model of attitudes equates personal preferences with attitudes, reflecting primarily Western sociocultural assumptions about the agency of the individual and the importance of stable personal preferences for guiding independent choice.[111] In this model, adjustment to norms often involves an effortful struggle between the authentic self and exogenous forces. However, the accumulating cross-cultural literature suggests the need for a complementary perspective, a normative-contextual model of attitudes, to acknowledge that in many non-Western cultural settings, attitudes are generally context contingent and willingly integrate the views of others and the norms of the situation.[111] According to this model, attitudes need not be personal or necessarily stable and internally consistent and are functional only to the extent that they help one to adjust automatically to shifting normative and contextual expectations.

The implications of such a model for understanding health attitudes and their role in health promotion are significant. For example, it suggests that to promote healthy behaviors in more collectivistic contexts, communication strategies should focus on normative factors rather than personal preferences. The model highlights the importance of managing the social identities that are brought to mind by health communications,[112] selectively emphasizing those reference groups whose normative behaviors are congruent with the health message. Thus, health communication that aims to change attitudes will profit from considering cultural differences in the psychological structure of attitudes and their implications. Preferences expressed and decisions made in different situations may vary in cultures where attitude stability or cross-situational consistency is neither expected nor valued. Especially in more hierarchical collectivistic cultures, this may very much change the process of shared decision making. Unlike in Western cultures, in which it is assumed that the patient and doctor participate equally, attitudes expressed by the patient in non-Western cultures may reflect the doctor's views and the norms of the situation more and make the process less independent (see also the paragraph below on culture and power in doctor-patient communications that elaborates more on this topic).

Culture and the Propensity for Risky Behavior

Preventive health behavior is strongly related to risk perception. If individuals perceive risk, they aim to protect themselves (e.g., protection motivation theory,[92,93] health belief model[90,91]). Risk perception processes have been examined in psychological and sociological research. The observations, experiences, and subjective evaluations of risky activities were investigated for people who are, or may be, exposed to hazards. The core results of such cross-cultural research are socio-psychological models of the cognitive structure of judgments about the magnitude and acceptability of risks with which individuals have to deal.[113–116] Research has explored disparities between different societal groups, looked at the relevance of personal links, and compared risk judgments across countries in which risk issues in general as well as particular risk sources (e.g., natural hazards, industrial facilities, medical dangers) have different salience.[115,117,118] Discrepancies between societal groups regarding perceived risk magnitude and acceptance of risks were stronger than those between countries (e.g., Australia, Brazil, Germany, Japan). Other findings show that the two main factors that have been identified as main predictors of risk perception—dread risk and unknown risk[116]—can be replicated across a wide range of countries.[119] Although the cognitive architecture[119] appears similar across cultures, attitudes toward risky behavior seem to differ between cultures. With regard to financial risks, members of collectivistic cultures are less

risk averse.[120–122] This seems to be in contrast to differences in regulatory focus[123]: individuals with a more interdependent self-construal should be more prevention- or avoidance-oriented in their motivations; they generally seek to avoid mistakes and focus on negative outcomes they hope to avoid.[76] However, the findings regarding the risk attitude are explained by the cushion hypothesis, that is, the idea that in strong social networks, other members of the network can cushion potential losses. This shows that by influencing social contact structures, culture can also affect the propensity to risky behaviors.

Culture and Cooperation

To prevent communicable diseases on a societal level, strategies are applied for infection control that go beyond the single contribution of one individual. One such strategy is herd immunity,[124] which means that disease transmission in a society is reduced if vaccine uptake is high.

This creates a classical situation of a multilateral social dilemma in which the decision of one individual determines also the benefit to other people. In other words, whereas vaccination causes costs to the individual (e.g., due to time, money, side effects), it protects the vaccinating individual and also provides to everybody around an additional indirect protection. Because of this indirect protection by/for others, the decision on whether or not to participate in a vaccination program becomes a strategic social interaction.[125,126] In such situations, the individual benefit of a preventive measure (such as vaccination[100,125,127]) may be smaller than the social benefit. Therefore, health-related behavior can be partly seen as a prosocial action.

Although it is well known that incentives (e.g., rewards and punishments[128]) and other-regarding preferences[129] are main predictors of cooperation and prosocial behaviors, cultural evolution is likely to have had important effects on the development of human cooperation, too.[130,131] Indeed, there is at least some empirical evidence that cooperation is slightly higher in collectivistic cultures than in individualistic cultures.[101] However, recent research has shown that these effects are more complicated and moderated by other factors. For instance, it has been shown that cultural variation in cooperation is particularly large in the presence of the possibility to punish.[39,102,132] One possible explanation is that trust—the belief about other people's benevolence—is required in order to make punishment work effectively.[133] Generalized trust may vary not only on the individual level but also on the aggregated societal level.[134] Therefore, punishment more strongly promotes cooperation in high-trust (e.g., China, Denmark) than in low-trust (e.g., Turkey, South Africa) cultural groups and societies, which gives potential insights in how to design and incentivize messages focusing on health-related cooperation. If this difference in enforcement of cooperation translates also to vaccination behavior, it might be that public appeals to impose peer pressure on others to go for vaccinations might be effective in some, but not all, cultures. Future research will clarify this question. One might expect that institutional punitive incentives to foster health-related cooperation (e.g., monetary fines in case of nonvaccination) may be more effective in high-trust than in low-trust countries.

In sum, this section posits that even established theoretical concepts that relate to health perception and behavior, such as attitudes, risky behavior, or cooperation, are subject to cultural variation. This reduces the generalizability of results across cultures dramatically and in a quite disregarded way. The concluding agenda for science at the end of this article will take up this point and discuss the missing emphasis on culture in health theories.

COMMUNICATION STRATEGIES

In this section, we will give an overview of different communication strategies widely used in health communication practice and discuss the implications of cultural differences for the strategies' effectiveness. Framing is one of the most researched communication strategies. It is used both in persuasive approaches to health promotion and in decision aids. In addition, we will discuss the possibility of stressing norms and social values to promote health behavior.

Framing

One basic way in which health communications can be distinguished is by how the consequences of a behavior are framed.[30,135] Health messages that use a gain frame emphasize the positive consequences associated with adherence to a behavior, such as ''If you stop smoking, you will lower your chances of getting lung cancer.'' Health messages that use a loss frame emphasize the negative consequences associated with nonadherence, such as, ''If you continue to smoke, you will increase your chances of

getting lung cancer.'' In the context of health promotion, framing is welcome as a technique to promote behavioral change. In the context of shared decision making, framing represents a challenge, as it is ''difficult (…) to avoid influencing decisions in one direction or another (…) given a) the large number of biases that are induced by how information is framed, and b) the fact that information must be framed one way or another.''[20(p7)]

Nearly 2 decades of health promotion research show that there are differences in the contexts in which gain- and loss-framed messages are most effective in producing behavior change. One context has to do with the type of behavior being promoted: gain-framed messages work somewhat better than loss-framed messages for promoting behaviors that prevent the onset of a health condition.[136] However, the context that appears to most strongly determine the most effective manner of framing a message has to do with individual differences related to the message recipient,[137] particularly the motivational orientation of the message recipient. By motivational orientation, we refer to the tendency for a person to be predominantly motivated by either approaching positive outcomes (approach motivation) or the tendency to be motivated by avoiding negative outcomes (avoidance motivation[138,139]). This approach-avoidance distinction shares some commonality with the promotion-prevention distinction made by regulatory focus theory.[123] For people who are dispositionally more approach motivated or promotion oriented, gain-framed messages are more effective. In contrast, for people who are dispositionally more avoidance oriented or prevention focused, loss-framed messages are typically more effective. This has been found across a wide variety of health behaviors, including oral health,[140] human papillomavirus vaccination,[141,142] diet,[143,144] and smoking prevention.[145]

As outlined above, people from more individualistic cultures may be more promotion or approach oriented and therefore more sensitive and responsive to the positive outcomes emphasized in gain-framed messages. On the other hand, people from more collectivistic cultures may be more prevention or avoidance oriented and therefore more sensitive and responsive to the negative outcomes emphasized in loss-framed messages. Several recent studies—all conducted in the domain of oral health—support these hypotheses. In Iran, a moderately collectivistic country, a loss-framed (v. gain-framed) message led to significantly greater levels of flossing at 2-wk and 6-mo follow-ups, as well as better overall periodontal health at a 6-mo follow-up.[146] Among East Asians living in the United Kingdom, loss-framed messages were viewed as more persuasive than gain-framed messages, whereas the reverse was true among whites living in the United Kingdom.[27] Furthermore, these group differences were mediated by individual differences in motivational orientation. Lastly, a recent study of nearly 900 adults residing in the United States (the most individualistic country) found a strong relationship between exposure to US culture and people's responses to framed messages.[147] Among adults who had the greatest exposure to US culture—in terms of parental heritage and proportion of life spent in the United States—there was, if anything, a greater advantage for gain-framed messages. However, among adults with less exposure to US culture—having parents born in another country and/or less proportion of their life spent in the United States—there was a significant advantage of loss-framed messages.

Taken together, these recent studies suggest that message framing is one important aspect of culture-sensitive health communication. If the goal of a message is to promote a particular health behavior, then it may be that loss-framed messages will be more effective for individuals from collectivistic cultural backgrounds. Of course, more research is needed to test these cultural hypotheses with a wider range of populations and health behaviors. In reference to shared decision making, there is still no solution of how to frame information. Displaying both gain- and loss-framed information can be a solution; future research should investigate, however, if cultural backgrounds makes either of the 2 frames more salient.

Addressing Norms and Social Values

Health behaviors are affected not only by individuals' own attitudes and risk perceptions but also by perceived attitudes and behaviors of others. If certain values, beliefs, attitudes, and behaviors are generally approved in a certain social environment, they strongly guide individuals' behaviors. Such subjective norms[89] or social norms[119] may influence individuals either as a response to the perception of prevalent behaviors (descriptive norms) or as a pressure to conform (injunctive norms).[148] Clearly, communicating social norms may be relevant in health promotion to persuade people to adopt healthy behaviors by communicating both ''dos'' (e.g., ''Vaccinate!'') and ''don'ts'' (e.g., ''Don't smoke!'').

Although social norms exist across cultures and societies, the importance and even the content of social norms may differ largely. For example,

smoking is socially more accepted in Europe than in the United States.[149] Addressing the impact of one's smoking behavior on others may therefore be a more successful persuasion strategy to stop smoking in the United States than in Europe. Besides their content, social norms are generally more important for individual behavioral intentions in collectivistic cultures compared with individualistic cultures, where personal preferences receive more weight and are less likely to incorporate normative content.[111,150,151] In addition, cultures differ in how norm violations are sanctioned, that is, the presence of injunctive norms: tight societies have clear and pervasive social norms, and violations from these rules are seen as a disruption of social harmony.[61,152] Therefore, given that a certain health behavior is shared as a social norm, addressing this norm in health promotion messages is likely to have more impact on individual behaviors in collectivistic and tight cultures than in individualistic and loose cultures.[111] Decision aids, as mentioned earlier, should reflect cultural differences in social norms and values in targeting and tailoring the programs to the user.[28] It is argued that tailored information leads to increased engagement and processing fluency, which in turn lead to more gist knowledge and higher preparation for decision making, one of the outcome measures that are used to evaluate decision aids.[28]

The literature discussed so far concentrated on the receiver of health messages and on the potential effects of culture on attitudes, risk perception, and behavior as well as the effectiveness of communication techniques. The following section will turn to the channels that are used to disseminate the information.

CULTURE AND CHANNELS OF HEALTH COMMUNICATION

For the process of shared decision making, the patient usually needs information materials such as decision aids or pamphlets and a personal face-to-face interaction with a doctor. In this direct communication between practitioners and patients, concepts of power that are related to cultural differences may affect the impact of the information. Health promotion messages often use channels other than face-to-face communication. They often originate from national or international health organizations such as the CDC, ECDC, or WHO. Health care personnel disseminate the information, or it finds its way directly to the decision maker, either through a broad range of media such as television, newspapers, the Internet, or through virtual or real social networks.[153] Culture shapes how people act and interact in dyads, social networks, or how they trust their national media. The following paragraph therefore discusses cultural differences that may affect the effectiveness of channels used to disseminate health information, from direct face-to-face communication to media and social networks.

Culture and Power in Doctor-Patient Communications

Doctors are in a position of considerable power. A review about doctor-patient communication concludes that, due to this power, ''Hippocrates suggested that doctors may influence patients' health. . . . Effective doctor-patient communication can be a source of motivation, incentive, reassurance, and support.''[154(p42)] Likewise, in the literature, power is seen as instrumental for achieving culturally nurtured goals.[155] However, those goals are likely to differ as a function of cultural values, national culture, and ethnic group. As a result, recent research shows that the meanings and goals associated with power are culturally patterned.[156,157] A vertical individualistic cultural orientation, characterized by concerns about achieving status and recognition from others through competition, is linked to seeing power as something to be used for advancing one's personal agenda and promoting one's powerful status,[158] a personalized power concept. In contrast, a horizontal collectivistic cultural orientation, characterized by an emphasis on sociable and benevolent relations with others, is linked to seeing power as something to be used for benefiting others, a socialized power concept.

Differences in power can endanger the process of shared decision making.[159] One implication of these distinct power concepts is that cultural groups that differ in these cultural orientations differ in the way they tend to evaluate power holders, such as doctors. Because physicians are often in positions of power over patients, evaluations of one's medical care are linked to distinct normative expectations about physician behavior. For instance, there is evidence that when power is salient (versus not salient), a physician's level of compassion may be more important in predicting the satisfaction of patients from horizontal collectivist cultures (e.g., Hispanics) versus patients from vertical individualist cultures (e.g., Anglo whites) because horizontal collectivist cultures tend to emphasize empathy and support in

power relationships to a greater degree.[160] People from more horizontal collectivistic compared with vertical individualistic cultural backgrounds may also differ in the sources they turn to for supplementing the advice they receive from physicians. For instance, friends and family may be more important sources of advice for people from horizontal collectivistic cultural backgrounds. As a result, physicians may be advised to communicate not only with their patients but also with their family members. In addition, health communication efforts in horizontal collectivistic cultural contexts would be advised to place greater emphasis on stimulating word-of-mouth communication among trusted sources of social support. Knowing about cultural differences that affect doctor-patient relationships and patient satisfaction can thus improve health communication efforts.

Culture and Trust in (Health) Organizations and Media

Trust in health organizations, governments, and the media facilitates effective health communication.[161] The concept of trust includes several aspects of beliefs and feelings, such as credibility, security, and reliability[162] and is established through interactions in diverse social networks (e.g., family, friends, and acquaintances). An analysis of trust and its meaning for health care systems states that ''health systems are inherently relational and so many of the most critical challenges for health systems are relationship and behavior problems.''[163] Trust, as in any personal relationship, has been identified as a central factor, also because national health organizations are part of a political system that decides on certain public health measures. Trust is therefore closely related to the legitimacy of state actions within a health system; thus, health organizations can be seen as the executive arm of political structures.[163] Traditionally, there is much cultural variation of trust in governments. We will not go into sociological and political details here but refer only to psychological differences that are relevant for differences in trust.

People with independent self-construals conceptualize societal components as atomistic and autonomous agents, whereas those with interdependent self-construals conceive social entities as relational and dynamic.[164,165] In a similar vein, collectivistic individuals are more likely to perceive social groups as cohesive, united, and intrastructured,[166] as well as to show greater anthropomorphism toward nonhuman agents[167] than do more individualistic people. Thus, the persuasiveness of a message delivered by health organizations might differ according to culture. To those who are suspicious about trustworthiness of these institutions, health-related messages might be more reachable if they are delivered by human-like entities rather than inorganic ones. Compared with members of individualistic cultures, members of collectivistic cultures would interpret a message from health organizations as if they receive it from other people. This may increase the effectiveness of such messages.

Culture and Social Networks

Health organizations increasingly use online social networks such as Facebook or Twitter to directly disseminate health messages: In summer 2015, WHO, for example, had more than 2.5 million followers on Twitter, and CDC shares its Facebook messages with more than 480,000 followers. Online networks are likely to reach even more people indirectly because followers often share information within their social networks. Social network embeddedness tends to motivate people to pass along health-related information (for an overview, see ref. 168). Such an indirect information exchange may be even more effective than direct information because of the trust and obligations in private social networks.[169] There is evidence of cultural differences in what is emphasized within a social network of friends. Adams and Plaut[164] compared the concept of friendship shared in an individualistic country (United States) with that of a collectivistic country (Ghana) based on the assumption that independent and interdependent self-construals establish an internalized system for constructing social reality. In terms of friendship, members of the individualistic culture tended to highlight companionship and emotional support within large networks, whereas collectivists tended to accentuate practical assistance and advice within small networks. Thus, effective ways to deliver health messages in social networks could vary based on culture. People in individualistic cultures might accept messages from those who are well intentioned to help. Conversely, people in collectivistic cultures might approve messages from their family or intimate peers who feel obligated to help. This may apply to real and virtual social networks; however, more research is needed to clarify whether the cultural differences in patterns of communication are also found in large-scale online social networks,

including a mixture of people from diverse cultural backgrounds.

AN AGENDA FOR SCIENCE

In this section, we will propose an agenda for scientists to further develop the evidence base for culture-sensitive health communication both regarding health promotion and the area of medical decision making. We will first discuss the implications of the previous paragraphs for theorizing and research practices. Further, a range of open research questions and methodological considerations will be summarized. Finally, we will discuss the relationship between basic and applied research and argue for a greater integration of the two.

Theorizing and Research Practices in Psychology and the Ignorance of Cultural Differences

Faced with the challenge of addressing a public health issue, practitioners are advised to rely on evidence-based strategies and to use these strategies in a manner that is sensitive to the cultural background(s) of the targeted population. We believe these to be sound recommendations, but the ability of practitioners to follow them and to employ evidence-based, culturally sensitive communication strategies depends on the utility of the current empirical evidence and theoretical models. Although investigators have demonstrated that communication strategies such as framing can vary in their effectiveness when used across different cultural groups,[27] the majority of these findings have yet to be integrated into a model that would afford clear, precise predictions regarding when and for whom different intervention approaches should be used. In the absence of a model that integrates theories of culture with theories of health behavior and behavior change, practitioners are able to observe that communication strategies can work differently across cultural groups but will find it difficult to predict a priori when these strategies will and will not differ in their effectiveness across cultural groups. Thus, to obtain the desired advances in practice, it is essential that investigators initiate a scientific agenda that will enable the synthesis and testing of theories of culture and theories of health communication.

As stated earlier, theories of health behavior and behavior change do not explicitly incorporate cultural differences, even though the theoretical constructs used to predict behavior, or the predicted behavior (or outcome) itself, may differ in structure between cultures. At the moment it seems as if there is a divide between cultural psychology and psychology. It is important to recognize, however, that psychological research always includes culture—while it may not take a comparative view, the theories and results may be generalizable to only a certain cultural background. This may apply to disciplines other than psychology as well, such as communication or public health. Seeing a greater impact of cultural research and more awareness of the influence of culture on mainstream theorizing will make theories more practical for global public health efforts. Future research should focus on how engaging with cultural variability in theoretical constructs can shape and expand the theoretical questions posed and the interpretation of answers obtained. Scientific attention should be directed to the questions of which theories and constructs are interculturally applicable or informed and how this can be determined.[170] This follows from the idea that ''both theorists as well as interventionists need to treat a theory as a dynamic entity whose form and value rests upon it being rigorously applied, tested and refined in both the laboratory and the field''—in a cross-cultural setting.[171(p1)] One example for an important step is the expansion of the attitude concept with a cross-cultural perspective.[111] The normative-contextual model of attitudes explicitly addresses non-Western contexts and thereby explicates the potential limitations of generalizing the Western perspectives—the person-centric model of attitudes that guided decades of attitude research.

Research practices also contribute to the neglect of cultural differences. Cross-cultural research is expensive and makes international cooperation necessary. Often, convenience samples are used and cultural differences are assessed in terms of differences between countries. However, culture should be understood as individual differences in motivational and cognitive characteristics rather than be determined by state borders. Thus, when researchers are focusing on cultural differences, they should explicate the psychological background of their concept of culture and the implications for theoretical concepts and theorizing. Research examining psychological consequences linked to independence and interdependence originates primarily from comparative studies conducted in the West (primarily North America) and the East (primarily East Asia) because, as noted above, Western cultures are hypothesized to be relatively more independent or less interdependent compared with Asian cultures. Thus, as with

most research in psychology, cross-cultural research is carried out in so-called WEIRD countries (where *WEIRD* stands for Western, Educated, Industrialized, Rich, Democratic). Even cross-cultural research can be restricted to WEIRD countries, for example, if we consider a comparison between university students in the United States and Singapore. There is a considerable lack of research in this area conducted in Russia, Africa, South America, or even (Eastern) Europe. Recently, however, there is an increasing effort to examine understudied cultural contexts such as the Middle East[50] and Europe.[53] This research helps us refine the dimension of independence and interdependence (or individualism and collectivism) by introducing different forms in which these concepts can occur and account for psychological processes.[172,173] Ideally, the samples should be extended to less educated participants by recruiting participants from nonuniversity and understudied settings. This seems especially important in a health context in which effective messages are necessary to disseminate information also to hard-to-reach groups, which are usually not university students.

Research Questions

The common thread in this article stresses the existence of differences among cultures. However, more research is needed to determine the conditions under which cultural differences are and are not relevant to medical decision making and the successful implementation of an intervention strategy. One such example in health promotion is nudging. This technique for encouraging health behavior has gained recent popularity.[29,174] *Nudging* refers to altering the design of the choice environment so as to facilitate selection of the healthy option, while maintaining the freedom to select any option. In a well-known example,[175] in some European countries the organ donation default is donation, such that one is presumed to be a donor unless one opts out, whereas in other European countries, the default is nondonation, such that one is presumed to be a nondonor unless one opts in. Donation rates are much higher in the former countries than the latter, even though residents of both types of countries have both options available. In addition to defaults, other nudges that have been shown to influence health behaviors include framing effects, prompts to form implementation intentions, the order in which options are presented, social norms, and financial incentives. Virtually all research on nudging has been conducted in Western and WEIRD contexts, and it is currently unknown whether some nudges fit certain cultural contexts better than others. As the summarized research above suggests, at least some nudges—framing, emphasis of social norms—should be adapted to the cultural background.

Next, as stressed before, there is a great need to understand cultural differences based not on national differences, but on individual differences.[28,45] One important question is which instrument of measurement can make these differences easily accessible and measurable—also for practitioners. Alden and colleagues[28] suggest applying a short measure of individual differences[45,176] before the actual decision aid starts. This purpose makes it evident that the measures need to be short, easy to use, and valid. If we cannot come up with a short and easy measure, it will be necessary to search for proxies that can be used to estimate cultural characteristics and facilitate the decision if culture-sensitive communication strategies are required.

Beyond the individualism/collectivism dimension, we will need a better understanding of how other basic dimensions of culture such as tightness/looseness[61] or cultural values[62] relate and interact with basic features of messaging (format, channels, framing, etc.). Further, the implications of cultural differences for culture-sensitive health communication that were summarized in Table 1 all describe important research questions; these assumptions still need to be tested in applied settings.

Methodological Considerations

The effect of health communication can be assessed with a variety of research methodologies, including focus groups, questionnaire studies, and laboratory experiments. One of the most powerful and convincing techniques, however, are randomized field experiments in which participants receive the targeted health communication intervention or the control condition in a real-world setting without ever being aware that a research study is being conducted. Such a design allows researchers to assess the intervention's impact on understanding of the issue as well as actual behavior within the participants' real cultural setting. This may prevent demand effects, reactance, or other influences of participants knowing that they are part of a research study. Such field studies are labor intensive to launch and often require critical partnerships with local health organizations, but they are especially important for culture-sensitive research, in which cultural differences may be most apparent when individuals are

behaving in their everyday environments, rather than in a research laboratory or responding to questions on a survey.

Cultural factors also have fundamental implications for interpretation of research results. Particularly for measures of sensitive topics, such as health self-reports, distinct patterns of socially desirable responding are likely to complicate the interpretation of substantive cultural differences. Indeed, research shows that cultural differences map onto 2 distinct forms of socially desirable responding: self-deceptive enhancement refers to the tendency to provide inflated assessments of one's skills and qualities[177,178] and is more likely to be observed among Westerners[179] or in situations in which an independent self-construal is salient.[180] Impression management refers to the tendency to downplay one's transgressions in order to appear normatively appropriate[177,178] and is more likely to be observed among East Asians[179] or in situations in which an interdependent self-construal is salient.[180] These results suggest that Westerners may be more likely to give inflated self-reports of their health knowledge and skills (e.g., in decision aid settings), whereas Easterners may be more likely to downplay their unhealthy behaviors and transgressions (e.g., in health promotion settings). Such patterns will appear as substantive differences between cultural groups, although they may actually reflect distinct response styles.

Relationship between Basic and Applied Research

Traditionally, researchers engaged in basic research focus on increasing understanding of scientific questions and phenomena, whereas researchers engaged in applied research focus on how established research findings can be used to benefit individuals or society. One implication of this construal is that it frames basic and applied research activity as ''separate ventures, pursued by different people.''[181] Moreover, it may serve to undermine the growing need for greater engagement between theory and practice.[182] As illustrated by the issues raised earlier in this article, advances in the use of culturally sensitive health communication will depend on more engaged interaction between researchers and practitioners. To this end, initiatives are needed that will better integrate basic and applied research activity and, in particular, that will support investigators who are actively engaged in pursuing advances in understanding and use what Stokes[182] has characterized as Pasteur's quadrant (for further discussion of these issues, see refs. 182, 183).

AN AGENDA FOR HEALTH COMMUNICATION PRACTICE

Also from an applied point of view, we would like to stress the importance of a strong partnership between research and practice. In the following, we will discuss the value of taking up a more general approach to evidence-informed health communication and rethink traditional structures and traditions in health communication. Further, we argue that health communication expertise should be strengthened in organizations, both regarding training of professionals as well as regarding the knowledge about cultural backgrounds of target groups. Health communications training should also be strengthened and scaled up as part of standard medical education and possible stand-alone in-service training modules. As a positive example of successful health communication, we will summarize the actions taken up to curtail polio in Israel, a highly culturally diverse country.

Partnership between Science and Practice

It is the responsibility of national health authorities, supported by international health organizations, to facilitate networking between public health professionals and researchers to exchange experience and make evidence-based information easily accessible for those who work in the field. Studies on health communication have brought valuable insights to the topic, but it has been also recognized that there is an important need to better understand the factors that determine the effectiveness of communication in real-life situations in different countries. As aforementioned, more resources are needed to systematically test and compare culture-sensitive interventions in the field. Health authorities should recognize the importance of supporting such studies and providing a stable partnership with researchers.

By drawing on research from behavioral economics, the medical humanities, psychology, and neuroscience to understand how humans behave and make decisions in everyday life, and by better understanding how people respond to different contexts and incentives, communicators will be better equipped to tackle not only communicable diseases but equally noncommunicable diseases and potentially improve community-based care messaging and patient activation. Developing the tools to gain better consumer insight, including cultural context and specificity, also has considerable potential impact on responding to outbreaks and in health emergency

settings, where a rapid and accurate understanding of the populations affected by the outbreak or emergency is essential to appropriate planning and response strategy.[184]

Training of Health Communicators

The complexity of culture—as well as of designing decision aids or changing behavior through communication—shows that health communicators need academic training. Only few social scientists or psychologists work in communication sections of national or international health authorities or agencies. This is the case despite the fact that the transferal of research to practice, the implementation of communication interventions and initiatives that are sensitive to cultural specificities, are dependent on an investment in human resource capacity building and skills aligned with communication research, design, and evaluation. Behavioral insights among health authorities are essential to ensure that communication knowledge is both shared and integrated across communicable and noncommunicable disease prevention programs alike. Notable progress has been made in forwarding this agenda. The WHO European Regional Office for Europe, for example, has been successful in encouraging national health authorities to invest in behavioral insights programs and the diagnosis of factors determining health-seeking behavior. One example is the application of TIP,[37] a guide developed to diagnose demand- and supply-side barriers and motivators of behavior. The findings can assist authorities in designing low-cost, subtle interventions that influence the behavior of the public and result in bottom-line health impact. The TIP tool has been used in 3 countries to date, and capacity within those health authorities was enhanced as a result of its application.[185]

Knowledge about Cultural Differences in Practice

Health communicators need a strategy to assess and address cultural differences. As an example, we will sketch a model that may be a useful tool for exploring cultural differences, especially if the best-case scenario is not possible, in which the communicator is from within the cultural context or community and is engaged in designing the response, messaging, and materials. The PEN-3 model offers a cultural lens for addressing health issues and problems.[186] It provides the analyst with 3 levels of analysis, namely, 1) cultural identity, 2) relationship and expectations, and 3) cultural empowerment. Each level can be further described with 3 aspects (cultural identity: person, extended family, neighbors; relationships and expectations: perceptions, enablers, nurturers; cultural empowerment: positive, existential, negative). The analysis can be completed in 2 phases. In the assessment phase, the analysts conduct interviews to generate qualitative data, which are then categorized into 9 cells. In the intervention phase, the community groups the data into the PEN-3 categories. The community and analyst then share points of agreement and differences. In the end, the analyst and community discuss and prioritize what would be the most impactful domain for a culture-sensitive communication or intervention, based on the 3 cultural identity domains. As a consequence, PEN-3 helps researchers to reexamine assumptions about health-related behaviors and thus to reexamine cultural biases. This may be the starting point for a culture-sensitive approach of health communication. It can assist in cultural targeting and to craft specifically tailored messages responding to individual differences that were identified within subgroups and the cultural context. This model has been successfully applied in the context of HIV/AIDS in Africa.

Another, very positive example of successful culture-sensitive health communication we would like to outline is the communication campaign in Israel in 2013.[185] Wild polio virus was found in sewage samples, which made supplementary immunization activities necessary. The challenges were manifold: the population was largely immune due to high vaccination coverage. However, especially children born after 2005 had to be revaccinated with a vaccine that reduced transmission. This was the case because in 2005, Israel changed their vaccination policies to use a vaccine that reduced the risk of vaccine-induced polio but offered no reduction in disease transmission once infected. They made a prosocial appeal: ''Just two drops and the family is protected from the risk of polio.'' From a psychological point of view, we can interpret that there was a good match between Israel's tendency to low individualism (e.g., as compared with the United States[187]). This match may have led to a high effectiveness of the campaign in this country. Moreover, a sophisticated system of communication surveillance consisted of all types of media—not only printed pamphlets but also electronic and social media. Surveillance means that communication was also reactive; thus, large parts of the iterative communication process was listening and responding to the concerns and needs of the people. Different strategies took cultural differences into account (e.g., by

including religious leaders). The example of Israel shows that it is very important that health communicators know their audience very well, and with regard to crisis communication, they ideally know their audience before any crisis emerges. Thus, a step toward culture-sensitive health communication can be to move from telling to listening to learning about cultural differences and contexts.

CONCLUSIONS

In sum, it is clear that culture-sensitive health communication is important for both improving understanding in the medical decision-making processes as well as promoting health behavior across a large and growing cultural diversity within countries and continents. There is considerable knowledge about certain cultural concepts, such as individualism and collectivism. Yet many other cultural differences exist, and there is still no technique for practitioners to easily identify cultural characteristics that could facilitate adopting culture-sensitive communication strategies. Moreover, the relative effectiveness of alternative cultural communication techniques remains unclear. Considerable theoretical and empirical exchange with practitioners should advance culture-sensitive health communication. With this contribution, we aim to inspire a ''polylogue,'' that is, a conversation with complete multilateral influence.[188,189] We would like to promote the need for more interdisciplinary research, both between scientific disciplines and between science and practice. As a guiding example and motivation for higher-level engagement between practitioners and social scientists, we believe the image of Pasteur's quadrant should be displayed on the walls in more offices—of basic and applied scientists as well as health agencies and communicators as partners.

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