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How to make risk communication influence behavior change

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Background: The aims of risk communication to consumers are at least two-fold: to provide information about a food risk or safety issue, and for education purposes enabling a change towards safer behavior.

Scope and Approach: In this paper, challenges confronting risk communicators in providing information consumers act upon will be summarily addressed. The emergence of web-based communication channels as avenues for improved dissemination will also be discussed.

Key Findings and Conclusions: Studies show that providing relevant risk messages to vulnerable consumers and target groups requires in-depth knowledge about the receivers of information. Characteristics of these groups may vary across countries, cultures and from case to case, therefore it may be necessary to collect more information about how risk communication should be presented and in which channels to reach the target groups. Messages should be repeated regularly and presented in a way that seems relevant to consumers; less statistics and more stories that they can relate to. Internet is rapidly becoming the number one information channel. Using social media, and web-based tools and games have the potential to rapidly reach specific target groups. Achieving behavior change is dependent on the consumers perceiving the risk information to be relevant for themselves.

1 **How to make risk communication influence behavior change**

2

3 The aims of risk communication are at least twofold: to provide information about a food

4 risk or safety issue and for education purposes that can shift towards safer behavior (EFSA,

5 2012). The information should enable receivers to understand the risk situation and, if

6 relevant, make appropriate behavior changes.

7

8 **Current situation**

9

10 Food risk communication is relevant in all contexts where food safety is at stake. People

11 perceive food-related risks in a variety of settings ranging from acute food safety incidents to

12 long-term exposure to hazardous components and unsafe handling of foods in the food

13 chain (Frewer et al., 2016). In addition, novel foods, processing technologies and new

14 distribution channels for foods can present consumers with new and unforeseen food safety

15 risks. Both public and scientific interest focus on food safety and consequently risk

16 communication whenever a major food scare occurs. This is particularly the case when a

17 food safety incident is fraught with uncertainty or widespread in scope, or poses a severe

18 health risk to humans (Sparks & Shepherd, 1994). Normal procedure in food safety incidents

19 involves risk assessment, risk management and risk communication (Cope et al., 2010),

20 where risk communication as a risk mitigation measure is a key link facilitating consumer

21 protection. However, consumers are exposed to risks in a variety of ways. It is no surprise

22 therefore that studies show that communicating risk is remarkably difficult (Frewer et al.,

23 2016).

24

25 Ideally, a risk communication message needs to explain the risk, make sure the message

26 reaches the group potentially at risk, and, when relevant, should lead to behavior change in

27 the form of safer behavior. Risk communication involves two different roles: the providers of

28 risk knowledge, most often experts, and the receivers of information, most often lay people.

29 In addition, the information channel used by the sender is crucial to the manner in which the

30 information is received.

31

32 Many studies show that experts' views of risks are not consonant with lay people's

33 perceptions of risks (Bearth & Siegrist, 2016; Hansen, Holm, Frewer, Robinson, & Sandoe,

34 2003; Ueland et al., 2012). Experts often communicate the bare facts, statistics and advice

35 without necessarily triggering consumers' awareness of relevance for themselves. Lay

36 people, on the other hand, understand the experts' messages in the light of heuristics,

37 mental shortcuts and whatever knowledge is available to them at the time – which may not

38 be congruent with the risk situation at hand (Bearth & Siegrist, 2016). Combining this

39 divergence in risk perception with difficulties in choosing the best information strategy, risk

40 communication can result in the use of inappropriate communication platforms as well as

41 misunderstandings and messages not coming through as intended.

42

43 In this paper, challenges confronting risk communicators in providing information consumers

44 act upon will be addressed briefly. The emergence of web-based communication channels as

45 avenues for improved dissemination will also be discussed.

46

47 **Research and infrastructure needs**

48

49 Current research suggests several strategies for risk communication that require further

50 research but also some actions that may be implemented now. In a comprehensive study

51 combining findings from a series of experiments on how consumers understand risk

52 messages, Cope et al. (2010) suggested a multifactorial approach to risk communication. The

53 approach was based on results from experiments that varied risk scenarios from microbial

54 and chemical contamination to genetic modification of foods to achieve benefits, and with

55 different forms of framing the risk messages. In the study, the authors addressed the need

56 to develop risk communication based on the consumers' own points of departure such as

57 their concerns, risk perceptions, needs and motivations, rather than using experts' and risk

58 managers' technical risk assessments as the only communication message (Cope et al.,

59 2010).

60

61 Providing relevant risk communication to vulnerable consumers and target groups requires

62 in-depth knowledge about those at whom the information is directed. Some risk groups have

63 been identified, e.g. young or old single men living in urban environments as these score

64 high on risk-related behavior (McCarthy & Brennan, 2009; Røssvoll et al., 2013). Other

65 groups at risk are particularly vulnerable to unsafe foods, such as pregnant women, children

66 and the elderly. For risk communication purposes, however, personal experience with, or

67 relevance of a food safety issue to oneself, is more important for consumers in order to

68 comply with risk information, than are characteristics based on demographics (Jacob,

69 Mathiasen, & Powell, 2010). For example, if consumers have limited resources, this may

70 reduce their ability to comply with safety advice. To offset this, one possible approach is the

71 provision of manageable advice on food safety strategies. For instance, information to

72 kindergarten staff about hand-washing strategies to avoid the spread of illnesses is easily

73 implemented and delivers quick and desirable results. In designing messages to the

74 consumers, risk communicators must make the message relevant to the consumers in

75 question and their circumstances, thus increasing interest in the message and potentially

76 increasing the likelihood of behavioral change (McCarthy & Brennan, 2009) (Fig. 1).

77

78 **Insert Figure 1 about here**

79

80

81 Figure 1. Structure of risk communication to target groups.

82

83

84 One issue that has been raised with respect to consumers' willingness to change their food

85 safety behavior is unrelated to any lack of knowledge, but linked to the fact that they do not

86 see the importance of adapting their behavior. This might be because of personal experience

87 with no ill effects ensuing, due to laziness or inertia, or because behavior change conflicts

88 with other factors that are important to consumers such as taste (McCarthy & Brennan,

89 2009). In this instance, one strategy might be to frame the communication so that it

90 becomes relevant for other desirable reasons, i.e. saving money or showing off to neighbors

91 or friends.

92

93 Studies have shown that in order to be reinforced in consumers' minds and uphold safe

94 behavior consciousness among consumers, information needs to be repeated at frequent

95 intervals (Redmond & Griffith, 2006). Some findings indicate that information aimed at

3

96 modifying existing food safety behavior may be less effective and occasionally ignored, but

97 that information on new food safety behavior triggers interest (McCarthy & Brennan, 2009).

98 Providing safety information in the form of stories is an effective means of presenting risk

99 information and better suited to providing safety advice compared with presenting mere

100 facts and statistics (Jacob et al., 2010; McCarthy & Brennan, 2009). Specifically, messages

101 should not employ too many difficult words, technical jargon or concepts (Jacob et al.,

102 2010).

103

104 The time aspect of risk communication can increase its effectiveness. Some studies have

105 shown that providing information at an early stage in a food incident improves trust and

106 reduces the negative impressions given by the communicators (Chapman, Erdozaim, &

107 Powell, 2017; De Vocht, Claeys, Cauberghe, Uyttendaele, & Sas, 2016).

108

109 There is an indication that the risk messages presented through the most common mass

110 media, i.e. TV and newspapers, are deficient in content in that much best practice advice is

111 omitted. For instance, the message that there is a threat to human health is presented most

112 frequently, whereas mitigating advice is communicated less frequently (Parmer et al., 2016).

113

114 The infrastructure of risk communication deals with information channels. These have

115 changed over time from books through TV/radio and printed media to the internet (Rutsaert

116 et al., 2013). "Googling" was coined as a new word for conducting internet searches in 2003.

117 As consumers rapidly change their ways of acquiring knowledge by using search engines on

118 the internet, web-based information channels will come to dominate as the main source of

119 information for consumers in most situations. Recent studies have investigated the efficacy

120 of risk communication using social media or other web-based tools (Crovato et al., 2016;

121 Henderson et al., 2017). One study showed that social media can supplement other online

122 sources among subjects who are more interested in risks in general (Kuttschreuter et al.,

123 2014). For younger people who spend a lot of their time on computers socializing with

124 others, doing homework or playing games as well as looking up information, using the

125 internet as an information channel is highly relevant. For instance, studies have investigated

126 and shown that using web-based games to increase young people's knowledge and

127 understanding of risk and risk-reducing measures is a feasible approach (Crovato et al.,

128   2016). Risk communicators need to know which information sources are most familiar to

129   consumers, most frequently used, and most trusted by those they wish to reach (McCarthy

130   & Brennan, 2009).

131

132   **Action points needed now**

133

134   Taking into account the rapid development of communication possibilities on the internet, a

135   pressing need for action is in understanding and using the internet for best effect in risk

136   communication. Social media, blogs and other web-based channels form arenas for instant

137   dissemination of information as well as facilitating two-way interaction between

138   communicators and consumers. These channels can also overcome the timing-related

139   problems for releasing risk messages to optimize the impact or in order to reach out to

140   fragmented consumer groups. So far, however, two-way communication using social media

141   seems to be difficult for risk communicators (Regan, Raats, Shan, Wall, & McConnon, 2016;

142   Roshan, Warren, & Carr, 2016). Communicators should focus on strategies to improve one-

143   to-one direct communication, as this can also be shared in the internet community.

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150   **References**

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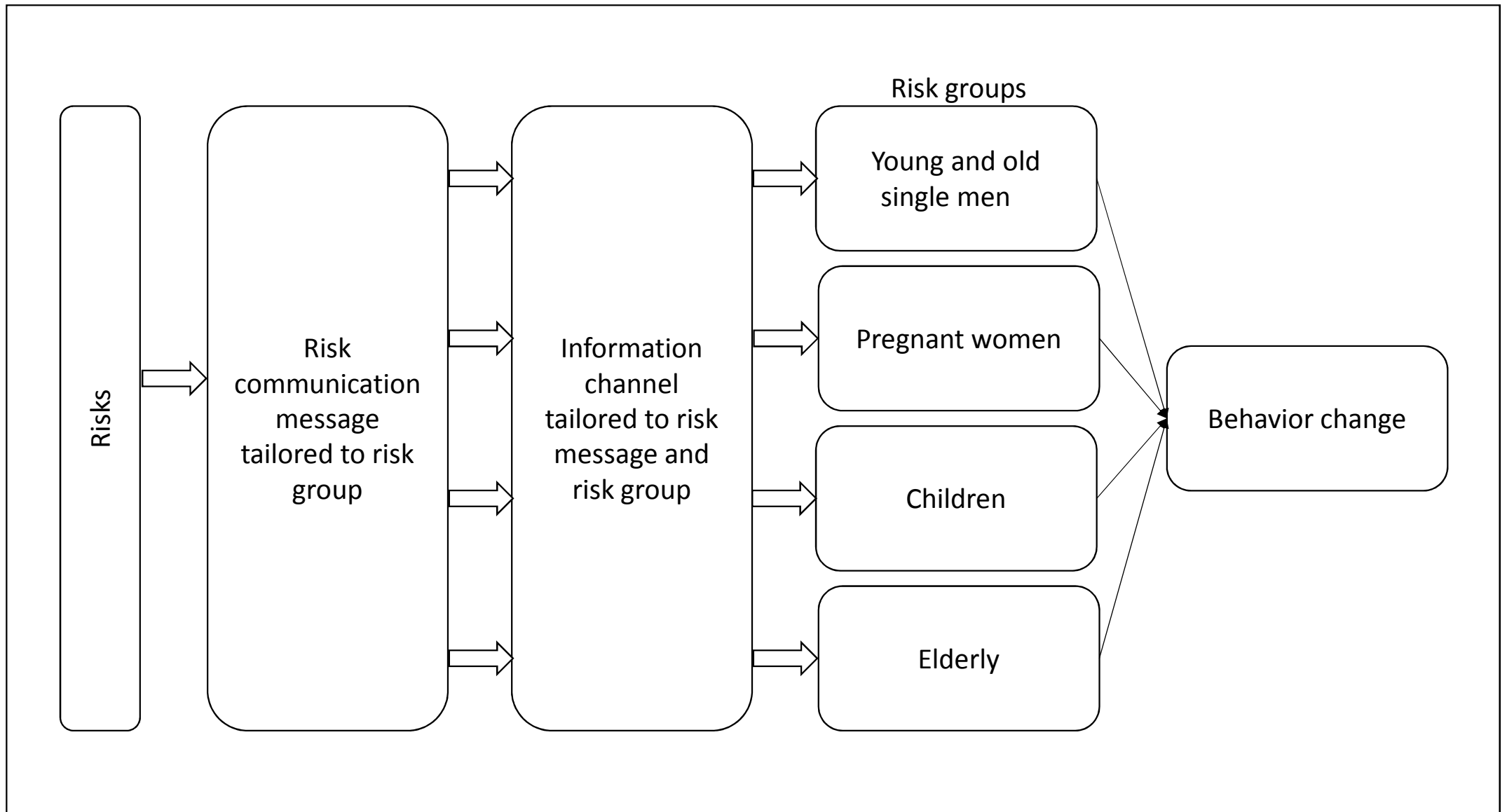
Highlights SAFE special issue

- Experts and lay people have different understandings of risk.

- Risk communication is most effective when targeting specific groups.

- Behavior change is dependent on perceived relevance of food safety information.