

The Impact of the Information Frames on Laypersons' Risk Appraisal

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Abstract: Risk communication is crucial if uncertainty in scientific knowledge regarding health risks still exists. One example is the current debate on radiofrequency electromagnetic fields and health risk below the limit values. Consequently, the question is raised whether different strengths of evidence can be communicated effectively. To meet this question, this experimental study investigates the impacts of different information frames on laypersons' risk appraisal. Different information frames of current risk communication strategies are tested.

Backed up with the experimental findings, conclusions will be drawn for effective risk communication.

Introduction

Gaps in the scientific knowledge and the crucial question about the strengths of evidence

The need of communication approaches regarding uncertainties in scientific knowledge continues to be an important role. Dealing with uncertainty is a part of risk science (cf. Row, 1994) but its significance increases due to fast-developing technologies. In particular taking up the precautionary perspective the gaps in the scientific knowledge draw the attention (cf. Wiedemann & Brüggemann, 2001; Wiedemann et al., 2001).

Although guidelines and tools based on theoretical knowledge in the social and communication sciences are nicely developed (cf. Covello et al., 1989; Jungermann, Rohrman & Wiedemann, 1991; Wiedemann, 1999; Wiedemann & Schütz, 2000) deficits of empirical studies is to be pinpointed regarding this issue.

There are still many open questions in risk communication if scientific knowledge lacks. A good example of uncertainty in the scientific knowledge is the intention felt issue of radiofrequency electromagnetic fields (EMF). As shown in a recent dialogue project there are still uncertainty in scientific knowledge and a lot of open

questions (cf. Wiedemann, Schütz & Thalmann, in press). In the centre of the debate is the question whether there are health risks below the limit values or not.

Furthermore, regarding risk communication the question is raised how to communicate effectively different strengths of evidence to laypersons. However, communication tools are given. But they are not proven. Exactly this deficit in scientific research presents the key point in my investigation.

Current Risk communication approaches in the EMF-Debate

According to current EMF-Debate, several risk assessments were realised in the last years and various communication strategies could be identified in Europe. Each of them attempts to communicate the current state of knowledge to laypersons. Two examples of communication tools in Germany are from the Ecolog-Institut (2002) or from the Strahlenschutzkommission (SSK) (2001a,b). Both institutions utilise specific characteristics regarding the information tools: On the one side, tables to present the scientific knowledge in a compressed way and on the other side, a system describing the strengths of evidence.

In the first series the experimental study will predominantly focus on the communication strategy by Ecolog, later on the focus will be on the SSK brochure.

As figured below, Ecolog uses a table-format and a specific system describing the strengths of evidence (cf. figure 1). Ecolog lists different endpoints about the subject cancer and assesses the strengths of evidence by following five evidence-categories: "proof", "consistent hint", "strong hint", "hint" and "weak hint". Based on this strategy, Ecolog visualises the current state of art in scientific knowledge concerning EMF and health risk below the limit values.

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