CONDITIONS OF RISK PERCEPTION CONCERNING EMF AND ITS DEPENDENCY ON DIFFERENT TYPES OF KNOWLEDGE TRANSFER

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Abstract: To influence risk perception of laypersons and increase acceptance towards a new technology numbers of probability or detailed description of the technology are insufficient. In this interview-based study we like to investigate the effects of different types of knowledge transfer on the perceived risk concerning EMF (Electro Magnetic Fields). Depending on the experimental setting the participants get a brochure containing either "knowledge about this new technology" or "knowledge about the risk context". Participants are split in an exposed (living near a transmitter) and a non-exposed group. Further variables such as personal concernment, motivational profile, information-processing mode, trust and confidence will be considered as well.

Introduction
Empirical findings could obviously clarify that laypersons do not understand risk simply as the product of probability and harm. They do include various peripheral characteristics (Slovic, Fischhoff & Lichtenstein, 85; Slovic, 87; Slovic, 92).

1.1 Unknown and complex technology
Mobile communication still can be understood as a new technology, where the risk has to be considered as hypothetical or vague. People have little knowledge how it really works, what type of radiation it is, how potent transmitters are and in how far health effects are possible. Experts probably think that the low acceptance of a technology is the result of a lack of knowledge. And if a new and unknown technology causes negative feelings among people then a transfer of knowledge about the technology would make it less unknown and therefore more acceptable. In our point of view the transfer of knowledge about the technology does not increase the acceptance significantly on its own. In addition knowledge about the risk context has to be transferred and social trust has to be considered as well.

1.2 Risk context
In our investigation we compare systematically two types of knowledge transfer. A brochure containing "knowledge about this new technology" and another brochure containing "knowledge about the risk context" will be designed and distributed among our participants. The latter brochure includes comparisons of different types of risks, a clear and vivid representation of probabilities, a brief summary of the ongoing discussion in the area of EMF and considerations concerning the construction of risk notion (Rohrmann, 98). Usually laypersons are confused with probabilities, therefore an adequate representation of frequencies or a comparison with other sources of risks will be advantageous (Scholz, 87; Gigerenzer, 97; Nothbaum, 97). The influences of the social context should be a part of the brochure as well. In the year 1912 e.g. people were warned that the regular use of a phone might provoke mania diseases.

1.3 Methodic Design
This will be a 2x4 Design, where each group contains at least 20 persons. To investigate the effect of exposure participants are split in an exposed, who are living near a GSM-transmitter, and a non-exposed group. To evaluate systematically the effect of the knowledge transfer one group gets the brochure about the technology, the second group gets the brochure about the risk context, the third group gets both brochures and the forth group is the control group, what means they don't get any brochure. Participants are interviewed before the knowledge transfer, shortly after and a view month after.

1.4 A psychological model of risk perception
Why exposed people often perceive risk in a different way than non-exposed people? Why some exposed people are extremely concerned about the risk while other exposed people are not concerned at all? Which motivational and cognitive processes trigger that difference? What is the relationship between exposure, concernment and risk perception? To answer these questions we investigate risk perception on an individual level.

Fig. 1: Supposed model of the causal relationship between variables
In our investigation we focused on the impacts of different types of knowledge transfer in risk communication. Thus, the main goals of this social science project are 1st to get a better understanding of the risk perception concerning mobile communication (more precisely GSM radiation) on the individual level and 2nd to investigate the impacts of different types of knowledge transfer in risk communication.

According to our hypotheses the transfer of "knowledge about this new technology" does not increase the acceptance significantly on its own. Whereas the transfer of "knowledge about the risk context" should have a major effect, which could be modulated by the exposure, the personal concernment, the motivational profile, the information-processing mode, the social trust in the Mobile Communication Corporations and the confidence in the content of the information material.

References


programm]. Psychologisches Institut der Universität Zürich.


