

2 Theoretical Frameworks of Risk Communication

2.1 Definition and key concepts of risk communication

Risk communication is the process of exchanging information about risks between decision-makers and the public (Savoia et al., 2017). It aims to inform and educate individuals about potential hazards, enabling them to make informed decisions and take appropriate actions to mitigate those risks. Effective risk communication involves understanding the audience's perceptions, beliefs, and attitudes towards risk, and tailoring messages to address these factors (Fitzpatrick-Lewis et al., 2010).

2.2 Theories and models in risk communication

Several theories and models underpin the practice of risk communication. One prominent model is the risk information seeking and processing (RISP) model, which integrates concepts from the heuristic-systematic model of information processing and the theory of planned behavior. The RISP model emphasizes the role of information sufficiency, channel beliefs, and perceived information-gathering capacity in shaping how individuals seek and process risk information (Griffin, 2013).

Another important framework is the conceptual model for evaluating emergency risk communication, developed in collaboration with the centers for disease control and prevention (CDC). This model outlines key constructs for assessing internal processes and outcomes of emergency risk communication, such as changes in knowledge, attitudes, beliefs, and behaviors (Seeger et al., 2018).

Additionally, the landscape of risk communication research highlights the interdisciplinary nature of the field, with roots in psychology, social sciences, medicine, and environmental sciences (Schmälzle et al., 2017). This research domain has evolved to address various applied contexts, including public health, environmental hazards, and emergency response (Goerlandt et al., 2020).

2.3 Ethical considerations in risk communication

Ethical considerations are paramount in risk communication, as the process often involves conveying information that can significantly impact individuals' lives and well-being. Ethical failures in risk communication can arise from inadequate theoretical understanding of the ethical assumptions embedded in risk discourses or from conflicts between ethical purposes, such as improving decision-making effectiveness, empowering recipients, or ensuring informed consent (Thompson, 2012).

The ethical motivation for risk communication may vary, but it generally aims to ensure that individuals are adequately informed about risks and can make decisions consistent with ethical criteria (Coyle and Gillies, 2020). Philosophical theories of ethics provide a useful framework for understanding these differences and guiding ethical risk communication practices (Thompson, 2012). Moreover, the fairness of risk distribution across social groups and the use of persuasion in risk communication are critical ethical issues (Dickmann, 2013). Communicators must strive to present information transparently and equitably, avoiding manipulation or coercion (Trakoli, 2015).

In summary, theoretical frameworks in risk communication encompass a range of models and ethical considerations that guide the effective and responsible dissemination of risk information. These frameworks help practitioners understand the complex dynamics of risk perception and communication, ultimately supporting informed decision-making and public health interventions.

3 Risk Communication Strategies and Methods

3.1 Identifying and understanding target audiences

Understanding the target audience is the first step in effective risk communication. It involves recognizing the audience's knowledge, perceptions, concerns, and beliefs about the health risks and interventions being communicated. Studies have shown that risk perception is influenced by personal experiences, cultural and social factors, and trust in information sources (Fitzpatrick-Lewis et al., 2010). For instance, the public's response to COVID-19 risk communication was shaped by factors such as immediacy, uncertainty, and trust in institutions