

Supplementary Information: Map Title, Other CSM Dimensions, Influence of Map Features on Protective Behavior.

Supplementary Results : Severtson, D. J., & Vatovec, C. (2012). The theory-based influence of map features on risk beliefs: Self-reports of what is seen and understood for maps depicting an environmental health hazard. *Journal of Health Communication*, 17(7), 836-856. [PMID: 22715919]

Additional study objectives included: (1) how map titles supported comprehension, (2) participants' comments that reflected other dimensions of cognitive representations based on the common sense model (CSM) (Leventhal, Brissette, & Leventhal, 2003) , and (3) how formats influenced intentions to test water.

Map title. Initially, the town map title was, "Percent of Test Results Over the Rhynium Drinking Water Standard" to support comprehension of exceedance rates. When explaining the title's meaning, some participants stumbled on the "percent" term. For the last interview round, the title was, "Water Test Results for Rhynium." This did not influence derived gist or comprehending exceedance rates, but did ease participants' ability to describe the title's meaning. Conclusion: Titles that promote comprehending accurate gist rather than details may improve meaningful comprehension for broad audiences.

Other dimensions of cognitive representations (Leventhal, et al., 2003): Participants' questions about rhynium reflected content pertaining to other CSM dimensions, especially about *causal* factors, health *consequences*, and how it could be *controlled* (e.g. filters). A couple of questions pertained to the *timeline* of rhynium risk, e.g. how rhynium amounts change over time and how long it would take to develop rhynium-related cancer. Many wanted information about potential *health consequences* of rhynium and several wanted to know if babies or children were more vulnerable to health effects. A few mentioned concern about potential property value *consequences* for a rhynium-contaminated well. Questions about *control* often followed questions about *consequences*. Most were generic questions about whether it could be removed with a filter or other treatment methods. Their questions support the claim that people need information about all dimensions to develop a coherent cognitive representation that informs action (Leventhal, et al., 2003). Conclusion: Judicious provision of supplementary and actionable risk information for other CSM dimensions may promote coherent understandings of and informed responses to the mapped information.

Influence of map features on protective behavior. Several commented that the town map would prompt water testing more than other displays because it conveyed a sense of urgency: "*This [town] would get people active, this [point] would get people information and people would make decisions, and this one [table] is just information and it wouldn't cause any action.*" However, most reported they would test irrespective of format, risk level, or uncertainty. Reported reasons for testing included: proximity to problem areas, uncertainty due to the random distribution of test results, the need to test for a new contaminant, and a desire to test if rhynium was an important issue. Conclusion: Further research is needed to examine how maps influence protective behavior. Actionable information such contact information for testing laboratories may foster well water testing.

References

Leventhal, H., Brissette, I., & Leventhal, E. (2003). The common-sense model of self-regulation of health and illness. In L. D. Cameron & H. Leventhal (Eds.), *The self-regulation of health and illness behavior* (pp. 42-65). London: Routledge.