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Book Review

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Book Review

Abstract

Review of the following book: ELAINE VAUGHAN, SOME FACTORS INFLUENCING THE NONEXPERT'S PERCEPTION AND EVALUATION OF ENVIRONMENTAL Risks. (Garland Pub. Co. 1990) [249 pp.] Abstract, appendices, bibliography, figures, tables. LC: 90-13855, ISBN: 0-8420-0422-1. [Cloth \$59.00. 136 Madison Ave., New York, NY 10016.]

Keywords

control, nonexpert, opinion, Risk, cognitive bias, heuristics

Erratum

The citation for this review is 3 *RISK* 173 (1992) in most commercial databases.

ELAINE VAUGHAN, SOME FACTORS INFLUENCING THE NONEXPERT'S PERCEPTION AND EVALUATION OF ENVIRONMENTAL RISKS. (Garland Pub. Co. 1990) [249 pp.] Abstract, appendices, bibliography, figures, tables. LC: 90-13855, ISBN: 0-8420-0422-1. [Cloth \$59.00. 136 Madison Ave., New York, NY 10016.]

Experts attempt to establish acceptable levels of risk, but the public may not agree. In the cases of, e.g., seat belts and condoms, nonexpert decisions ultimately control. Even in cases such as disposal of toxic waste, nonexpert decisions may control, and the need for better understanding of factors influencing nonexpert perceptions of risk is therefore compelling.

Vaughn begins, at 1, by noting that "Most studies [of those factors]... have relied on survey data and correlational analyses... that preclude the determination of interactive effects, effects that could explain apparent 'inconsistencies' that have been documented." She therefore set out to empirically test the effects of six variables: "(1) familiarity with the terms used to describe a hazard, (2) environmental persistence of a chemical, (3) personal relevance of data used to evaluate cancer-causing potential, (4) personal relevance of possible adverse consequences, (5) perceived control over exposure and (6) vividness of the exposure pathway."

In the first 50 pages, Vaughn extensively reviews the literature dealing with perception of risk. A large number of variables may have relevance to this topic, and she reviews many of them, including: personal relevance, reversibility of consequences, characteristics of exposure, familiarity, personal control, vividness, decision making for self and others, perception of hazard affecting self and others, and situational influences on perception of control.

Vaughan then describes three studies she designed and executed to determine whether the six experimenter-controlled variables listed above have an effect upon judgments by nonexperts of perceived risk,

acceptability of risk, subjective probability of negative outcomes due to exposure to a substance and perceived severity of consequences. Her methodology involved fairly standard procedures: presentation to the subjects of manipulated descriptions of chemical substances (chemical hazard profiles) with questionnaires and rating scales to measure perceptions of risk.

In Chapter 5, Vaughn summarizes her findings, relates them to previous research, and briefly addresses methodological considerations and implications for further research. Those not trained in the social sciences will find this chapter of most interest, but the discussion is likely to be more useful to professionals doing the same kind of research. The interactions among the variables Vaughan studied are complicated — so complicated, in fact, that she fails consistently to call the variables by the same names. Also, insofar as she deals with information outside her primary area of expertise (psychology), the discussion is sometimes confusing.

How much aid this work will provide — particularly to those outside of psychology — is uncertain, but Vaughn is to be encouraged. Overall, this work represents an ambitious effort to serve a laudable goal. For experts to gain acceptance of their risk assessments, they must identify relevant parameters and couch their presentations in effective language and forms that nonexperts can deal with.

Perhaps understanding will improve with further refinement and definition of variables of the type that Vaughn has studied. Yet, given the complexity she demonstrates, examination of variables such as cognitive biases and heuristics may prove more fruitful in the long run.

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