

PERCEPTION OF METEOROLOGICAL HAZARD

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Abstract

Perception of meteorological hazard is discussed and an example of the lack of hazard perception is included. This paper examines the hazard perception of a sample population in northeast Ohio and explains why perception of hazard is not accurate. Suggestions as to how this can be corrected are also discussed.

INTRODUCTION

Perception studies attempt to determine how a person perceives the physical world through mental images. Hazard perception, then, measures a mental image and perception of danger. Perception studies attempt to answer the question: How perceptive is a population of the hazards they encounter and how do they cope with that hazard? (See White, 1974) The usefulness of a perception study lies in the fact that it can measure to what degree a hazard is perceived.

Perception of meteorological hazard would be of vital interest to persons who are required to predict and disseminate hazardous or severe weather occurrences. Two conditions have to be met: (1) confidence in the forecast and (2) correct perception of the hazard. "Correct" in this case means that the danger is perceived as such.

Perception of hazard, and the public's attitude toward a severe weather warning must be positive before the warning commands the proper reaction, since it has been shown that the public does not automatically heed severe weather warnings (Martin, 1972).

The importance of "correct" hazard perception was tragically brought to the fore during the August 2, 1978 floods in Bandera, Kerr, and Kendall Counties, Texas when residents of those counties went to bed knowing that their counties were under a flood warning. A press release issued by WSFO San Antonio in 1978 stated in part: "The problem was, that they (the residents of the counties) did not feel sufficiently threatened (perception!). Previous floods that they had experienced never approached the same severity." (NWS, 1978)

How a person perceives a hazard influences, and perhaps controls, their reaction to it; for if something is not perceived as dangerous, reaction to a warning regarding it will be slow, or perhaps

ignored - either one of which is not desirable for those who have to issue the warnings.

This survey was conducted to determine how meteorological hazard is perceived by a sample population in northeast Ohio and how their perception compares with national mortality statistics for five types of meteorological hazard. The average number of annual deaths nationwide (mortality rate) was the standard used to gauge the degree of actual hazard. Although the sample population resided in northeast Ohio, the results could be applied nationwide; because the laws of statistics allow statistical results from a sample population to be applied to the universal population - if the sample population is large enough.

THE SAMPLE POPULATION AND METEOROLOGY

The sample population for this study was randomly selected. Adults 18 and older were questioned, and they represented all socio-economic levels. The educational level was greater than high school; however, some believe that this should not have biased the statistics (Burton, *et al.*, 1972).

The sampling was done by questionnaire during the spring, summer and autumn of 1978. A portion of the questionnaire is reproduced in Exhibit I.

Exhibit I. Replica of questionnaire used in perception study. Indicate by ranking (1 to 5) indicating most dangerous (1) to least dangerous (5) which of the following natural hazards you think is the most hazardous.

_____ Floods
 _____ Heat Wave
 _____ Lightning
 _____ Tornado
 _____ Winter Storm/Blizzard.

