

## Misunderstanding Homeland Security Symbols

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### Abstract

The U.S. Department of Homeland Security (DHS) recently unveiled a public education framework titled “Preparing Makes Sense. Get Ready Now” designed to inform citizens how to respond during national emergencies such as nuclear, chemical, and biological terrorist attacks. Within the framework, pictorial safety symbols are used to communicate the nature of the hazards and the behavior necessary to avoid injury. Fifty-seven participants were tested for their comprehension of 24 DHS symbols. Given the ANSI Z535.3 (2001) criterion of 85% correct, 19 of the 24 DHS pictorial safety symbols are unacceptable for communicating hazard-related information. ANSI Z535.3 (2001) also recommends that acceptable symbols have no more than 5% critical confusions, defined as incorrect answers opposite to the intended meaning. Of the 24 symbols tested here, 16 symbols had critical confusion levels above 5%. The use of human factors methodologies is discussed as a means to improve symbol design and comprehension.