Comparison of Words and Phrases Used for Categories in Risk Assessment Matrices

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Occupational safety has moved from a rule-based practice to a progression making use of risk assessments. A core assessment tool in risk assessment is a risk matrix consisting of two or three categories for assessing a hazard. This project addressed the words and used to define the categories of severity, likelihood and exposure frequency. We identified from literature 16 words for each category and created a 16-page paper survey to obtain numerical ratings of all of the words. After obtaining Institutional Review Board approval, we surveyed senior engineering design courses and an OSH senior course. These courses were selected because the students are likely to be involved in risk assessments during their career. Respondents rated each word on a 100-point rating scale. An initial quality check was performed to identify respondents who made reasonable efforts and understanding to provide a genuine rating. Data from the selected booklets were used to determine the mean and standard deviation of each word. The last phase of the analysis involved Montana Tech Occupational Safety and Health faculty with professional credentials to identify recommended word sets. We had 82 qualified survey results. The faulty meeting resulted in recommended sets of ordered words of 3, 4, 5 and 6 word-sets for severity, likelihood and exposure. For example, an exposure category we recommend a 4-word categorization of very frequent, frequent, infrequent and very infrequent with mean values of 85, 72, 23, and 15, respectively.