

# Subjective Rating of Floor Slipperiness & Slip/Fall Outcomes in a Gait Experiment

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## Abstract

Slips and falls create major burdens for both the industries and our society. A gait experiment was conducted in this study. The subject walked on a 6 m walkway with or without shoes and stepped on a tested area. The tested area was covered with one of the four floors: steel, wood, vinyl, and ceramic. The surface of the tested area might be dry, wet, or oily-contaminated. The subjective rating of floor slipperiness on the testing area was collected after the walk. The outcome of a trial was also recorded as without slip/fall, slipped without fall, or slipped and fall. It was found that the subjective ratings of floor slipperiness between the barefoot condition and shod condition were statistically significantly ( $p < 0.0001$ ) on both dry and oily floors. Chi-square homogeneity tests on the outcome of slip/fall were performed. The results showed that the distribution of slip/fall outcomes were associated with the with/without shoes conditions. More slipped and fall cases were observed when the subjects were barefooted.

Keyword : Slips & falls, perceived floor slipperiness, gait