Does Size Matter? A Comparison of Avalanche Dimensions for Recreationalists Injured/Killed or Not Injured/Killed

Dale R. Atkins

RECCO AB, Alpine Rescue Team, Boulder, CO, USA

Conventional wisdom prescribes that larger avalanches pose a more serious danger to recreationists than smaller avalanches. However, this supposition has not been studied. The objective of this research project is to compare avalanche dimensions-fracture line depth, fracture line width, and avalanche vertical fall-in events where recreationists were injured/killed or not injured/killed in the United States from 1987 to 2007. Of the 1041 reported avalanche accidents, data on avalanche dimensions was known from about 300 incidents. To compare data across the two not-normally distributed groups the Mann-Whitney Test was used. The results show the median fracture line depth ($P_{M-W} = 0.0494$) and avalanche vertical fall ($P_{M-W} = 0.0025$) to be significantly different. Remarkably, the study did not find a significant difference in median fracture line widths ($P_{M-W} = 0.3801$). While the results are of interest to avalanche educators, perhaps the most important implication of the study may deal with the training of recreationists to conduct companion rescue. Results show human-triggered avalanches to be relatively large and long running. Therefore recreationists should train in similar large search areas to become competent companion rescuers.