Insights into the ‘it depends’ quantitative explorations of the assessment expertise of mountain guides

Pascal Haegeli¹ Roger Atkins²
1. Avisualanche Consulting, Vancouver, BC, Canada; 2. Canadian Mountain Holidays, Johnsons Landing, BC, Canada

Travelling in avalanche terrain is a complex task involving continuous observation of a diverse array of factors and their integration into ‘Go – No Go’ decisions. Effective decision-making requires the skilled prioritising of one’s limited attention to the most relevant factors at the time. While modern avalanche research can offer some insights about this from slowly uncovering the secrets of the avalanche phenomenon, mountain guides have been navigating safely through avalanche terrain for centuries. Surprisingly, this comprehensive body of knowledge has largely been untouched by the scientific community. The goal of this study was to quantitatively examine the assessment expertise of mountain guides to provide advanced recreationists with tangible guidance for decision-making in avalanche terrain.

We used the controlled environment of an online survey to present participating mountain guides with a series of hypothetical but realistic combinations of field observations and terrain characteristics. In each scenario, participants were asked to assess the seriousness of the condition, how they reached their assessment and how they would approach the given slope in a guiding situation. The statistical analysis of the resulting dataset, which includes 2513 individual assessments from 63 mountain guides, reveals a comprehensive first picture of the contribution and often asymmetric importance of individual factors for the assessment process. The results clearly highlight the importance of the concept of avalanche character (Atkins, 2004) by showing distinct patterns for the different character types. The resulting statistical model of the professional assessment expertise offers a useful reference for training purposes and an important benchmark for the development and evaluation of decision aids.