

The Human Factor - The Avalanche Wildcard

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During the New Year's weekend of 2011/2012, avalanches killed 3 people. Two of these fatalities occurred in the mountains near Cooke City and the third in the Flint Range near Phillipsburg, Montana. This is more avalanche fatalities than the entire state of Montana tallied all of last season, and this season is still young. All three victims were Montana residents and were considered skilled at their respective sports.

Why do experienced skiers and riders get caught and sometimes die in avalanches?

Because we are all human and make mistakes. But if the consequences of a mistake include death, shouldn't it be easy to make the right decision?

Research suggests that the 'Human Factor' creates conditions for most avalanche accidents to occur when people with at least basic avalanche awareness are involved. Factors including familiarity of terrain, riding with a more experienced partner and social acceptance (peer pressure) play a significant if not dominant role in avalanche accidents. If snowpack instability was the sole factor driving our decision making process, avoiding avalanche hazard would be simple. If there is unstable snow then stay out of the backcountry, but the 'Human Factor' is a diverse and complex component of risk assessment and does not follow a simple, quantifiable formula.

A research study conducted by Ian McCammon reveals that familiarity of terrain has the strongest effect on avalanche trained parties. McCammon discovered that groups with advanced avalanche knowledge exposed themselves to nearly twice the hazard level of less educated groups when riding in familiar terrain, about the same level of hazard as parties with no avalanche training at all. That is, familiarity with a certain backcountry area can lead us to take chances we would not take in unfamiliar territory.

Another powerful component of the 'Human Factor' is the tendency of less experienced riders to follow a leader. Often, a specific member of a group is relied upon to make critical decisions based on their perceived experience. ***Research shows that larger groups - 3 to 10 people - with a 'perceived leader' make significantly riskier decisions than the same sized groups without a leader.*** According to McCammon, following a leader simplifies the task of complex decision making. This type of thinking - or lack thereof - can at times send the party astray. Groups who follow an individual with less backcountry experience are more likely to be involved with an avalanche incident than groups with an experienced backcountry leader.

Possibly the most powerful component of the 'Human Factor' is the desire to be noticed and accepted, more commonly known as ego. In more challenging terrain, some humans tend to fall into a competitive mentality and pushing the bar becomes more important than individual or group safety. This sort of non-thinking skews the decision making process of even the most skilled backcountry rider.

Avalanche accidents seldom occur because of a lack of information regarding weather, snowpack and terrain. The problem is how backcountry enthusiasts process this information. In order to prevent avalanche accidents and save lives, riders must gain a better understanding of the dynamics of the 'Human Factor' and how it directly contributes to avalanches. Studies continue to indicate that education and experience are the leading combatants against decision making errors. Improving situational awareness through education and training helps identify the dynamics of the 'Human Factor' and ultimately improves the safety of people in avalanche terrain.