DOCUMENT RESUME

ED 377 014 RC 019 890


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TITLE Risk Management for Wilderness Programs.
PUB DATE Nov 94
NOTE 6p.; In: Experiential Education: A Critical Resource for the 21st Century. Proceedings Manual of the Annual International Conference of the Association for Experiential Education (22nd, Austin, TX, November 3-6, 1994); see RC 019 884.
PUB TYPE Guides - Non-Classroom Use (055) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Accident Prevention; Adventure Education; Attitudes; Evaluative Thinking; Leadership; *Psychological Patterns; Risk; *Risk Management; *Safety; *Wilderness
IDENTIFIERS *Outdoor Leadership; Risk Assessment; Risk Taking



ABSTRACT

This paper discusses subjective hazards in wilderness activities and suggests means of assessing and managing related risks. Wilderness educators conveniently group hazards into objective and subjective ones. Objective hazards such as rockfall, moving water, and weather, while not necessarily predictable, are visible and understandable. Subjective hazards are harder to recognize, and represent errors in planning and leadership. Venturing into the wilderness with inadequate food or equipment or an unrealistic schedule is a planning mistake. Inappropriate or poorly understood goals and expectations, lack of flexibility, communication difficulties, inability to manage stress, distraction, indecision, and inaccurate estimation of participant abilities are errors in leadership and expedition behavior. Brief sections discuss the importance of guarding against complacency, faulty low estimates of risk, overconfidence, unrealistic goals, impatience and schedule pressures, peer pressure and competition, student misconceptions of staff infallibility, inaccurate information and assumptions, and personal and environmental distractions. Expedition leaders should also make a practice of assessing their participants for "high maintenance" people and survivors, and reading incident accounts about wilderness accidents. (SV)

# Risk Management For Wilderness Programs.

*Tod Schimelpfenig*

This lecture will present an overview of the illness and injury experience of the National Outdoor Leadership School, and relevant information about wilderness risk management incidents from other sources. We will discuss objective and subjective factors in wilderness accidents and end with some thoughts on risk management.

**Day:** Saturday
**Time:** 10:30

## Expanded Description

Summary:
This workshop will present an overview of the risk management history of the National Outdoor Leadership School, include some relevant information about risk management incidents from other sources, and discuss risk management and accident prevention with an emphasis on the field experience. Time will be allotted for discussion of the participants specific risk management concerns.

Details:
This workshop, through lecture and slide presentation, will introduce the NOLS Risk management history as presented in Wilderness Injuries and Illnesses, Annals of Emergency Medicine, July 1992. [1] I will then present additional published data to build a list of common factors in outdoor accidents, then discuss these factors as basis for a field risk management program.

Presentation goals and objectives:
-Share the NOLS risk management history.
-Describe for the participants common factors in risk management incidents in outdoor programs.
-Increase the participants awareness of strategies and specific techniques to manage these risks.
-Discuss risk management issues specific to the participants and brainstorm potential solutions.

outline:

Introduction:
-Statement of objectives, outline of scope of presentation.

Health and Risk Management Issues in Wilderness Programming

-Wilderness Injuries and Illness: the NOLS Experience
-What do we know fro other sources of wisdom and experience including:
Accidents in North American Mountaineering, the International Safety Network, the national Speological Society and the American Canoe Association.

Risk Management: Ideas from the Field
-Objective Hazards
-Subjective Hazards: accidents are human oriented

Summary: Prevention Strategies

1. Gentile DA, Morris JA, Schimelpfenig T, Bass SM,

**Subjective Hazards and Risk Management**
Every activity contains some degree of risk. It is our responsibility, as wilderness educators, to manage the risks we encounter and to help our students learn to do the same.

With this responsibility comes the temptation to ensure safety, an impossible task if we adhere to the dictionary definition of safety - freedom from harm. Nonetheless, as we chase this Quixotic windmill we develop the depth of our knowledge, and make innovations in technique and equipment, as well as guidelines, procedures and laws that guide or restrict behavior in the interests of managing risk. We set performance expectations: "No cutting your feet." We provide education to accomplish the expectations: "So and so had to be littered over the divide because he cut his toe on a rock" and "Keep your camp shoes handy." When all else fails we restrict behavior: "No barefoot swimming."

These are sensible means to make our wilderness activities healthier and more enjoyable, and to lessen the chance of our coming to harm. They pale, however, as tools to manage risk when compared to developing awareness of the human factor in accidents. In wilderness education we probe this topic every time we discuss leadership, judgment and expedition behavior, but our tendency is to back away and talk more about objective hazards - tangible, measurable dangers.

Wilderness educators conveniently group hazards into objective and subjective. The former, while not necessarily predictable, are visible and understandable. We can see and understand rockfall, avalanches, moving water, cold water, deep water, weather, animals and flashfloods. Subjective hazards are harder to get our hands around. They express our human frailty, our state of mind. Phil Powers comments that we carry subjective hazards with us into the wilderness as unseen baggage, like that smelly lost sock that lurks in the bottom of our sleeping bag, and bring them to every decision making session.

A complete list of subjective hazards would be as long as human history. It might include: errors in planning such as inadequate food or equipment or unrealistic schedules, lack of knowledge or misinformation, the goals, preconceptions and expectations we have for an activity, our flexibility or resistance to change, the quality of communication and leadership within a group, our ability to manage stress, our honesty about our abilities, our focus on the situation at hand, peer pressure, complacency, and indecision.

In the interests of time (and because I'm not foolish enough to think I fully understand human behavior) I'm going to focus on only a few of these: complacency, risk perceptions, overconfidence, goals, schedules and impatience, peer pressure, immortal staff and distractions. I hope this article stimulates conversations on this topic among staff, and with students.

**Complacency**

Complacency is a product of boredom, distraction, lack of awareness or failure to question old habits. We blunt the sharpness of our leadership edge because the uncommon has become routine or the environment appears benign. Wilderness is anything but routine. That is one of its attractions. The route may be the same, but the interaction of weather, student abilities, staff experience, equipment and a host of other factors can make the once in a century event happen today. The complacent leader may suddenly enter what safety engineers call the recognition phase, the point where you realize that this is more than a bad day at work. The recognition phase is usually accompanied by plummeting self-esteem, thoughts such as "I'm an idiot." and "How could I have done this." Consider climber Lynn Hill's unfinished figure-8 knot which resulted in a 70' fall, or the recent failure of an instructor to clip into an anchor, which resulted in a 20' fall for himself and the student being belayed. Both are examples of competent people erring in highly practiced tasks.

**Risk Perceptions**

The more routine and familiar an activity becomes, the safer it appears. Mountaineering is expected to be more controllable simply because we have more experience with it, but have the changes in technique and equipment over the years really lowered the risk? Have the consequences of extreme weather, random avalanche or rockfall, or human error changed?

If a situation is voluntary, familiar, controllable, routine, pleasant, predictable, and avoidable it is perceived as having less risk. If we have no control, if it is dramatic, dreadful, catastrophic, or difficult to mitigate, we perceive more risk. For example, our executive director and finance manager will ride their motorcycles but wouldn't think of drinking apple juice that might be tainted with Alar.

Each of us has a unique perception of the risk and dangers of an activity. An activity that may cause you only concern can be frightening for others. A task only difficult for one person is dangerous for another. Fear and anxiety from perceived high risk can interfere with our ability to perform. Conversely, the perception of low risk can engender complacency, the "I've done this before" syndrome. When the terrain allows you to move safely unroped it can be hard, yet crucial if you're the leader, to understand another's need for a rope.

**Overconfidence**
A close relative of complacency. Overconfidence is acting with an inaccurate perception of where the outside of the envelope is. I worry about this in the age where skills fast out distance experience. Anyone can climb 5.10, but can they climb a mountain? Consider the rock climbing camp graduate deciding on the wisdom of scrambling on steep slick canyon country sandstone with a recent memory of the rough grip of Split Rock granite.

We once had a student who, after a rough time on the mountain hiking section, found she was good at caving. Her desire to excel on this program, and her perception that she was proficient with the intellectual process of memorizing cave passage, motivated her to excel on the mock search, to crawl away from her partner to search an extra passage, and to try to find herself before the searchers did. She became lost and 36 hours and more than $50.000 later the efforts of over a hundred people found her.

**Goals**
We are goal oriented people in a goal oriented society. Unrealistic goals (planning errors), inconsistent goals among group members, un-articulated goals, and the inability to review goals as the situation changes all affect safety.
Well understood and articulated goals are essential for an expedition, but the power of a goal can drive us to perform actions we would reconsider in other circumstances. Abraham Lincoln said in reference to the Civil War era, "The dogmas of the quiet past are inadequate for the stormy present." I find the mountain imagery appropriate. Effective leaders are constantly checking in,
clarifying and focusing goals. Many of us would agree that objectives such as
summits, routes or timetables can be changed, while goals such as safety,
friendship and learning are timeless.

**Impatience and schedules**
If I've learned anything living in the wilderness it is that nature is very patient. The time limits we have outside the wilderness are often inappropriate and irrelevant in the backcountry. As we've often said, is it worth haste for beer, sex or a plane schedule? A NOLS vehicle accident a couple of years ago (minor injuries, bashed truck) was a classic example of schedule pressures causing us to drive faster than we should.

**Peer pressure**
On a NOLS course, after retreating from a peak climb, a fellow instructor, in front of the students, called me a wimp. The remark was partly in jest, but its pressure was strong. My obscene retort clarified the issue for all present. Don't underestimate the pressure our peers, our students and adventurers outside of the wilderness education community can place on our actions.

We're familiar with the concept of peer pressure. Let's also consider its subtle relative, positioned behavior. These are the expectations placed upon you by virtue of your position in a group that pressures you to make a decision. This is the person with medical training who is suddenly looked upon as an expert, regardless of their ability or experience. The instructor, who simply because he/she has been hired by NOLS and wears the uniform of an outdoor educator, is deemed infallible by the students, and assumes the expectations of that mantle. The desire to gain approval by living up to other's expectations is powerful. Resistance requires brutal honesty in self-evaluation, and the courage to articulate your limits.

I should also say a few words about competition. We've all heard the mantra "Competition has no place in outdoor education" but let's be honest, it rears it's ugly head every day. We compete against ourselves, against fellow staff, against the achievements of people outside the wilderness. Challenge is an essential

ingredient of growth and education, except when the competition becomes the end, and we lose sight of the process.

**Immortal staff**
In the role of the instructor we are often perceived by our students as pillars of strength, vitality and competence. We are, however, human and mortal, capable of error and susceptible to illness and injury. Instructors have fallen off routine rappel ledges, nearly died from cerebral edema, and disappeared down steep snow slopes leaving their students alone in technical terrain. We move casually on edges, perhaps not clipping in as often as we should. Accidents to staff on personal trips remind us of our limits and of a reality of our occupation.

An injured instructor wrote "Instructors who have spent time on technically demanding courses will recognize the phenomena of the 'casual day.' I have often been guilty of rigorously instilling safety awareness in my students, while telling myself that experience and sure-footedness excused me from excessive caution.
Casual day or not, exposure is exposure, and instructors, though we often forget it, are always human. I realize that I have been given a valuable lesson for a remarkably light fee."

'When I worked with juvenile delinquents I believed that displaying ease, unroped at the top of a rappel cliff, helped them to relax. Having never fallen off a cliff, I didn't know exactly where the line was that determined how far things could be pushed. I assumed I was well on the safe side of it; that nothing that felt stable and do-able to me would be truly dangerous. Now, having fallen, I can see that the line is erratic, moving nearer and farther in the same way as the canyon rim did as we contoured along, but not so visible and predictable. The line that marks what we are allowed to get away with is determined by many factors, and it isn't hard to overlook one."

**Incorrect information**
On a medical level, it is hazardous to act on incorrect information - to mis-diagnose. This can confuse a medical transport situation with a medical emergency and place everyone involved at unnecessary risk.

Acting on incorrect guidebook information, or on any erroneous assumption, is hazardous. Develop the habit of accepting nothing at face value, and question the assumptions underlying your decisions. Assess the situation at hand. I'm an advocate of access to other's experience through off-trail guides, safety incident accounts, and the tales of those who have gone before us, however, the conditions at hand may be more relevant than yesterday's advice. Relying on assumptions based on past practices rather than what we see in front of us was a factor in a flash flood near miss.

**Distractions**
In the confusion of sorting through expedition objectives, personal issues and physical needs, howling winds and trip participants clamoring for attention, we can lose sight of what is important. The questions about radar failure, single versus double hulled tankers, crew fatigue, and alcohol in the grounding of the Exxon Valdez and the oiling of Prince William Sound are intriguing, but miss the point. "The ship's captain was given the best training, paid well with five months annual vacation and generous fringe benefits for the sole purpose of ensuring that the ship would be safely operated. Any other duty was minor."

Evaluating distraction is crucial to understanding and predicting the "human component" at play in our students. Their comfort level and focus with an activity or an objective hazard determines how they will be able to function.

Evaluating distraction among co-workers is also difficult and important. Our distractions—either short term issues that develop during a course or larger issues and baggage that an instructor may bring into the field from home—need to be communicated to fellow staff to help keep the distraction from affecting our ability to manage risk.

**People Assessment**
How can we be alert to people who may be involved in accidents? Randy Udall at the Colorado Outward Bound School suggests we look at a person's health: assess stamina, grace, strength and agility. Do they get sick easily in the field? Mentally are they alert, able to problem solve actively? Look for their emotional

ability to cope, to persist, to help others. Look for survivors. Look for people who are comfortable with the unknown. Seek out your student leaders early and cultivate ,. them. You may need them.

Look out for abdicators, immortals or the disembodied. I had a student once, who after a river crossing class, casually waded a stream I thought warranted more caution. His response to my query about the consequences of swimming in rocky cold mountain rivers was "I'm not worried. It's your job to take care of me." He immediately rose to the top of my "needs supervision" list.

An asset of survivors is the ability to make up their mind, right or wrong. A wrong decision at least gives us new information, often quick information, and the solace of action. Consider who needs a lot of support (high maintenance), and who get by on their own (low maintenance). People who handle things themselves don't mind being occasionally wet, cold or hungry. People who need your support can't see the end of the activity when things get tough, they are focused on the moment, hang their heads, move slowly and say "I'm cold, I'm wet, this course sucks." These people do not seek comfort in the present situation, they seek comfort elsewhere. They look meek and fearful, and fidget over small details. Peter Goth of the Wilderness Medical Associates says these folks have the umbles: they grumble, mumble, fumble, stumble, tumble, and bumble.

You can help high maintenance people by interjecting your vitality, your caution, by role modeling specific behaviors you want emulated, and by sharing your perceptions, decisions and emotions. Extending someone's survival skills with your vitality and energy works for awhile, but when the person finally gives up ...oh my! Be careful, the strongest and most capable people have their limits. When fatigued, or compromised by cold, uncertainty or schedule changes, we all can falter and suddenly become the dreaded high maintenance person.

**Read Incident Accounts**

We don't like to hear about accidents, although we occasionally read them vicariously in Readers Digest, or secretly watch Rescue 911. What we can strive to do better is honestly discuss our decisions and accidents with others, and build an oral and written tradition that gives us the benefit of each other's experience.

Regular incident accounts are available in Accidents In North American Mountaineering, American Caving Accidents, and The River Safety Newsletter. A consistent theme in all these publications is human attitudes in accidents. Jed Williamson, editor of Accidents In North American Mountaineering, lists a number of errors in judgment as contributing to accidents: desire to please others, sticking to a schedule, inability to cope with the unexpected, mis-perceptions, fatigue, and distraction.

**Leadership**

I began this article by commenting that subjective hazards are errors in planning and leadership. Venturing into the wilderness with inadequate food or equipment or an unrealistic schedule is a planning mistake. Inappropriate or poorly understood goals and expectations, lack of flexibility, communication difficulties, inability to manage stress, distraction, indecision, and inaccurate estimation of abilities are errors in leadership and expedition behavior.

NOLS instructor Peter Chance, in an often quoted essay on sea kayaking, points out how leadership is crucial to safety. He reminds us to be watchful, decisive, flexible, patient and humble, yet not to be over cautious. He's telling us how to lead.

We already have a vocabulary with which to have conversations about leadership. We can enhance our risk management by consciously considering the impact of our/ leadership; the goals we communicate, the behavior we model, the habits we practice and instill in our students regarding safety.

As we develop leadership in our students and ourselves, consider the human factors inevitably intertwined into any accident. When we question decisions we should be acknowledging the impact of our attitudes, preconceptions, flexibility etc. on our judgments, and speak of them as easily as we speak of frost generated rockfall, rustchblock tests and the obstreperous African buffalo.

Thanks to Phil Powers, Reb Gregg, Jim Ratz and Mark Cole for their editorial comments.