BEYOND THE SLIDE: INSIGHTS FROM BENEATH THE SURFACE OF THE SNOW SAFETY INDUSTRY

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ABSTRACT: Snow safety professionals — patrollers, forecasters, guides, educators, and operational staff — work in some of the most unstable environments on Earth, carrying immense responsibility for others' safety while making rapid, high-stakes decisions in unpredictable conditions. This paper presents findings from a global study of 114 snow safety professionals across North America, New Zealand, and Europe, comparing their experiences against a broader dataset of over 2,540 respondents in other frontline roles. Using Sensemaker® narrative capture methodology, participants shared real-world examples and self-signified their experiences through a structured framework revealing patterns of culture, stress, support, and systemic risk. Results show a profession built on purpose and passion, yet strained by fatigue, moral burden, disrupted recovery, and limited organisational support. Snow safety professionals report a Net Promoter Score of −65, with 79% experiencing a sense of threat from clients, co-workers, or managers. Disrupted sleep following critical incidents is widespread. While leadership in snow safety tends toward consultative approaches, the sector lacks consistent systems for recovery, debriefing, and psychological support. The industry must strengthen recovery systems, decision-making support, and leadership capability, embedding psychological safety and organisational trust to move beyond endurance toward sustainable performance and long-term wellbeing.

KEYWORDS: snow safety, psychological safety, resilience, Sensemaker®, frontline wellbeing, decision-making

1. INTRODUCTION

Snow safety professionals — including ski patrollers, avalanche forecasters, mountain guides, educators, and operational support staff — operate in some of the most unstable and consequential environments on Earth. Whether forecasting hazards, leading clients in complex terrain, or responding to emergencies in remote alpine settings, these individuals carry a unique burden of responsibility. Their work demands rapid, high-stakes decisions in unpredictable conditions, often with limited opportunity for rest or recovery.

In 2022–23, Frontline Mind launched a global study (Snape et al., 2025) to better understand the lived experience of snow safety professionals. The goal was to bring visibility to their experiences, compare them with those of other frontline sectors, and identify opportunities for improved support, recovery, and leadership. This report distils detailed insights from 114 snow safety professionals across North America, New Zealand, and Europe, comparing them against a broader dataset of over 2,540 respondents working in other frontline roles such as ambulance, healthcare, police, social services, and correctional services.

The study reveals a profession defined by deep commitment and resilience, yet operating within systems that depend on personal endurance rather than structured recovery. Many professionals describe emotional exhaustion, disrupted sleep, and the absence of consistent mechanisms for debriefing, psychological safety, or support after critical incidents. While other frontline sectors face internal, bureaucratic pressure, snow safety professionals confront external, people-based demands — from clients, co-workers, and the unstable environments within which they operate. The complexity of decision-making amplifies the emotional toll of their work.

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2. METHODS

The study used Sensemaker®, a narrative capture application developed by the Cynefin Company based on the Cynefin framework for sense-making in complex systems (Snowden and Boone, 2007). Participants share specific stories of experience rather than presenting general sentiment. This approach is designed to reduce bias that can occur through leading questions or participants gifting positive results, giving punitive scores, or gaming the system. After sharing a work-related event, participants interpreted their own story through predesigned signifiers — questions that identify attributes such as management response, sense of threat, and sources of support.

Sensemaker® combines the compelling nature of employee narratives with quantitative pattern analysis, connecting measures of behaviour, resilience, and wellbeing with system function, leadership, and culture. Signifiers use sliders, triangles, or frequency charts designed to be balanced — either all positive or all negative sentiment. Data are aggregated across respondents to reveal patterns and themes that can then be explored through the individual stories.

Frontline Mind collaborated with professional networks, industry bodies, and operational organisations to distribute the study internationally. Promotion included targeted emails, word-of-mouth outreach, and direct contact with guiding and avalanche forecasting groups. Participants were able to choose whether their stories were shared or data only analysed in aggregate. All entries are anonymous and GDPR compliant.

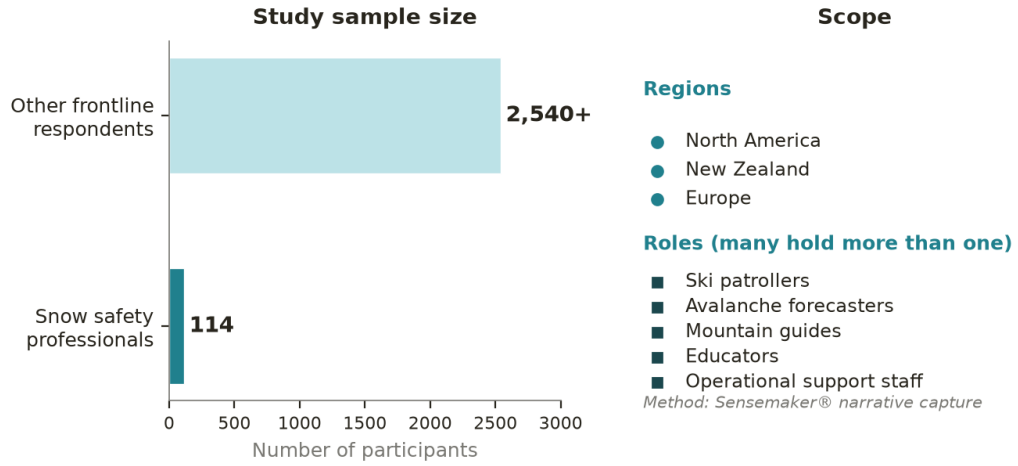


Figure 1: Participant demographics and study design. 114 snow safety professionals across North America, New Zealand, and Europe, compared against 2,540+ respondents in other frontline roles.

3. RESULTS

3.1 Sentiment and Critical Incidents

Snow safety professionals operate in extreme environments where the consequences of decision-making are immediate, often irreversible, and sometimes fatal. Relative to other frontline industries, the snow safety sector often lacks formal systems for recovery, debriefing, or psychological support. Many respondents describe carrying the burden of traumatic incidents alone, often for years.

Results are skewed toward negative sentiment, with a Net Promoter Score (Reichheld, 2003) of −65. Respondents overwhelmingly expressed negative sentiment reflecting the emotional impact of snow safety work. Many stories described experiences of loss, fatigue, and the cumulative toll of responsibility, often managed without structured organisational support:

> *"Our team lost a guide in an avalanche that took him over a cliff. This was the most significant death as it was very close and personal, ending our operations for the season."*

One participant captured the broader pattern of endurance:

"I felt like a rental tool, a highly specialized piece of equipment that instead of owning and maintaining was simply rented, then when done it is returned broken and dirty."

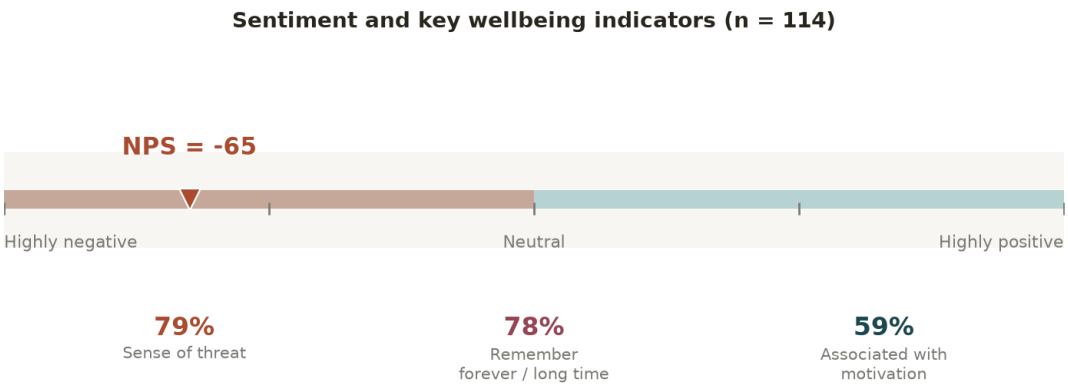


Figure 2: Sentiment distribution and Net Promoter Score (−65) for snow safety professionals, with key wellbeing indicators.

Participant narratives reveal a profession defined by high-consequence decision-making, cumulative exposure to trauma, and limited access to structured support systems. One forecaster described being caught and carried in a hard slab avalanche with a vertical fall of approximately 200 metres, partially buried by a large hard slab chunk. This was the fifth avalanche they had been caught in. Another theme is the psychological and moral weight of decision-making — some respondents shared stories of near-misses that caused them to question their judgment, while others described ethical conflicts, such as feeling pressure to operate in unsafe conditions or being overruled by management decisions made from a distance.

3.2 Sources of Threat and Psychological Safety

Psychological safety is critical for sustainable high-performance in snow safety work. Without psychological safety, there is no safety. Snow safety work involves managing both technical hazards and other people's behaviours, including variable terrain, avalanche conditions, high-consequence decision-making, and pressure from clients or teams.

Seventy-nine percent of snow safety professionals report experiencing a sense of threat. The most frequently reported source was clients, co-workers, and managers combined (26%), followed by the actions or expectations of clients (17%), co-workers (16%), and managers (13%). These findings suggest that pressures arise as much from external and interpersonal sources as from within the organisation itself.

"Having to make operational decisions in extremely remote areas with little to no resources that could have life or death implications with a high pressure client."



Figure 3: Sources of threat experienced by snow safety professionals (n = 114). Seventy-nine percent reported experiencing a sense of threat from clients, co-workers, or managers.

In contrast to frontline sectors such as policing and healthcare, where threat is most often internal — stemming from managers, organisational culture, or command structures — snow safety professionals experience threat that is external and relational. This highlights how the origin of threat shifts from systemic and managerial to interpersonal and situational across frontline contexts, requiring tailored approaches to support and psychological safety.

3.3 Leadership, Workflow, and Risk Systems

Leadership within snow safety environments leans toward consultative approaches. Most respondents indicated that decisions were made with input from others rather than driven solely by command and control, reflecting a preference for collaborative decision-making in dynamic, high-risk settings:

> *"My boss was very supportive and didn't make a big deal out of it. In fact, he saw my point of view about my decision making and was proud of me."*

However, leadership style is not consistent across the sector. Some professionals described moments when leadership became more authoritative, especially under operational pressure, linked to frustration, safety concerns, and communication breakdowns:

> *"I experienced a close call […] my direct supervisor denigrated my prior experience and noted his surprise in the quality of care I provided […] I have felt generally questioned rather than supported by this individual."*

Regarding workflow, many professionals experienced moderate friction, reflecting the real-time complexity of mountain operations. When paired with sentiment, most experiences cluster toward the negative and obstructed end, though a noticeable concentration in the negative-yet-flowing space suggests persistence and resilience — individuals working around obstacles rather than being supported by the system.

On systemic attitude to risk, the highest proportion of experiences reflects a balanced approach where risks are known, managed, and documented (33%). Data also clusters toward risks being managed (28%), while very few experiences (4%) reference documented risk without action. The limited focus on documentation means opportunities for organisational learning may be lost:

> *"Our operation had a near miss. During incident debrief, it was stated that forecast recommendations relating to the near miss were knowingly disregarded."*

3.4 Recovery, Sleep, Support, and Motivation

Disrupted sleep is common following significant events. Seventy-eight percent of respondents reported that their narrative was an experience they would remember forever or for a long time. Multiple types of sleep disturbance — struggling to fall asleep, waking during the night, or waking early — were reported, suggesting that incidents leave a lingering physiological and emotional impact:

> *"This event still haunts me and influences how I make decisions in avalanche terrain."*

Without structured support processes, professionals rely on personal coping strategies that sustain performance in the short term but contribute to fatigue and diminished wellbeing over time. The largest proportion of participants indicate using a combination of themselves and others inside the organisation (28%) or all three support systems (28%) for recovery. Accessing support primarily from outside the organisation is relatively low at 4%, possibly indicating barriers such as cost or knowledge.

Only 59% of experiences were associated with any sense of motivation. The largest cluster (43%) reflects a balance between purpose, community, and rewarding employment. The relative absence of responses focused on rewarding employment (1%) reinforces that financial recognition and career progression are not primary motivators:

> *"I felt burned out and unappreciated [...] it was the people I worked with that kept me coming back, not the organisation"*

Snow safety professionals are driven by a strong sense of purpose and community, rather than financial reward. However, when purpose or community are strained, there may be little else to sustain motivation.

System pressure (study finding)	Recommended intervention
NPS of −65; negative sentiment dominates; critical incidents carried alone	Embed structured recovery and debriefing (two-stage process)
79% experience sense of threat (clients, co-workers, managers)	Invest in psychosocial safety; enable speaking up without reprisal
Inconsistent leadership; tension between consultative and authoritative styles	Consistent and supportive leadership practices (Just Culture)
Expert bias, inattentional blindness, fatigue affecting judgment	Improve decision-making under pressure and risk
Self-reliance dominant; limited external support; 78% remember events forever	Proactive resilience training; mentorship and gradual exposure

Table 1: Key system pressures and recommended interventions for the snow safety industry, mapping study findings to priority actions.

4. DISCUSSION

The findings reveal a sector that does not suffer from a lack of endurance, but rather from a lack of proactive resilience and a structured recovery system. Snow safety professionals absorb complex emotional, operational, and moral burdens with minimal systemic support. The data consistently show that while professionalism, camaraderie, and deep commitment remain strong, the emotional tone of narratives is heavily weighted toward exhaustion, grief, and trauma.

A key distinction from other frontline sectors is the external, relational nature of operational stress. Where policing and healthcare professionals face chronic, systemic pressure from bureaucracy and hierarchy, snow safety professionals confront interpersonal and situational demands from clients, co-workers, and the mountain environment itself. This requires tailored approaches to psychological safety — open communication, leadership support, and structured debriefs designed for field-based, high-consequence work.

The consultative leadership culture in snow safety offers a model that other frontline industries could learn from. However, the inconsistency of leadership practice and the lack of documented risk processes mean that critical lessons are often lost. Strengthening documentation while preserving the adaptive capacity of field teams is essential for long-term safety improvement.

5. RECOMMENDATIONS

Based on the study findings, five priorities are identified to support snow safety professionals:

Embed structured recovery and debriefing. Effective incident recovery involves a two-stage process: a cool-down/safety check focused on immediate wellbeing, followed by a later documented operational review. Both should avoid critical incident stress debrief or exposure therapy, as the published literature indicates that outcomes are often worse than no structured recovery (Rose et al., 2002).

Invest in psychosocial safety. The essence of psychosocial safety is whether people can say “I have an uneasy feeling about…” without ridicule or reprisal. Snow safety professionals need to make conservative decisions based on intuitive sense of risk or their state of mind on the day. Promote environments where it is safe to speak up, reflect, ask for help, or challenge norms without fear of judgement.

Consistent and supportive leadership practices. Leadership in complex, evolving situations needs systems that enable action while constraining high-risk choices (change to: “high risk choices that are safe to fail"). Just Culture (Marx, 2001) provides useful guidance when considering action in the context of systems. Regardless of natural aptitude, leadership is an ever-developing commitment.

Improve decision-making under pressure and risk. The dynamic relationship between rational and intuitive decision-making takes years to develop. There is a constant tension to avoid expert bias and inattentional blindness. Self-awareness is critical, especially as seasons progress and fatigue sets in.

Proactive resilience training. Resilience is both innate and can be taught. Self-reflection, awareness of state changes, and taking personal responsibility for wellbeing are critical, supported by gradual exposure to pressure and risk in a supportive environment. More experienced leaders, coaches, and mentors can help less experienced practitioners make choices that are safe to learn from.

6. CONCLUSION

Snow safety professionals demonstrate remarkable resilience within systems that depend on personal endurance rather than structured recovery. This study of 114 professionals across three continents reveals a workforce driven by purpose and community, yet strained by fatigue, moral burden, disrupted recovery, and limited organisational support. By addressing its psychosocial demands — through structured recovery, psychosocial safety, consistent leadership, decision-making support, and proactive resilience training — the sector can move beyond endurance toward sustainable performance and long-term wellbeing. Operating in the mountains will always involve risk; addressing its psychosocial demands is both necessary and achievable.

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We are deeply grateful to the 114 snow safety professionals who took time to share their in-depth experiences. We acknowledge the courage and clarity of those who participated, and the complexity of the environments in which they operate. Their voices offer a critical perspective that is often missing from wider conversations about workplace wellbeing and safety in the outdoor industry.

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