

Accidents within outdoor climbing in England and Wales: An unavoidable risk or a consequence of neglected safety procedures?

An analysis into the causative factors behind outdoor climbing incidents in England and Wales and how we can target these from a primary prevention perspective.

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Background

As the popularity of mountain sports increases, so does the number of people becoming injured and requiring aid while in the mountains¹. For some, a near miss is enough to prompt improvements to technique and safety practices, while others are unable to recognise dangerous decision-making. To reduce the frequency of accidents, we must first understand why they occur and recognise patterns around who is becoming involved. Effective, targeted education can then be designed and delivered to ensure personal safety remains top of mind for all mountaineers while they enjoy the outdoors².

Objective

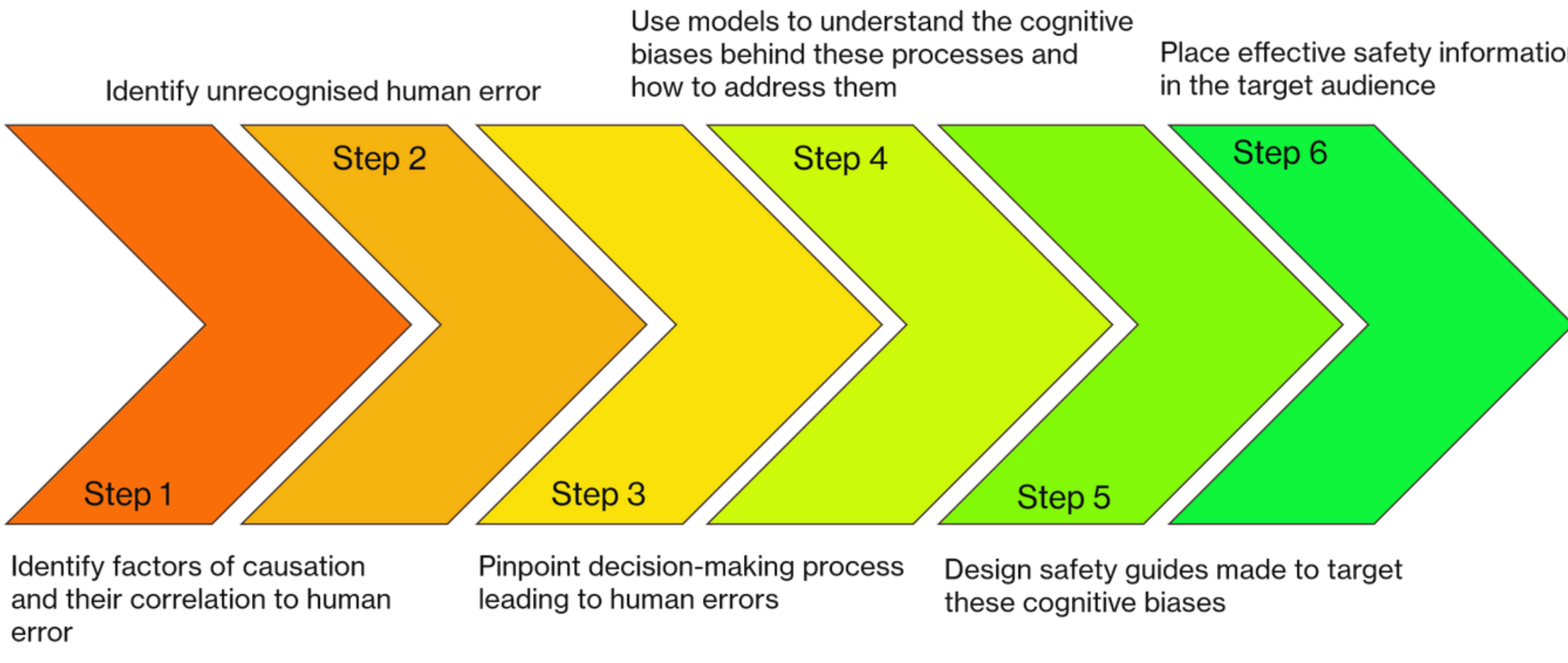
To use the self-reported data submitted to the BMC Near Miss and Incident Reporting tool³ to explore the causation behind outdoor climbing accidents and near misses in England and Wales. From this analysis, to then explore the identified themes around causation and the insight that climbers had around their own mistakes, with the aim of creating educational safety information which would target specific groups of individuals to help them improve their practice with regard to safety.

Key Findings

- 79% of the reports were submitted by somebody involved in the incident. 21% were submitted by an observer or rescuer. Of incidents reported by someone who was involved, 41% of reports suggested fault of an involved party, while this number was 72% in reports submitted by an observer/rescuer. This is statistically significant ($p = 1.9848E-4$; significant at $p < 0.01$) and may represent an insight gap where self-reporters aren't recognising how to improve their safety practice in future.
- Within the reports which showed evidence of fault but no acknowledgement of it, 3 common categories of unsafe incident nature and handling appeared (shown in the table to the right)

Methodology

The study design used for this research was a retrospective descriptive study using content analysis of incident reports. Within this project, steps 1-4 were carried out, while steps 5-6 were hypothesised for future development.



Subgroup identified	Behaviour models applicable to group	Hypothesised effective features for safety information to use to engage this subgroup
Climbers who have progressed quickly from indoor to outdoor climbing, leading to overconfidence and a poor understanding of outdoor safety practices	The Dunning-kruger effect ⁴ , the informed deliberator model ⁵	Use emotionally intense, arousing, fast-paced and explicit elements to engage this sub-group ⁶
Climbers who struggle to remember safety practices during high stress moments on the wall and act unsafely, creating potential for harm	bounded deliberator model ⁷	Consider the use of acronyms or rhymes to ensure safety information takes minimal effort to recall ⁸
Experienced climbers who have avoided coming to harm for a long period of time so have developed complacency towards safety measures	protection motivation theory ⁹ , risk normilisation ¹⁰	Target the threat and coping appraisal of the individuals ⁹

Conclusion

This research helps determine the cognition behind common causes of preventable outdoor climbing incidents. The data suggests that there are themes of commonly seen behaviour in outdoor climbing that have the potential to lead to preventable injury and incidents. To reduce the frequency of injury occurring in this sport, educational guides containing relevant safety information should be created and introduced into the relevant communities.

Going Further

To continue this project, the models connected to each of these groups of decision-making and behaviour should be used to guide the creation of safety information that is specifically designed to be engaging and available to the sub-group of climbers who are likely to carry out these risky behaviours.

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