The roles of experience, participation rates and judgment in the injury rates of weekend warriors

We challenge the conclusion in the article, "The 'weekend warrior': Fact or fiction for major trauma?" that adventure sport recreationists are at a higher risk of injury on weekends due to the compression of exercise, its resultant fatigue, and a lack of experience. It is submitted that the causes for the discrepancy in injury rates between weekdays and weekends can be attributed to increased participation rates on weekends and that incidents occur for a myriad of reasons, including risks inherent to the activities and errors in judgment, irrespective of experience level.

We welcomed the article for its interesting insight into the number of recreationists injured in various adventure sport activities on weekdays compared with weekends, but we were troubled by its neglect to account for errors in judgment and the role of participation rates in these skewed injury rates.

Notwithstanding its usage in the medical literature,[1] the term "weekend warrior" is pejorative and is generally not complementary to those who are on its receiving end. It implies amateurishness, irresponsibility and recklessness, traits not necessarily associated with those who recreate on weekends. These stereotypes are unfortunately perpetuated by the speculation that weekend warriors' higher rates of severe injury is caused by prolonged exercise beyond one's inherent exercise tolerance or a lack of experience.[2]

It is accepted that injury rates are affected by participant skill level, but it is not as simple as saying greater experience leads to fewer injuries. In its position statement on skiing and snowboarding injury prevention, the Canadian Pediatric Society properly noted that, "while injury rates have been shown to be lower for expert skiers and snowboarders compared with beginners, experts may be at risk for more severe injuries."[3] The American Orthopedic Society for Sports Medicine has similarly noted that beginner skiers have 3 times the injury rate of experts, but that their injuries are less severe than those of expert skiers, who sustain less frequent but more severe injuries.[4] While the above figures relate to skiing and snowboarding, which were excluded in the study, in light of the median injury severity score being 17 on weekdays and 19 on weekends, it ought to have been the other way around due to the weekend warriors' apparent lack of experience.

Many of the activities cited involve significant environmental hazards. Within the data presented, many of the injuries could be the result of the inherent risks of the activity. An annual summary of data regarding accidents in North American mountaineering, rock climbing, and mountain hiking found the immediate causes of the compiled accidents to be (in order) falls/slips, falling objects (i.e., rock), exceeding abilities, illness, being stranded, avalanche and anchor failure.[5] Several of these causes (i.e., falling objects, avalanche) are inherent risks of mountain travel and are unrelated to physical fitness. The remaining causes align with related work on human error in high risk sport, which finds behavioural factors, such as errors in judgment, excessive speed and lack of preparation, contribute to accidents.[6] Work on human factors identifies the complex social environment where one works or plays, with peer pressure, social proof and social identification all clouding one's judgment of one's ability.[7] The human error field has long recognized that there are many contributing factors to any single event.[8] Roberts and colleagues' conclusion regarding physical fitness is overly simplistic. We are also concerned that the conclusion that weekend warriors may be at an increased risk of injury due to the compression of weekly exercise volume into a weekend is not supported by the evidence.

The weekend warrior study did not take into account the differences in activity usage on weekdays versus weekends. While it showed that 54.8% of injuries were sustained on the weekend, it is problematic to frame the extent to which this figure is actually significant. For example, in Canada's climbing mecca of Squamish, BC, there are 53% more climbers on each day of the weekend than on any given weekday.[9] It may simply be that the reason there are more weekend warriors injured on weekends is that there are more weekend warriors recreating on weekends.

While we agree with the conclusion that weekend warriors should be aware of the risk of severe injury associated with intense and sustained weekend recreation, we believe that the reason for the increased incidence of injuries on weekends has less to do with the compression of exercise and more to do with there being more recreationists on the weekends. There should be more research into the root causes, including skill level, decision-making in uncertainty and the proper accounting of participation rates on different days of the week, before conclusions are made about weekend warriors being at a higher risk of injury.

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Author response

We thank the authors for their interest in this preliminary weekend warrior study. While we agree with many of their comments, their reference to a negative assertion associated within the term "weekend warrior" is unclear to us. We have not witnessed any particular negativity associated with this term. More specifically, many of our patients use it as a badge of honour to indicate a continued attempt at maintaining a healthy and active lifestyle in the era of long work weeks and sustained commitment to family and occupation. In fact, the term is used in a friendly supportive manner among some of our most accomplished athletes injured on the weekend (i.e., ex-Olympians).

We do agree that this work is preliminary. As previously documented in our centre's equestrian injury publications,[1,2] the only way to truly determine root cause factors remains prolonged individual patient follow-up. This is currently underway among our weekend warriors and will hopefully provide us with definitive data on skill level and decision making analyses. We look forward to presenting this data in the near future.

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Humble correspondence: gaining a foothold in the surgical literature

We enjoyed Farooq and White's essay that paints a wonderfully accurate picture of our educational world, where "rapid communications technology" rules the roost. They intelligently describe the myriad benefits of our technological age, while balancing these against drawbacks, including potential distractions.[1] However, they neglect online journals, which are now ubiquitous. Through online content, students and surgeons can instantly access and learn from articles that previously took weeks to obtain, thus hugely progressing our profession.

Telecommunication has utterly revolutionized the process of publishing research, making this established and fundamentally required practice even easier. Nonetheless, we still perceive another barrier to publication for our future surgeons, the medical students and junior doctors of today.

The blockade is rudimentary: tomorrow's surgeons simply do not know how to begin publishing. Unfortunately, universities provide inadequate guidance for writing papers, probably due to already swollen curricula, and while seniors may have confidence in our surgical future, concerns exist regarding the need to instill the significance of publishing to the next generation.[2] A thorough discourse is beyond the scope of this piece, but we wish to make some suggestions for surgeons-to-be.

An apropos place to start for first-time writers is correspondence or letters to the editor. These articles are concise opinions in response to published research or stand-alone pieces discussing topical issues or presenting research not substantial enough to warrant a full article. They may not garner as much respect as a review or an original research paper, but they are easier for juniors to write and often data-based. Going through the motions of letter publication provides juniors with important skills, such as cover letter writing, debating authorship and maintaining good academic conduct. Furthermore, they can enjoy seeing their names in print postpublication and gain the satisfaction having generated valuable debate. It is pertinent to remember that letters are opinions and thus the lowest form of evidence on the Oxford Hierarchy of Evidence; [3] as such, juniors must aim to publish more substantial articles. However, naive academic surgeons would be in a stronger position to publish more meaningful papers having gained a foothold in the literature with a humble letter and having acquired the associated skills and confidence.

It can be tricky for the inexperienced to generate appropriate material. This mnemonic might light a

SPARK of an idea:

S — Stay alert for grey areas, changing practice and controversial opinions.

P — Published papers are easily mined, critiqued or added to. Authors deeply value feedback.

A — Attempt submission. Responses are quick and constructive.

R — Revise a rejection. Tweaking is painless.

K — Keep going. If your idea is original or stimulating, it should get accepted for publication.

It is crucial that the surgical community cooperates to bolster the publishing prowess of students and juniors. This will enable a secure surgical future and potentially expand the quality of surgical research: tomorrow's surgeons will possess greater abilities having started at a foundational juncture. In the meantime, we hope fledgling surgeons take something practical from our suggestions and share our opinion of the great potential of humble correspondence.

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