

Human Performance Optimization: A Holistic Approach to Improve Wildland Firefighter Performance, Well-Being, and Safety

David P. Schary, Assistant Professor, Department Of Physical Education,
Sport & Human Performance, Winthrop University, Rock Hill, South Carolina

INTRODUCTION

To perform optimally, a wildland firefighter needs a diverse skillset. In addition to mastering firefighting tactics, the job requires a high level of physical fitness, proper nutrition, mental acuity, and self-awareness. These human performance factors are vital because, unlike other professions, failure to perform optimally in wildland firefighting can result in serious injury or death. Yet despite the job requirements and potentially fatal consequences, human performance is overlooked in wildland firefighting training.

In 2011, the Wildland Firefighter Apprenticeship Program (WFAP) began to address this gap in training with the Human Performance Optimization Course (HPO). This is a three-hour course providing a brief overview of exercise physiology, nutrition, and performance psychology. HPO expanded to a three-day course covering all elements of human performance through a variety of pedagogical methods (i.e., lectures, interactive workshops, exercise and relaxation demonstrations, small and large group activities, experiential exercises, and question and answer sessions). Currently, HPO is held each year during the first three days of WFAP's Foundational Academy. The apprentices are full time wildland firefighters and generally have less than five years of experience.

CURRICULUM AND STRUCTURE

HPO's mission is to increase understanding and application of the factors leading to optimal human performance and safety among wildland firefighters working in high risk, complex environments. To accomplish this task, instructors teach an integrated curriculum that includes exercise physiology, nutrition, performance psychology, and leadership. Although there are other leadership trainings provided by the U.S. Forest Service, HPO's approach is unique. Grounded in Authentic Leadership principals, HPO's leadership style emphasizes self-awareness and values. These concepts require mindfulness and self-compassion, topics that are often absent from other leadership training.

HPO begins with The Amazing Race, a critical component of the curriculum intended to quickly connect the apprentices and provide a foundation for the rest of the HPO curriculum. The Amazing Race—an extensive team building activity—requires small groups to work together efficiently and effectively to complete mental and physical challenges that push individuals beyond their comfort zones.

After The Amazing Race, the first two days consist of 30- to 45-minute sessions that include a variety of interactive activities, discussions, and hands-on demonstrations. The instructors and topics continually rotate throughout the day. The apprentices spend the last day of HPO in small groups, attending a series of 50-minute workshops based on the information taught

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the previous two days. The smaller group environment provides an opportunity to apply the information through discussions and activities (e.g., developing a fitness plan, calculating caloric expenditure, taking a personality assessment). Although the a key aim of the curriculum is to increase performance and safety while fighting wildland fires, the skills learned at HPO are transferable to all domains of life. This is heavily emphasized because firefighting does not occur in a vacuum; challenges and stress experienced in all aspects of life affect performance, safety and well-being on the fire line.

CHALLENGES AND FUTURE OPPORTUNITIES

Despite HPO's success and popularity among apprentices, several challenges are limiting its growth and effectiveness. First, is the length of the course. All parties agree the current three-day model is not long enough to adequately cover the curriculum. Extending or increasing HPO to four or five days would allow instructors to add supplemental information, expand on current content, and/or incorporate more interactive activities. Another option to address the length is to create an Advanced HPO to be held in WFAP's advanced academy (Core).

Second is HPO's scalability and reachability. Currently, HPO is taught at WFAP's Foundational Academy in Sacramento, CA. Expansion of HPO to other areas of the Forest Service has been discussed, but logistical and financial challenges have prevented it. The National Fallen Firefighters Foundation (NFFF) has, however, recognized HPO's value and potential for all firefighters. NFFF is actively working with HPO instructors to modify the concepts, design, and course availability for structural firefighters.

Third is a lack of instructors. The growing demand for HPO has also resulted in a shortage of qualified instructors. Instructors hold advanced degrees and

certifications in their areas of expertise, and most also have several years of wildland firefighting experience. Furthermore, they bring a contagious mix of energy and passion for the content, and firmly believe in HPO's mission. However, each instructor is also a full-time professional in his or her field, making it difficult to secure instructors for multiple HPO sessions in a single year. Therefore, more instructors must be recruited and vetted for HPO to expand beyond WFAP's Foundational Academy, but the unique combination of requirements makes them difficult to find.

The final challenge is quantifying HPO's impact on performance and safety. No long-term assessment of HPO's impact on wildland firefighter's performance, safety, and well-being has been conducted. While the apprentices continually provide overwhelmingly positive feedback, it is unknown how effective they are at implementing what they learned. It is also unknown what additional tools and/or support are needed to bolster their performance in the field. The NFFF is currently supporting the first year of a multi-year research study to answer these questions. Their support comes at a critical time, as demand grows, so does the need to quantify HPO's long-term impact.

CONCLUSION

The Human Performance Optimization Course's mission is to improve firefighter performance, safety, and well-being by empowering firefighters to think differently, train effectively, and lead compassionately. It does this through an integrated and interactive curriculum that teaches exercise physiology, nutrition, performance psychology, and leadership. By continuing to address the current challenges and expand beyond the Wildland Firefighter Apprenticeship Program's Foundational Academy, HPO will be able to help all firefighters thrive personally and professionally.