

Occupational Health and Safety in the Mahabharata: An Ethical and Historical Perspective

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ABSTRACT

This paper examines how the guidelines of the Mahabharat, an epic, help to enrich Occupational Health and Safety (OHS) mechanisms in the modern context. This research examines the types of works and core ideas of OHS, including duty of care, prevention, and moral responsibility, as mentioned in the text. The study analyses risk factors and clear rules for safety and conduct. The paper answers how the work practices, safety systems, and moral laws in the Mahabharata can help improve OHS today. It explores the epic's lessons on hazard prevention, mental resilience, and medical care, and examines their relevance in modern safety culture.

The research compares the Mahabharata with current OHS concepts, focusing on safe work practices, preventive healthcare, mental readiness, and the role of moral duty (dharma). It also reveals safety principles found in the text that can be applied to enhance modern safety systems. It examines how the leaders in the workplace discharge their role and responsibilities to protect their team members. It focuses on how one can correlate one's duty with safety and mental strength to obtain success at work. It integrates ancient wisdom with modern science to support modern safety mechanisms. It also highlights the importance of moral values in improving safety culture, offering a more comprehensive approach to protecting health and dignity at work.

Keywords: Dharma, Hazard Prevention, Medical Readiness, Mental Resilience, Occupational Health and Safety, Safety Culture

Introduction

Occupational Health and Safety (OHS) focuses on physical well-being, mental resilience, and ethical responsibility to achieve success in every field of work. Industrial-era reform and legislative progress have influenced the development of OHS; however, its core principles—such as duty of care, hazard awareness, and preventive discipline—are derived from ancient cultural traditions. The traditional values have long acknowledged the moral and practical necessity of protecting individuals in hazardous occupations.

The scripture emphasizes the crucial role of human duty (dharma) in safeguarding workers in complex and often hazardous situations. The text

portrays a diverse range of occupational roles, including warriors, healers, charioteers, artisans, and messengers. Each of them faces distinct risks and is guided by specific codes of conduct. Their different occupational roles also resonate with the core aims of contemporary safety practice: minimizing harm, promoting preparedness, and integrating ethical considerations into operational decision-making.

This study examines how the epic serves as both a cultural document and a framework for OHS principles. By reviewing the epic's occupational structures, safety protocols, mental resilience strategies, and medical ethics, it examines how

ancient wisdom can contribute to promoting a present-day safety culture. The research examines how moral and procedural guidance contribute to the development of conceptual foundations for modern occupational health. In doing so, it demonstrates that the technical requirements of the workplace alone cannot safeguard human well-being in the absence of ethical practices.

Research on Occupational Health and Safety (OHS) encompasses a broad range of disciplines, including literary analysis, historical studies, and modern safety theory. Scholars assemble around a few recurring themes that connect the epic's narratives with contemporary safety concepts. Several critics emphasize the Mahabharata's moral framework (dharma) as a foundation for hazard prevention and responsible conduct. Alf Hiltebeitel highlights the scripture's sustained focus on moral duty under dangerous conditions, presenting dharma as a safeguard for individuals and communities.¹ J. L. Brockington and Bibek Debroy focus on it by noting the rules of war that enshrine the principles of prohibiting attacks on the unarmed, mandating time-bound combat, and protecting noncombatants to control hazards.^{2,3} These policies parallel modern ethical guidelines in workplace safety. Kisari Mohan Ganguly's accounts of charioteers' stress discipline, trust, and adherence to code.⁴ Similarly, Eknath Easwaran and W. J. Johnson draw connections between Krishna's teachings and moral decision-making in moments of occupational stress.^{5,6} These works assert that ethics is both a protective and guiding force in high-risk environments.

A second group of critics highlights the epic's focus on structural developments for safety measures and hazard-control practices. P. V. Kane identifies ancient prescriptions for tool quality, fortifications, and structural design as early equivalents of engineering controls.⁷ K. K. Bhishagratna and Dominik Wujastyk examine battlefield medical readiness, emphasizing triage, sanitation, and immediate intervention as preventive measures.^{8,9} Modern OHS scholars such as Ashutosh Tewari and Antonio R. Paiva advocate for probabilistic safety assessment. Yang Wang and colleagues highlight communication efficiency in safety-critical situations.¹⁰ Both reflect practices visible in the Mahabharata's coordinated battlefield strategies. These works collectively suggest that hazard management in the epic anticipates layered safety systems in modern industry.

Another body of literature connects the epic's moral and spiritual guidance to mental health

resilience in occupational contexts. Easwaran interprets Arjuna's battlefield paralysis as a form of stress injury that is addressed through cognitive reframing.⁵ W.J. Johnson emphasizes detachment (*vairāgya*) and disciplined action (*karma-yoga*) as coping mechanisms.⁶ J.L. Brockington notes that emotional discipline is required across all high-risk roles, not only for warriors.² Bhishagratna and Wujastyk both underscore the importance of mental composure for precision work.^{8,9} James Reason and Sidney Dekker relate psychological safety to trust, adaptability, and open communication.^{3,11} C. Shamasundar's modern perspective on resilience as a cultivated, adaptive state reinforces the enduring value of the epic's mental-strength teachings.¹²

A group of scholars links the scripture's medical narratives to ethical healthcare and occupational well-being. Kaviraj Kunja Lal Bhishagratna's translations of the *Sushruta Samhita* and Wujastyk's studies of *Ayurveda* reveal classifications of occupational diseases, surgical procedures, and preventive protocols.^{8,9} Pandurang Vaman Kane underscores the healer's obligation to treat even enemies, showing a universal duty of care.⁷ Modern critic P. Saik, in his article "Cultural Dimensions in Hazard-Risk Assessment Methodology," upholds hazard-assessment frameworks in the current safety literature, aligning with this focus on prevention, readiness, and leadership responsibility.¹³ The combined work of these scholars shows that the epic embeds a preventive safety culture centuries before it became formalized in modern OHS practice.

Finally, several critics explicitly connect ancient narrative ethics with modern safety science. James Reason's systems approach and Sidney Dekker's human-error analysis provide frameworks for understanding the epic as a multi-layered safety model.^{3,11} Sasmita Samanta and Jyotiranjana Gochhayat's critique of India's construction sector¹⁴ and G. Ramachandran and Panneer Sigamani's warnings about unregulated occupational expansion illustrate modern risks that parallel the epic's cautionary episodes.¹⁵ Michael M. J. Fischer and Iavicoli et al. explore the role of ethical decision-making under uncertainty, echoing the text's portrayal of leaders who choose safety over expedience.^{16,17} These convergences demonstrate that the scripture can serve as a living case study

Methods

This study employs a qualitative research methodology that treats the epic as a cultural and occupational document, in addition to a literary masterpiece. The research is based on close textual analysis, focusing on narrative episodes that depict occupational roles, hazard-prevention measures, ethical obligations, and medical practices. These depictions are examined within their historical and cultural context. They are then systematically compared with the conceptual foundations of contemporary Occupational Health and Safety (OHS). The aim is to uncover resonances between ancient narrative ethics and modern safety science. It demonstrates that the safeguarding of human well-being is both a timeless and cross-cultural phenomenon. It examines authoritative English translations of the Mahabharata by Bibek Debroy, Kisari Mohan Ganguly, Alf Hiltebeitel, Eknath Easwaran, and W. J. Johnson as primary sources. These translations serve as the textual foundation for identifying occupational categories, role-specific hazards, and safety protocols in the epic. Findings are compared with secondary scholarship from history, ancient Indian law and medicine, safety engineering, occupational risk management, and resilience research. This dual focus preserves both the historical accuracy of the epic's practices and their modern relevance. A comparative lens shapes the research, aligning ancient ethics with today's OHS standards, including hazard identification, risk control, preventive care, leadership duty, and psychological safety. The aim is not merely to draw an analogy, but to explore how principles such as integrating dharma with safety recur across time and cultures. This method highlights universal safety values while respecting the distinct contexts of ancient and modern work.

The scripture has been extensively studied for its philosophical, ethical, and political insights; however, its systematic portrayal of occupational roles and safety practices remains largely unexplored. Existing literature often isolates specific aspects such as the rules of war and the moral teachings of the Bhagavad Gita. It fails to recognize the broader, integrated safety culture present throughout the epic. At the same time, contemporary OHS scholarship rarely engages with pre-industrial literary sources as legitimate frameworks for hazard prevention, ethical leadership, and occupational well-being. This absence creates a gap at the intersection of literary studies, history, and occupational health. The

present research addresses this lacuna by offering a comprehensive, interdisciplinary analysis that connects the ancient occupational wisdom of the epic with modern OHS theory, positioning workplace safety as both a technical discipline and an enduring ethical mandate. Industrialization, labor rights movements, and contemporary regulations continue to shape Occupational Health and Safety (OHS) standards, often disregarding moral and social norms and values. However, the epic shows that moral, procedural, and social codes contribute to protecting workers. It comprises various occupational roles, ranging from warriors and charioteers to healers, artisans, diplomats, and ascetics. It asserts that explicit duties (svadharma) and implicit safety measures govern each role. Its narratives focus on an understanding of role-specific hazards, the necessity of preventive measures, and the interdependence of ethical duty and operational safety. Examining these depictions alongside contemporary OHS theory offers a rare opportunity, drawing on the insights from a pre-industrial context. The rationale for this study is that combining ancient wisdom with modern practice can enhance occupational health and safety. For literary studies, it unveils the epic's role in occupational ethics and hazard management. For OHS, it urges to go beyond industry and rules to lasting human values and cultural safety principles. The study presents a framework that links technical skills with ethical duty, demonstrating that workplace safety reflects moral values deeply rooted in human history.

Results

The epic portrays a diverse range of occupational roles, each with its own distinct hazards and responsibilities. Battle codes (yuddha-dharma) govern Warriors (kṣatriyas) by prohibiting them from striking the unarmed, restricting combat after sunset, and mandating the inspection of weapons and armour. Charioteers (sārathis) ensure safety through route selection, equipment checks, horse management, and battlefield communication, emphasizing their interdependent role with warriors.

Healers (vaidyas) perform surgical interventions, wound care, and sanitation in hazardous conditions. They adhere to ethical duty by treating all the wounded, including enemies. Artisans and craftsmen manufacture weapons, erect fortifications, and maintain war equipment, paying attention to the proper use of tools, quality workmanship, and the reliability of structures.

Messengers and diplomats undertake perilous journeys across hostile territories, confronting risks of ambush and volatile negotiations.

The text also depicts that ascetics and sages are involved in war. However, they encounter environmental and psychological challenges, such as extreme weather, resource scarcity, isolation, and mental fatigue. Their reliance on discipline, austerity, and resilience illustrates an awareness of occupational strain beyond the battlefield.

Across all roles, the epic highlights preventive safety measures, including fortification design, signaling systems, inspections of chariots and weapons, and provision of healing spaces. Psychological readiness is also emphasized, with Arjuna's battlefield paralysis and Krishna's counsel serving as a narrative example of mental strain and recovery. The epic links occupational responsibilities with safeguards against physical and psychological risks. These results illustrate that the epic incorporates safety awareness into the very structure of occupational duties. It also presents a spectrum of physical, ethical, and psychological safeguards. The following discussion interprets these findings in relation to contemporary Occupational Health and Safety (OHS) principles, highlighting their enduring relevance.

Discussion

The scripture presents even hazardous occupations as a part of an individual's moral duties (svadharma). Every individual is assigned role-specific responsibilities and provided with safeguards to protect them. Alf Hildebeitel, in *Rethinking the Mahabharata*, emphasizes that the epic's occupational diversity allows it to explore risk from multiple social perspectives, including martial, diplomatic, artisanal, and medical spheres.¹ Warriors (kṣatriyas) face a high risk, engaging in combat under strict ethical rules. J. L. Brockington, in *The Sacred Thread*, explains that these rules—such as prohibitions against attacking an unarmed opponent or fighting after sunset—are forms of hazard minimization that maintain a balance between valor and safety.² Similarly, Bibek Debroy, in *The Mahabharata*, points out that battlefield discipline extended to weapon maintenance, armor inspection, and pre-combat drills, all of which align with modern preventive safety measures.¹⁸

The charioteers (sārathis) play a crucial safety role for both themselves and the warriors they transport. Kisari Mohan Ganguly, in *The Mahabharata of Krishna-Dwaipayana Vyasa*,

notes that charioteers have various responsibilities like route planning, equipment checks, and managing horses under extreme stress. They take essential safety measures to prevent accidents during battle.⁴ The relationship between warriors and charioteers often depends on their mutual trust. Their relationship reflects the modern concept of safety interdependence among co-workers in high-risk environments. The healers (vaidyas) play an equally crucial role on the battlefield, managing medicine and ensuring post-injury recovery. K. K. Bhishagratna, in *The Sushruta Samhita*, documents the surgical techniques, wound classification, and sanitation practices of healers, which echo the depiction of their medical care.⁸ Dominik Wujastyk in *The Roots of Ayurveda* underscores that these healers work under hazardous conditions, often in proximity to ongoing combat. They perform their duties with technical expertise and situational awareness.⁹ The charioteers and healers in the epic adhere to their workplace ethical guidelines, which protect them from potential accidents and hazards.

Artisans and craftsmen manufacture weapons, build fortifications, and maintain war equipment, even as they face hazards associated with metalwork, carpentry, and construction. P. V. Kane, in *History of Dharmaśāstra*, points out that the Mahabharat recognizes the dangers of such work and prescribes guidelines for quality control, proper tools, and safe working environments.⁷ These preventive measures resemble modern industrial safety standards for manufacturing sectors. Sasmita Samanta and Jyotiranjana Gochhayat, in *Health and Safety Practices in Indian Construction Sector*, highlight that poor training, unsafe ergonomics, lack of personal protective equipment, and weak safety culture increase risks in the Indian construction sector.¹⁴ Likewise, G. Ramachandran and Panneer Sigamani, in *Occupational Health in India: Present Scenario and Future Challenges*, warn that rapid industrial growth without integrated OHS reform often puts worker protection at risk.¹⁵ In the epic, Warriors follow battle ethics to reduce unnecessary harm, charioteers choose safe routes to prevent accidents, and craftsmen use proper tools to avoid injury. By linking safety to both rules and job responsibilities, the epic has created a structured way to prevent harm in every occupation. V. Mhalshekar, in *Occupational Health: A Foundation for Sustainable Development*, emphasizes that occupational health is foundational to sustainable development, mirroring the Mahabharata's holistic integration

of safety within societal well-being.¹⁹ Beyond the battlefield, messengers and diplomats undertake perilous journeys to deliver communications or negotiate peace. Alf Hildebeitel notes that the messengers and diplomats navigate hostile territories, encounter the threats of ambush, and deal with political volatility.¹ These duties parallel modern high-risk roles in security, peacekeeping, and crisis negotiation, where individuals confront danger and protect lives skillfully and strategically.

In the epic, ascetics and sages face environmental hazards, including extreme weather, scarcity of food and water, and encounters with wild animals in remote forests. They also endure significant psychological strain, such as long periods of isolation, rigorous self-denial, and mental fatigue. These conditions require discipline, mental resilience, and physical endurance. Eknath Easwaran, in *The Bhagavad Gita*, highlights the importance of discipline, mindfulness, and self-regulation as key roles to maintain workplace safety. He further asserts that their roles help them prevent mental strain and physical harm during prolonged austerities.⁵ The scripture focuses on an awareness of job-specific hazards and role-based safety measures to create a proper ambience in the workplace. James Reason, in *Managing the Risks of Organizational Accidents*, argues that effective safety management requires context-specific protocols rather than one-size-fits-all rules.¹¹ The epic mirrors this principle, showing that safety practices are adapted to the unique risks of each profession. Sidney Dekker in *The Field Guide to Understanding 'Human Error'* suggests that such narrative case studies offer valuable training material for cultivating adaptive thinking in hazardous environments.³ The epic blends tales of valor with rules and customs that serve as safety protocols. Alf Hildebeitel points out that the epic's code of war (yuddha-dharma) operates as a regulatory framework designed to limit unnecessary harm and maintain a degree of safety even in lethal contexts.¹ One of the most explicit protocols is the bar against attacking an unarmed opponent. J. L. Brockington, in *The Sacred Thread*, explains that this rule reduces the likelihood of enemies exploiting weaknesses and helps prevent avoidable battlefield accidents.² Likewise, Bibek Debroy observes that time-bound combat—ending at sunset—functions as a rest and recovery mechanism, reducing fatigue-related mishaps.¹⁸ The epic stresses that regular supervision and monitoring of weapons and armor are mandatory for their safety purpose. Such activities ensure regular inspection, repairs, and proper storage,

guaranteeing the reliability of their work in battle and preventing accidents. Kisari Mohan Ganguly notes that before each day's battle, warriors inspect and test their equipment to ensure reliability, much like modern preventive maintenance protocols in hazardous industries.⁴ The epic highlights the importance of the regular maintenance of chariots, as poorly maintained chariots endanger both the user and the allies in close formation. In the epic, the charioteer makes continuous risk assessments. They perform pre-run checks and select safe routes. They also control speed and balance and protect against missiles. Likewise, they maintain communication and rehearse emergency drills.

Ganguly records that skilled sārathis (charioteers) select terrain routes to reduce the risk of overturning, avoiding muddy or uneven ground that could trap wheels.⁴ These approaches parallel modern vehicle safety inspections and route risk assessments in logistics and military operations. K. K. Bhishagratna connects battlefield safety to medical readiness. He highlights the need for immediate triage areas to treat injuries before they become fatal.⁸ This principle mirrors the modern requirement of first-aid stations and rapid response teams in high-risk workplaces. Dominik Wujastyk, in *The Roots of Ayurveda*, adds that preventive health measures, such as proper hydration and a balanced diet, are recommended for those in physically demanding roles.⁹ Trained personnel can maintain safety skillfully and reduce the risk of accidents in the workplace.

In the text, fortifications and defensive structures play a crucial role in hazard management, as they protect against enemy attacks and mitigate battlefield risks. P. V. Kane asserts that ancient prescriptions for wall strength, gate security, and watchtower placement are meant to protect inhabitants and defenders from surprise attacks.⁷ These architectural safeguards can be compared to contemporary occupational safety barriers and engineering controls, which are designed to prevent harm before it occurs. In *Modeling and Mitigation of Occupational Safety Risks in Dynamic Industrial Environments*, Ashutosh Tewari and Antonio R. Paiva argue for probabilistic, data-driven safety assessments in dynamic environments, reflecting the epic's emphasis on vigilance and readiness.²⁰ Similarly, Yang Wang et al. highlight the necessity of clear, rapid communication in safety-critical contexts, akin to the Mahabharata's signaling systems.¹⁰ From a design perspective, the modern idea of Prevention through Design (PtD)—incorporating

safety into processes from the very beginning—mirrors the epic's focus on pre-emptive battle planning and thorough infrastructure checks.

In the epic, warriors follow strict codes of honor in one-on-one duels. Both must give consent before they fight. They use equal weapons and begin only when both are ready. They avoid striking an opponent who is unarmed, injured, or distracted. These rules uphold the epic's ideal that even in warfare, combat should be guided by fairness, discipline, and respect for one's opponent. Easwaran emphasizes Krishna's insistence on aligning warfare with moral law, specifically avoiding the use of prohibited weapons and deceptive tactics during war.⁵ This ethic resonates with modern regulatory bans on unsafe tools in the workplace. James Reason, in "Managing the Risks of Organizational Accidents," argues that such layered safety defenses—rules, training, equipment checks, and environmental controls—are key to preventing incidents.¹¹ The Mahabharata's approach, as Sidney Dekker suggests, shows an early understanding that safety is achieved through multiple reinforcing systems rather than a single precaution.³ Multiple approaches are required to retain safety in the workplace. Every party should follow certain norms for maintaining safety mechanisms.

The epic offers profound insight into the mental dimension of occupational health, particularly the emotional and psychological strain experienced in high-risk roles. Alf Hildebeitel notes that the epic consistently addresses the inner turmoil of its characters. It reveals how mental resilience is as critical as physical readiness in hazardous occupations.¹ The most crucial case of psychological strain occurs when Arjuna, facing his kin on the battlefield, experiences acute emotional paralysis. Easwaran interprets this moment as a form of stress reaction. The overwhelming moral and emotional weight impairs operational capacity. Krishna's response, Easwaran explains, acts as a form of cognitive reframing, helping Arjuna reconnect with his sense of purpose and duty.⁵ W. J. Johnson in *The Bhagavad Gita* points out that Krishna's teachings include mindfulness (*smṛiti*), detachment (*vairāgya*), and disciplined action (*karma-yoga*), aligning with modern occupational stress management techniques.⁶ Arjuna overcomes his mental confusion through Krishna's cognitive reframing.

J. L. Brockington, in *The Sacred Thread*, emphasizes that mental preparedness should be reserved for warriors, messengers, charioteers,

and healers, enabling them to function calmly and effectively amid danger.² The training for such roles often includes moral instruction, reflective practices, and the cultivation of inner calm. K. K. Bhishagratna underlines the importance of emotional equilibrium for physicians to enhance diagnostic accuracy and surgical performance.⁸ Dominik Wujastyk, in *The Roots of Ayurveda*, adds that mental health cannot be separated from physical well-being. A proper dietary balance, effective breathing practices, and a meditative focus are essential for maintaining psychological resilience.⁹ P. V. Kane notes that leaders in the epic demonstrate composure under duress, modeling stability for their followers.⁷ This model teaches modern organizational leaders to act as role models to boost the morale of the team and their performance. James Reason asserts that psychological safety means speaking up about concerns fearlessly for reliable operations.¹¹ The epic shows that the warriors and charioteers discuss openly the risks they face, having developed mutual trust with each other. Sidney Dekker explains that resilience is not just about enduring hardship. It is also about adapting when situations change.³ The epic reflects such capability of the characters who change strategies during battle and adjust plans to deal with new dangers, maintaining equanimity of mind even under heavy pressure.

In the story, even ascetics who stay away from battle face mental challenges, passing through loneliness, exhaustion from strict living, and resisting temptation. Easwaran observes that they remain strong through discipline and a clear sense of purpose.⁵ These lessons also apply to stressful modern jobs. C. Shamasundar in *Resilience as an Adaptive Capacity in Indian Psychology* shares a similar view, stating that mental health is an adaptive state built through planned coping methods and strong moral values. Arjuna shows this when he changes and grows under Krishna's guidance.¹² The epic shows that maintaining safety is possible only by integrating both ethical duty (*dharma*) and physical precautions. In *Rethinking the Mahabharata*, Alf Hildebeitel emphasizes that moral responsibility serves as a guiding principle for human conduct in dangerous situations. This ensures that power is used with care to protect life.¹ P. V. Kane explains that leaders and warriors in the epic adhere to their duty to safeguard both their allies and their adversaries by refraining from attacking the wounded or unarmed.⁷ This ethic parallels modern occupational safety laws that require employers to protect all workers in the workplace,

regardless of rank or status. L. Brockington observes that the code of conduct covers all jobs, from artisans to healers.² Each job has its own safety rules, which act like informal laws, making people responsible and stopping harm before it happens. Bibek Debroy, in *The Mahabharata*, notes that adherence to these moral duties often supersedes immediate tactical advantage, as seen in instances where combatants spare opponents who have lost their weapons.¹⁸ This focus on ethics mirrors the modern rule that no task is too urgent to do safely. Eknath Easwaran interprets Krishna's counsel to Arjuna as an insistence on right action (karma) - acting in alignment with one's duty while avoiding harm wherever possible.⁵ W. J. Johnson highlights Krishna's repeated emphasis on self-control and integrity. He notes that these virtues prevent reckless or negligent behavior that could endanger others.⁶ Ethical discipline thus becomes a protective mechanism in hazardous occupations. K. K. Bhishagratna links professional ethics directly to patient safety, stating that a physician who acts with compassion and diligence reduces the likelihood of medical errors.⁸ Dominik Wujastyk reinforces this point, noting that ancient Indian medical codes place moral integrity on par with technical skill for ensuring treatment safety.⁹

James Reason argues that a strong just culture, where fairness and accountability coexist, is the foundation for a robust safety environment.¹¹ The *Mahabharata* reflects this in its insistence on proportional responses to harm and in its condemnation of treachery in combat. Sidney Dekker observes that ethics shape safety decisions in moments of uncertainty, guiding individuals to choose protective actions even when immediate rules are unclear.³ Proper response to harm and ethics are required to sustain safety.

These ancient principles find echoes in modern OHS scholarship. In "Ethical Considerations in Healthcare Practice under Conditions of Uncertainty," Michael M. J. Fischer identifies weaknesses in contemporary healthcare ethics, such as fragmented moral engagement and tolerance of uncertainty, underscoring the need for personal accountability — qualities that the epic models consistently exhibit.¹⁶ Similarly, Iavicoli et al. explore the ethical dilemmas faced by occupational health professionals as they balance stakeholder interests, confidentiality, and transparency. They also emphasize that a strong moral core is essential for safety decision-making.¹⁷ In *Balancing Duty, Utility, and Virtue in Safety-Monitoring Technologies*, Ajslev et al. have

proposed the Duty-Utility-Virtue (DUV) framework for evaluating safety-monitoring technologies. The framework reinforces the enduring value of integrating moral virtues into safety governance, a practice deeply embedded in the *Mahabharata's* warfare and occupational conduct.²

The epic devotes considerable attention to medical care, disease prevention, and the healer's ethical duty to preserve life. Alf Hildebeitel points out that the presence of physicians on the battlefield and the repeated emphasis on healing reflect a broader cultural commitment to sustaining health even amidst war.¹ K. K. Bhishagratna, giving detailed surgical methods, wound classification, and sanitation practices, explains that such procedures align with the *Mahabharata's* accounts of battlefield care. Injuries are treated quickly, and healers follow strict guidelines to protect life and uphold their duty.⁸ These include cleansing wounds with herbal decoctions, using surgical instruments for the extraction of embedded arrows, and applying antiseptic pastes to prevent infection. Dominik Wujastyk emphasizes that preventive measures are as necessary as curative ones. He recommends regulating diet, maintaining hydration, and getting adequate rest to maintain resilience under strenuous conditions.⁹ These instructions parallel modern occupational health programs that address fatigue management and nutrition for workers in physically demanding roles. Bibek Debroy explains the role of the Ashvins, divine physicians, who were invited to restore critically injured warriors and return them to battle.¹⁸ Their interventions, often combined with surgical skill and restorative tonics, symbolize the integration of emergency care and rehabilitation. P. V. Kane, in *History of Dharmaśāstra*, observes that ancient Indian legal and moral codes hold healers to strict ethical standards, including the obligation to treat even the wounded enemy.⁷

J. L. Brockington explains that healers in the epic are active participants in the operational safety network. They ensure that injury does not escalate into fatality so that fighters can return to their duties with minimal long-term impairment.² Eknath Easwaran interprets Krishna's emphasis on balance and self-care as equally applicable to physical health. He suggests that sustaining the body is essential for fulfilling one's duty effectively.⁵ Similarly, W. J. Johnson, in *The Bhagavad Gita*, notes that disciplined living, moderation in diet, and regulated rest are presented as prerequisites for both mental clarity

and physical readiness.⁶ James Reason argues that preventive systems—such as regular health monitoring, safety drills, and protective equipment—are more effective than relying solely on reactive measures.¹¹ The Mahabharata reflects this logic in its insistence on preparation and readiness long before conflict begins. Sidney Dekker adds that medical readiness is part of a larger safety culture, where the health of individuals is seen as a collective responsibility.³ Such a culture fosters both physical and mental capability to meet challenges, mutual trust, and resilience. In both epic narrative and modern safety science, readiness is not a reactive measure but an ongoing embedded practice that strengthens collective approaches before crises emerge. During their exile years, they hone their martial skills, maintain physical fitness, and cultivate mental fortitude. Their overall growth

exemplifies how preparedness is built into the very fabric of survival and eventual success. This case mirrors the preventative ethos found in contemporary safety and health systems.

Conclusion

The Mahabharata emphasizes holistic approaches to maintaining occupational health and safety. It integrates both technical, moral, and psychological aspects to ensure workplace safety. Role-specific safeguards are implemented to protect warriors, charioteers, healers, artisans, and others. It stresses hazard prevention, medical readiness, and leadership responsibility. Thus, the scripture explains that the real workplace safety results from the integration of technical measures, moral responsibility, and mental resilience.

References

- Hiltebeitel A. Rethinking the Mahabharata: A reader's guide to the education of the Dharma King. Chicago: University of Chicago Press, 2001. Available from: <https://press.uchicago.edu/ucp/books/book/chicago/R/bo3646303.html>
- Brockington JL. The sacred thread: Hinduism in its continuity and diversity. Edinburgh: Edinburgh University Press, 1981. Available from: <https://doi.org/10.1515/9780748672882>
- Dekker S. The field guide to understanding "human error". 3rd ed. London: CRC Press, 2014. Available from: <https://doi.org/10.1201/9781317031833>
- Ganguly KM, translator. The Mahabharata of Krishna-Dwaipayana Vyasa. New Delhi: Munshiram Manoharlal Publishers, 1883–1896. Available from: <https://www.gutenberg.org/files/15474/15474-h/15474-h.htm>
- Easwaran E, translator. The Bhagavad Gita. Tomales (CA): Nilgiri Press, 2007. Available from: https://books.google.co.in/books?id=bcnJAAAAQBAJ&printsec=frontcover&source=gbs_ge_summery_r&cad=0#v=onepage&q&f=false
- Johnson WJ, translator. The Bhagavad Gita. Oxford: Oxford University Press, 1994. Available from: <https://archive.org/details/bhagavadgita00john>
- Kane PV. History of Dharmaśāstra (ancient and mediaeval religious and civil law in India). 5 vols. Pune: Bhandarkar Oriental Research Institute, 1930–1962. Available from: https://archive.org/details/history_of_dharmashastara_five_volumes_p_v_kane
- Bhishagratna KL, translator. The Sushruta Samhita: An English translation based on original Sanskrit texts. 3 vols. Calcutta, 1907–1916. Available from: <https://archive.org/details/englishtranslati01susruoft>
- Wujastyk D. The roots of Ayurveda: Selections from Sanskrit medical writings. London: Penguin Classics, 2003. Available from: https://archive.org/details/rootsofayurvedaselectionsfromsanskritmedicalwritingsdominikwujastykpenguin.....702_c
- Wang Y, Graziotin D, Kriso S, Wagner S. Communication channels in safety analysis: An industrial exploratory case study. J Syst Softw. 2019;153:135–51. Available from: <https://doi.org/10.1016/j.jss.2019.04.004>
- Reason J. Managing the risks of organizational accidents. Aldershot (UK): Ashgate, 1997. Available from: <https://archive.org/details/managingrisksfo0000rease>
- Shamasundar C. Resilience as an adaptive capacity in Indian psychology. Indian Journal of Psychiatry. 2022;64(4):314–20. Available from:
- Saik P, Tsopa V, Koriashkina L, Cheberiachko S, Deryugin O, Lozynskyi V. Influence of occupational safety culture on the occupational risk

- level in the organization. *Front Public Health*. 2025;13:1595869. Available from: <https://doi.org/10.3389/fpubh.2025.1595869>
14. Samanta S, Gochhayat J. Critique on occupational safety and health in construction sector: An Indian perspective. *Mater Today Proc*. 2022;80:3016–21. Available from: <https://doi.org/10.1016/j.matpr.2021.05.707>
15. Ramachandran G, Sigamani P. Occupational health and safety in India: The need for reform. *Econ Polit Wkly*. 2014;49(47):26–8. Available from: <https://www.jstor.org/stable/24481023>
16. Fischer MMJ. Urban Mahabharata: Health care, ordinary, traditional, and contemporary ethics. In: Biehl J, Petryna A, editors. *When people come first: Critical studies in global health*. Princeton (NJ): Princeton University Press, 2013. p. 252–76. Available from: <https://dspace.mit.edu/handle/1721.1/116070>
17. Iavicoli S, Valenti A, Gagliardi D, Rantanen J. Ethics and occupational health in the contemporary world of work. *Int J Environ Res Public Health*. 2018;15(8):1713. Available from: <https://doi.org/10.3390/ijerph15081713>
18. Debroy B, translator. *The Mahabharata*. 10 vols. New Delhi: Penguin Books, 2010–2014 [cited 2025 Aug 27]. Available from: <https://archive.org/download/the-mahabharata-set-of-10-volumes/The%20Mahabharata%20Set%20of%2010%20Volumes.pdf>
19. Mhalshekar V. The changing scenario of occupational health in India. *Indian J Occup Environ Med*. 2024;28(1):1–3. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11111137/>
20. Tewari A, Paiva AR. Modeling and mitigation of occupational safety risks in dynamic industrial environments [preprint]. *arXiv*. 2022. Available from: <https://arxiv.org/abs/2205.00894>
21. Ajslev JZN, Nimb IEE, Andersen MF. In the name of safety: Safety monitoring and the development of the Duty, Utility, Virtue framework for ethical consideration. *Saf Sci*. 2024;173:106448. Available from: <https://doi.org/10.1016/j.ssci.2024.106448>