Martial Arts Research and Studies (M.A.R.S.)

Academic Research, Studies and Reports in the field of Martial Arts.

Methodological report

Rethinking Protective Standards in Historical Eurpean Martial Arts:

Fair play and Self-Governed Combat as injury preventive measure in competitive fencing with minimal protective equipment.

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Abstract

Introduction: In the context of Historical European Martial Arts (HEMA), safety is typically ensured through the use of full protective equipment and the presence of external referees or judges. This paper explores an alternative approach through the Fairplay Tournament—a self-refereed HEMA event in which participants voluntarily chose either minimal or full protective gear, with fair play and technical control as central principles. During the tournament, 35 bouts were held between 10 participants without any intervention from official referees.

Results: No minor or major incidents or injuries were reported despite only the use of minimal protective equipment (fencing helmet, gorget or throat protector, and light gloves).

Conclusion: This outcome is discussed in light of the theory of risk compensation behaviour, which suggests that greater protective equipment may paradoxically lead to more injuries as it encourages reckless behaviour. The results suggest that contextual and psychological factors—such as mindset, mutual trust, and personal responsibility—may play as significant a role in injury prevention as physical protective measures. This paper therefore advocates for further research into alternative tournament formats within HEMA and martial arts more broadly, in which ethics, technical skill, and safety are combined in a balanced and meaningful way.

Keywords: Historical fencing – Historical European Martial Arts – Injury prevention – fair play - Self-referee – Tournament – Bloss Fechten

INTRODUCTION:

Historical European Martial Arts (HEMA) are a martial arts originating in (Western and Central) Europe, encompassing various fighting techniques from different historical periods, varying from ancient, medieval, early modern (renaissance), post-renaissance, Napoleonic and Victorian ears. It includes a wide range of disciplines such as striking, grappling, armed combat, using various weapons like swords, rapiers, sabres, daggers, and polearms. HEMA involves both unarmed and armed fighting, with techniques adapted to specific contexts. Modern HEMA practice seeks to replicate historical combat situations as accurately as possible. Some aspects of HEMA, such as grappling and sword fighting, show similarities to certain Eastern martial arts such as Judo and Kendo. (Green, 2001; Wauters & Vantiggelen, 2016; Wauters, 2023a, Wauters, 2023b, Wauters, 2023c Wauters & Ter Mors, 2023). In contrast to modern Olympic fencing, where strikes are typically very soft with minimal impact as the focus is on speed and precision , HEMA includes a wider range of contact levels ranging from very controlled

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non contact sparring to full-contact sparring with heavier protective equipment featuring significantly harder strikes. This gear includes helmets, padded clothing, gloves, and other protective equipment to ensure safety, especially during full-contact sparring or tournaments (Green, 2001; Wauters & Vantiggelen, 2016; Wauters, 2023a, Wauters, 2023b, Wauters, 2023c; Wauters & Ter Mors, 2023).

HEMA is highly based on historical fencing manuscripts, which document the fighting techniques of various European traditions, such as the German, Italian, and English schools of swordsmanship. This approach with historical source material makes defines Hema.

In tournaments, participants can score points through strikes, cuts and thrusts (3 wunder) with weapons or occasionally by executing grappling techniques. They are judged their performance, including timing, accuracy, and technique (Wauters, 2023a, Wauters, 2023b, Wauters, 2023c; Wauters & Ter Mors, 2023).While HEMA is generally considered safe, injuries do happen. It has a unique injury profile, often due to the specific use of weapons, with common injuries affecting the hands, shoulders, and ankles. It continues to evolve with modern protective gear and practices. (Wauters & Vantiggelen, 2016; Wauters, 2023a, Wauters, 2023b, Wauters, 2023c; Wauters & Ter Mors, 2023).

In general, three different levels of protective settings are observed: no protective equipment is used during low-intensity, technical, no- or low-impact contact training; minimal protective equipment fencing is typically practiced with a fencing helmet, light gloves, and a throat protector; and full protective equipment, in which both fencers wear as much protection as possible, including a heavy-duty fencing helmet, throat protector, heavy-duty fencing jacket, heavy-duty fencing gloves, armoured or reinforced fencing pants, groin protector, and knee and shin protection.

HEMA is growing in popularity as a martial arts discipline, with an increasing number of organized events, tournaments, and seminars worldwide. Within this context, tournaments have become an important part of practicing and testing technical skills. Most tournaments in HEMA are structured around competitive formats with external referees, strict rules, and the mandatory use of full protective equipment. Other formats include cutting contests, similar to *tameshigiri* in Kenjutsu (Kremer etal, 2008; Takeuchi 2009); play-forms, similar to kata competitions in Eastern martial arts (Green, 2001) such as Judo, Karate, and Kendo; and technical "Blöss" tournaments, characterized by a high level of technical skill, where less protective gear is often permitted (Wauters, 2023a; Wauters, 2023c).

A more recent development are self-refereed tournaments. Self-refereed sports, as practiced in disciplines such as Ultimate Frisbee (Pulido & Lystad, 2020; Amoroso et al. 2021; Amoroso et al. 2023), offer an alternative to traditionally refereed sports by placing the responsibility for enforcing and adhering to the rules directly in the hands of the players. This self-regulatory approach fosters the development of social and moral competences, including respect, honesty, self-reflection, and effective communication. In contrast to conventional sports environments with referees—where players may be tempted to test the boundaries of permissible conduct—self-refereeing entails a heightened commitment to the rules and to resolving conflicts mutually. At the heart of self-refereed sport lies the principle of Spirit of the Game (SOTG), which emphasizes fair play, sportsmanship, and mutual respect. Players are expected not only to know the rules but also to actively contribute to a positive playing environment. Ultimate Frisbee is the best-known sport in this context(Pulido & Lystad, 2020; Amoroso et al. 2021; Amoroso et al. 2023) however other sport engage in it as well. In Belgium, several soccer clubs are also known to operate in a similar manner (Bernaers, D.2024) . Several competitions in the (Belgian) Hema scene (Halebardiers, Brugge; Inviruts, Aarschot; Sumus Soldani, Mechelen.) are known to use or have been using settings that are more oriented toward fair play and self-refereeing, although detailed reports are scarce.

Aim:

In this paper, we aim to discuss a fair-play, self-refereed tournament in a round-robin format.

The objective of this paper is to conduct an injury analysis of this alternative tournament format and compare it with existing data from other HEMA tournaments. The central question is:

"Can a self-regulated tournament format with minimal protective equipment contribute to a lower injury frequency in HEMA?"

MATERIALS AND METHODS

Each participant took part in this tournament setting on a voluntary basis.

The Fairplay Tournament took place as part of a HEMA symposium (Belgian Buckler Symposium) focusing on the sword and buckler discipline, with the tournament scheduled between and after various workshop sessions. Participants could register voluntarily at the registration desk. A total of 10 participants took part in the tournament.

The format followed a round-robin structure, where participants were free to fight each other within designated time slots. Each bout ended when one fencer reached 5 points, with no time limit. The Drei Wunder techniques (strike, thrust, or cut) could be used to score points. A successful hit to the head with any of the three Wunder was worth 2 points; a thrust to the chest was also worth 2 points; and all other valid hits (strikes or cuts to the torso, or any of the Drei Wunder to another legal target area) were worth 1 point. Illegal targets (amongst others) were the groin and back of the head.

Punches, kicks, and grappling were allowed, but only to disorient or unbalance the opponent, and always had to be executed with technical control.

The matches were self-refereed, meaning that participants were responsible for reporting their own received hits. Refusing a challenge resulted in a loss for the refusing party, unless there were safety concerns or irregularities.

Participants were allowed to choose between minimal protection or full protection, as long as both fencers in a bout wore the same level of protection. Minimal protection consisted of a mask with back-of-head protection, a throat protector, and light to medium gloves. Weapon specifications were strictly defined: only blunt steel one-handed Arming swords, messer, or side swords. No sabers, rapiers or other one-handed swords were allowed. Length had to be between 90 and 110 cm and weighing 800 to 1200 grams were permitted. All swords had to have no sharp points, no burrs, and no dangerous pommels or artefacts.

Injuries were monitored through observation and self-reporting. For the purpose of this paper, an "injury" is defined as any physical harm that may require any form of medical attention.

Failure to comply with the rules or fair play principles resulted in a warning. A third warning could lead to disqualification from the tournament. Unsafe fencing actions could lead to immediate exclusion.

Before the tournament began, a briefing was held regarding the fair play and self-refereeing principles, the rule sets, tournament structure, warning system, and disqualification procedures.

RESULTS:

During the Fairplay Tournament, a total of 35 bouts were held among 10 participants, spread across various sparring sessions throughout the day. This means that not every fighter faced every other fighter. All bouts took place under the same self-refereed setting. No irregularities or unsportsmanlike behaviour were reported to the organizers. The organization did not have to intervene at any point to correct or supervise the matches. No warnings were issued.

No injuries were reported during or after the tournament. None of the participants had to withdraw early, and no first aid materials were used.

Post-event feedback from participants indicated that the intensity of fencing was high at times. However, the level of control, mutual trust between fencers, and the absence

of external competitive pressure all contributed to a safe and enjoyable atmosphere.

DISCUSSION

The tournament was organized by a Belgian HEMA fencing school during their annual symposium tournament employed a self-regulatory system in which participants were responsible for both their own scoring / refereeing and safety, as well as that of others. A round-robin, all-fight-all structure was used, in which each participant ideally would have fought at least once against every other participant. One of the most significant advantages of the round-robin format is its ranking accuracy. Compared to other tournament formats such as the Swiss system or knockout structures, round-robin consistently produces the most reliable final rankings. Additionally, the format promotes strategic consistency and sporting fairness: teams or players are encouraged to perform equally in every match, as there is no direct elimination This ongoing competition leads to a robust evaluation of skills and tactical insight (Buiteveld et al., 2014; Dagaev & Zubanov, 2022; Mendonca & Raghavachari, 2000; Lauber et al. 2022).

Nevertheless, the round-robin in large formats for high-end tournaments such as World championships etc. presents substantial operational challenges. A major point of criticism is the high organizational cost, both in terms of time and resources (Pham & Iida, 2016). With larger participant pools, the number of matches and the total tournament duration increases exponentially, leading to heightened demands on athletes, referees, and infrastructure. While large-scale round-robin formats pose structural and logistical challenges—including the complexity of scheduling matches while accounting for factors such as venue availability, travel distances in team sports, and long-duration games like soccer or tennis—the format becomes more feasible in smaller groups such as those in this tournament. In such settings, match durations are shorter, and even small groups can engage in a higher number of (fencing) bouts. It offers the opportunity to have more fights and fencing bouts with fewer participants (Buiteveld et al., 2014; Dagaev & Zubanov, 2022; Mendonca & Raghavachari, 2000; Lauber et al. 2022). Moreover, there is a risk that matches toward the end of the tournament become less competitive, especially when outcomes no longer affect the final ranking. This phenomenon may result in decreased engagement and even strategic manipulation of results (Pham & Iida, 2016).

In summary, the round-robin format provides an extremely transparent and robust framework for competitive evaluation, though it requires substantial logistical planning and resources. The decision to use this structure should always be context-specific and weighed against organizational capacity, the purpose of the tournament, and the anticipated impact on competitive behaviour.

The results of this tournament contrast with existing data from more traditional HEMA tournaments. It seems contra intuitive to state that less protective equipment in a martial arts context might lead to less injuries. Although research is ongoing and significant progress is being made, limited data currently exists on the injury profile in HEMA, making it difficult to directly compare injury statistics. However, various injury analyses—such as those published by the HEMA Alliance and several international tournament organizations—indicate that even when full protective equipment is worn, injuries remain relatively common.

One possible explanation for the difference lies in the mindset and context of the tournament. While traditional formats tend to be more competitive, with an emphasis on point-scoring, the Fairplay Tournament appeared to adopt a more technical and cooperative nature. Self-regulation and mutual trust among participants seemed to contribute to a lower level of aggression and greater control.

In traditional tournaments, time limits and external scoring often increase the pace and pressure. These factors were absent in this Fairplay format, allowing participants to adjust their rhythm and intensity independently. This likely played a role in the absence of injuries.

Several studies suggest a potential link between fair-play and self-referee settings and a lower injury risk, including in ice hockey (Roberts et al., 1996; Brunelle et al., 2005; Smith et al., 2016), handball (Langevoort et al., 2007), and youth soccer (Brito et al., 2012; Bernaers, D.2024).

The absence of injuries during this Fairplay Tournament raises important questions regarding the role of mindset, structure, and equipment in ensuring safety at HEMA events. Despite the use of minimal protective equipment, the tournament remained entirely incident-free. This appears to contrast with more conventional, strictly regulated formats, where, despite the use of full protective equipment and external referees, minor to moderate injuries are not uncommon.

A key factor appears to be the cooperative character of the Fairplay Tournament, in which participants trust one another and take personal responsibility for both safety and fairness. The self-referee structure fosters an environment where winning a bout is secondary to executing techniques correctly and maintaining control. This may result in fewer abrupt or explosive actions, which in other contexts often lead to injuries. Although this may seem counterintuitive (i.e., less protective gear, yet fewer injuries), it further supports the theory of risk compensation behavior (RCB). RCB are behavioral adaptations that influence the injury risk. The perception of being more protected might lead to behavioural adaptations (more forcefull fencing). These more dangerous behaviours might lead to an increase of injuries (Wilde,2006; Finch, 2006; Van tiggelen et al, 2008). Previous work (Wauters & Vantiggelen, 2016; Wauters, 2023c) has already demonstrated the possible presence of RCB,in HEMA.

Implementing a self-refereeing structure must be approached in a context-specific manner. In sports such as ultimate frisbee, this practice has been embedded in the culture of the game since its inception, facilitating its acceptance and effectiveness. Conversely, other highly professionalized sports may face challenges in adopting such principles due to performance pressures and their competitive nature. Nevertheless, broader cultural shifts in sport—such as increasing attention to gender equity and educational values in physical education—demonstrate the potential of self-refereed sports as a tool for positive personal and social development, especially among the youth. Ultimately, the emphasis on collaboration, shared responsibility, and mutual understanding within self-refereed sports offer a valuable counterbalance to the often polarizing dynamics of traditional elite sports. By cultivating a culture of fair play and active engagement, this approach contributes to the broader educational and societal role of sport (Pulido & Lystad, 2020; Amoroso et al. 2021; Amoroso et al. 2023).

Limitations.

Of course, this observation and report also has its limitations. Firstly the set up. For fair play and self-refereed systems, every participant has to agree on this mindset and follow the rules. If only a few people do not follow the setting of fair play other participants might lose their motivation as well. Secondly there is the minimal protective equipment. In order to keep fencing safe at high intensities, as was done in this tournament, participants have to maintain control over their actions and be able to end, stop or redirect a certain action when they consider it unsafe. Technical and tactical aspects and skills thus have to be of a certain level before people can participate in such a tournament. Trust is another issue. If people do not trust the setting of fair play, or do not trust that the other participants will fence safely, people will not be likely to participate. Further, the sample size is very small (n = 10), and the number of bouts relatively limited (n = 35), making it difficult to generalize the findings. Additionally, some injuries—such as minor bruises or strains—may not have been reported or may have been underreported. Data collection relied exclusively on self-reporting and observation, without a standardized evaluation of physical strain. The tournament took place in a highly amicable and friendly atmosphere, which did not replicate the "high-stakes" conditions typical of other conventional tournaments.

Nonetheless, this tournament suggests that safety in HEMA is not solely dependent on physical protection, equipment or external control mechanisms, but that the social and psychological context plays a crucial role as well.

The Fairplay model may therefore warrant further investigation, potentially in combination with larger datasets or controlled experimental designs.

CONCLUSION

A most important outcome of this tournament was the complete absence of injuries, despite the use of minimal protective gear and high intensity fencing bouts. This finding contrasts with data from traditional HEMA tournaments, where both minor and serious injuries are regularly reported. The results suggest that a tournament format grounded in fair play, self-regulation, self-refereeing, and technical control may offer a viable and safe alternative to conventional competitive formats. This underscores the potential of alternative structures within HEMA, where safety, pedagogical goals, and mutual respect between partners are prioritized.

This was a combined setting in which minimal equipment fencing was integrated with fair play principles and a self-refereed framework. Future research involving larger participant pools and more standardized observation methods—ideally including control groups—is needed to further substantiate these preliminary findings.

Nonetheless, this setting provides a valuable contribution to the ongoing discussion on safety and tournament design within the HEMA community.

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Conflict of interest

No conflicts of interest are present.

Founding

There was no founding for this work.

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