ARCHIVES OF BUDO
Journal of Innovative Agonology

e-ISSN: 1643-8698

Section: ***SPORT SCIENCE & SPORT MEDICINE FOR HEALTH*** *Original Paper*

Changes in the structure of men's match outcomes following the 2025 International Judo Federation Rule changes

Sylwester Gaweł[1ABCDE], Arkadiusz Stanula[2ABC], Łukasz Rydzik[2CD], Tadeusz Ambroży[2CD], Paweł Adam Piepiora[3CD], Marta Niewczas[4DE]

[1] Polish Judo Federation, Warszawa, Poland
[2] University of Physical Education in Kraków, Kraków, Poland
[3] Wroclaw University of Health and Sport Sciences, Wrocław, Poland
[4] University of Rzeszów, Rzeszów, Poland

*** Correspondence authors:** Paweł Adam Piepiora, Wroclaw University of Health and Sport Sciences, 51-612 Wrocław, Poland; e-mail: pawel.piepiora@awf.wroc.pl

Authors' Contribution:

A Study Design
B Data Collection
C Statistical Analysis
D Manuscript Preparation
E Funds Collection

Received: 12.08.2026
Accepted: 20.09.2026
Published: 22.09.2026

Abstract:

Background and Study Aim: In 2025, the International Judo Federation (IJF) introduced amendments to the competition rules. The main points of discussion concerned the reintroduction of the *yuko* score and modifications to the interpretation of selected technical situations and penalties. Therefore, the cognitive aim of this study was knowledge about the structure of men's contest outcomes at the 2024 and 2025 World Judo Championships, held respectively before and after the implementation of the IJF rules introduced for 2025.

Material and Methods: A source-material analysis was conducted. Data from 683 matches contested at the 2024 World Judo Championships in Abu Dhabi (n = 368) and the 2025 World Judo Championships in Budapest (n = 315), across all seven men's weight categories, were retrospectively analysed. The method of match termination, the category of the decisive outcome leading to victory, and the contribution of scoring technical actions performed in vertical posture (*tachi waza*) and horizontal posture (ne *waza*) were assessed. Associations were analysed using the chi-square test, and effect size was quantified using Cramér's V.

Results: The proportion of matches decided by technical actions increased from 74.7% to 87.0%, whereas the proportion of matches decided by penalties decreased from 22.8% to 12.4% ($\chi^2(2) = 16.91$; $p<0.001$; $V = 0.16$). The distribution of victory categories changed significantly ($\chi^2(4) = 111.39$; $p<0.001$; $V = 0.40$). In 2025, *yuko* accounted for 22.2% of victories, accompanied by a decrease in the proportion of intermediate-score outcomes and penalty-based victories. The change in the relative contribution of *tachi-waza* and *ne-waza* actions did not reach statistical significance after continuity correction ($p = 0.057$).

Conclusions: The new rules were primarily associated with changes in the scoring structure of match outcomes and a lower proportion of victories decided by penalties, without a clear shift in the relative contribution of *tachi-waza* versus ne *waza*) actions.

Keywords: combat sports, ippon, golden score, shido; waza-ari. World Judo Championships; yuko

Glossary:

International Judo Federation (IJF) – the official world governing body for the sport of judo. Founded in July 1951, it currently brings together more than 200 national federations from all continents [28].

Kodokan – the oldest, largest, and most prestigious judo school in the world. Founded by Jigoro Kano in 1882, it serves as the principal historical and technical reference point for the classification of judo techniques [29].

1. Introduction

Judo is a sport in which competitive performance depends on the interaction of technical, tactical, and physical preparation [1]. A contest may be won through an effective technical action performed in *tachi waza* or *ne waza* situations, by maintaining a scoring advantage until the end of regulation time, or as a result of the opponent receiving a third penalty or a direct disqualification [2]. Accordingly, any modification to the scoring and penalty systems alters the tactical incentives governing contest behaviour and may indirectly affect training organization and risk-management strategies during competition.

The International Judo Federation (IJF) regularly revises its competition rules following the completion of an Olympic cycle. Changes introduced in previous years have included restrictions on grips below the belt, modifications to the scoring system, a reduction in men's contest duration, changes in the number of penalties leading to disqualification, and revisions to the *golden score* rules [3]. Studies comparing successive regulatory periods have shown that the effects of these changes have not been uniform [4]. In some tournaments, shifts in the relative proportions of scores and penalties have been observed [5], whereas in others, no clear changes have been reported in the number of attacks, attack effectiveness, or contest duration [6, 7]. These findings indicate that the consequences of rule modifications should be evaluated within the context of specific competitions and on the basis of precisely defined performance indicators.

Under the rules introduced in 2025, *yuko* was reinstated as a technical score. In vertical posture (tachi waza) combat, *yuko* may be awarded for an action that meets 'a lower scoring threshold' than *waza-ari*, whereas in *ne-waza* it may be awarded for maintaining *osaekomi* for 5 to less than 10 s. The revised rules also introduced changes concerning the use of the head during throwing actions, grips around the belt and upper-thigh region, the time allowed to initiate an attack after establishing grabbing judogi (*kumi-kata)*, interpretation of the *bear hug*, leaving the contest area, and the recognition of positive activity in *ne-waza* [2]. The Paris Grand Slam 2025 was the first major international tournament at which these regulations were implemented. The World Judo Championships in Budapest subsequently represented the most important championship-level event during the early phase of the new regulatory period.

Previous studies have shown that the method of contest termination, the timing of scoring actions, and the number of *shido* (warnings given to judo athletes for minor offenses) penalties are associated with tournament phase, sex, and weight category [8-11]. A high proportion of *ippon* scores remains characteristic of contests concluded before the end of regulation time [10], whereas penalties tend to play a greater role in longer contests and during *golden score* [11]. At the same time, *nage-waza* techniques numerically predominate among scoring actions [12], although *katame-waza* may be particularly important for the immediate termination of a contest [13]. Moreover, weight categories differ in contest pace, attack profiles, and preferred technical-tactical solutions [14-16].

Therefore, the cognitive aim of this study was knowledge about the structure of men's contest outcomes at the 2024 and 2025 World Judo Championships, held respectively before and after the implementation of the IJF rules introduced for 2025.

Golden score – an overtime period in competitive judo used when a contest remains tied at the end of regulation time. It has no fixed time limit and continues until one athlete obtains a technical score (waza-ari or ippon) or the opponent receives a decisive penalty (hansoku-make) or gains a disadvantage through accumulated shido penalties [30].

Bear hug – also known as a body lock, a two-arm encirclement of the opponent's torso with the hands clasped together without gripping the judogi. It is prohibited when used as a direct body-to-body attack without first establishing a grip [31].

Ne-waza (prone techniques), a related concept is that of **katame-waza** (grappling techniques) – judo techniques executed from a horizontal posture: *osaekomi-waza* (pinning techniques), *shime-waza* (strangle technique), *kansetsu-waza* (joint holds).

Tachi-waza – judo throwing techniques executed from a standing position. These include *te-waza* (hand techniques), *koshi-waza* (hip techniques), and *ashi-waza* (foot and leg techniques) [32], including also sub classification *sutemi-waza* (rear-fall and side-fall judo throws; synonym – "dedication throws").

Waza – a technique or movement which is based on a standard form and is used to challenge and defeat the opponent [32].

Ippon – one point. Achieved through the execution of a valid technique on the opponent [32].

Waza-ari – A jūdō term for a technique that cannot be regarded as full ippon, but is very close [32].

Mate – means 'wait' or 'stop'; it is a command voiced loudly by the mat referee (who oversees the bout) to immediately interrupt the fight and pause the round timer.

A judogi – is a specialized outfit designed for practicing judo.

2. Materials and Methods

Study Design

A source-material analysis was conducted to retrospectively examine contest data from two consecutive Senior World Judo Championships: Abu Dhabi 2024 and Budapest 2025. These tournaments were selected because they were competitions of the same rank held immediately before and after the implementation of the rule changes. For analyses concerning the method of contest termination and final outcome, the unit of analysis was an individual contest. For the analysis of technical orientation, the unit of analysis was a recorded scoring technical action. The following outcomes were assessed: (1) the proportion of contests decided by technical actions, penalties, or other outcomes; (2) the distribution of outcome categories determining victory, including *yuko*; (3) the distribution of scoring *nage-waza* and *katame-waza* (see dictionary term: *ne-waza*) actions; and (4) differences in these changes across weight categories. It was hypothesized that the reintroduction of *yuko*, together with concurrent changes in rule interpretation, would be associated with a redistribution of contest outcomes, primarily through the introduction of an additional scoring pathway for deciding contests and a reduction in the proportion of victories determined by penalties.

Study material

The dataset included all available men's judo contests across the seven weight categories: −60, −66, −73, −81, −90, −100, and +100 kg. The final dataset comprised 683 contests, including 368 contests from the 2024 World Judo Championships in Abu Dhabi and 315 contests from the 2025 World Judo Championships in Budapest. The analysis focused exclusively on contest outcomes rather than individual athlete characteristics. No data allowing identification of individual participants were used.

Data sources and coding procedure

All data included in the analyses were obtained from the JudoManager and JudoBase systems, which are used for the management and archiving of tournament events. Technical and refereeing events were imported from electronic scoreboards and subsequently tagged in real time by two trained specialists according to the IJF classification system. Ambiguous situations were discussed with an expert with expertise in Kodokan technical nomenclature. Following each competition, the data were checked for consistency, category labels were standardized, and the records were aggregated to the level required for the respective unit of analysis. In the present study, expert consultation was used solely to resolve classification ambiguities and did not constitute a formal assessment of refereeing compliance with the competition rules.

Variables and outcome recoding

The first domain concerned the method of contest termination: technical decision, penalty-based decision, or other outcome. Technical decisions included victories resulting from scoring judo actions. Penalty-based decisions included victories resulting from the opponent receiving a third *shido* or *hansoku-make* (fight lost due to disqualification). The 'Other' category included rare formal outcomes such as *fusen-gachi* (when an opponent fails to appear for the contest within the designated time or does not appear at all) and *kiken-gachi* (when an opponent withdraws during the contest, withdraws from further participation in the competition, or is unable to continue after the contest has begun, for example because of injury).

The second domain was the decisive outcome leading to victory. Because of the small frequencies in some original categories, the initial classifications were combined into five groups: High (*ippon*), Medium (*waza-ari* and *waza-ari-awasete-ippon*) – ***awasete*** – 'putting together' / 'in total', Low (*yuko*), Penalty (third *shido* or *hansoku-make*), and Other. This recoding was performed for analytical purposes to enable comparison of outcome distributions between the two scoring systems; the terms 'High', 'Medium', and 'Low' do not represent official IJF classifications.

The third domain concerned the technical orientation of scoring actions: *nage-waza* (throwing techniques) and *katame-waza* (including *osaekomi-waza*, *shime-waza*, and *kansetsu-waza*). Because more than one scoring event could be recorded within a single contest, the number of observations in this domain exceeded the total number of contests (Figure 1).

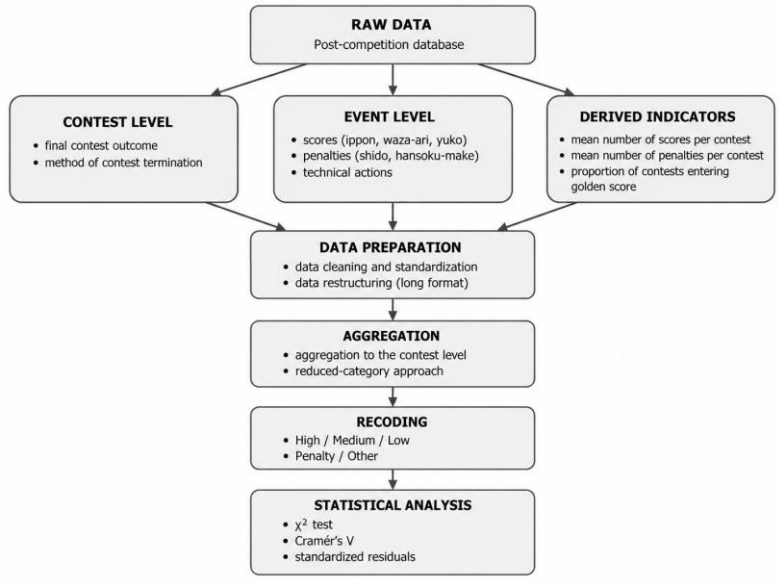


Figure 1. Data-processing workflow from the event registry to the final analytical dataset

Statistical analysis

Categorical variables were presented as frequencies and percentages. Differences between tournaments were additionally expressed in percentage points. Associations between competition year and the distribution of outcome categories were assessed using Pearson's chi-square test. For the 3 × 2 contingency table concerning *nage-waza* and *katame-waza*, Yates' continuity correction was applied. Cells contributing to a significant association were identified using adjusted standardized residuals; absolute values of at least 1.96 were considered indicative of a deviation from the expected frequency [17].

The strength of association was quantified using Cramér's V. Values of 0.10, 0.30, and 0.50 were interpreted approximately as small, moderate, and large effects, respectively, while taking into account the number of categories and the context of the analysis [18]. A two-sided significance level of $\alpha = 0.05$ was adopted. Statistical analyses were performed using Statistica software, version 13.3 (StatSoft, Krakow, Poland).

3. Results

Structure of contest outcomes

The distribution of contest termination methods differed significantly between 2024 and 2025 ($\chi^2(2) = 16.91$; $p<0.001$; $V = 0.16$). In 2024, 74.7% of contests were decided by technical actions, whereas 22.8% were decided by penalties. In 2025, the corresponding proportions were 87.0% and 12.4%, respectively. The absolute number of technically decided contests was almost identical in the two tournaments (275 vs. 274); however, the lower total number of contests and the marked reduction in penalty-based outcomes increased the relative proportion of technical victories in 2025 (Table 1).

Adjusted standardized residuals indicated an overrepresentation of penalty-based outcomes in 2024 ($z = 3.54$) and technical outcomes in 2025 ($z = 4.02$). The "Other" category did not contribute significantly to the observed association ($|z| = 1.87$).

Table 1. Distribution of contest termination methods in men's contests in 2024 and 2025.

Year	Technical, n (%)	Penalty-based, n (%)	Other, n (%)	Total
2024	275 (74.7)	84 (22.8)	9 (2.4)	368
2025	274 (87.0)	39 (12.4)	2 (0.6)	315

$\chi^2(2) = 16.91$; $p<0.001$; Cramér's $V = 0.16$

Category of the decisive outcome leading to victory

When all final outcome categories were considered, a marked redistribution in the structure of victories was observed ($\chi^2(4) = 111.39$; $p<0.001$; $V = 0.40$). The most prominent change was the introduction of *yuko*, which accounted for 22.2% of decisive outcomes in 2025. At the same time, the proportion of Medium outcomes decreased from 40.2% to 23.8%, while the proportion of penalty-based victories decreased from 22.8% to 12.4%. The proportion of victories classified as High (*ippon*) increased from 34.5% to 41.0% (Table 2).

These findings do not indicate a simple replacement of *ippon* by *yuko*. Rather, the data suggest a broadening of the range of scoring outcomes by which contests were decided. The newly introduced category appears to have accounted primarily for part of the proportion previously represented by *waza-ari*, *waza-ari-awasete-ippon*, and penalty-based outcomes (Figure 2).

Table 2. Distribution of recoded categories of the decisive outcome leading to victory.

Categories	2024, n	2024, %	2025, n	2025, %	Change (pp)
High (*ippon*)	127	34.5	129	41.0	+6.5
Medium	148	40.2	75	23.8	−16.4
Low (*yuko*)	0	0.0	70	22.2	+22.2
Penalty	84	22.8	39	12.4	−10.4
Other	9	2.5	2	0.6	−1.9

$\chi^2(4) = 111.39$; $p<0.001$; Cramér's $V = 0.40$; pp – percentage points

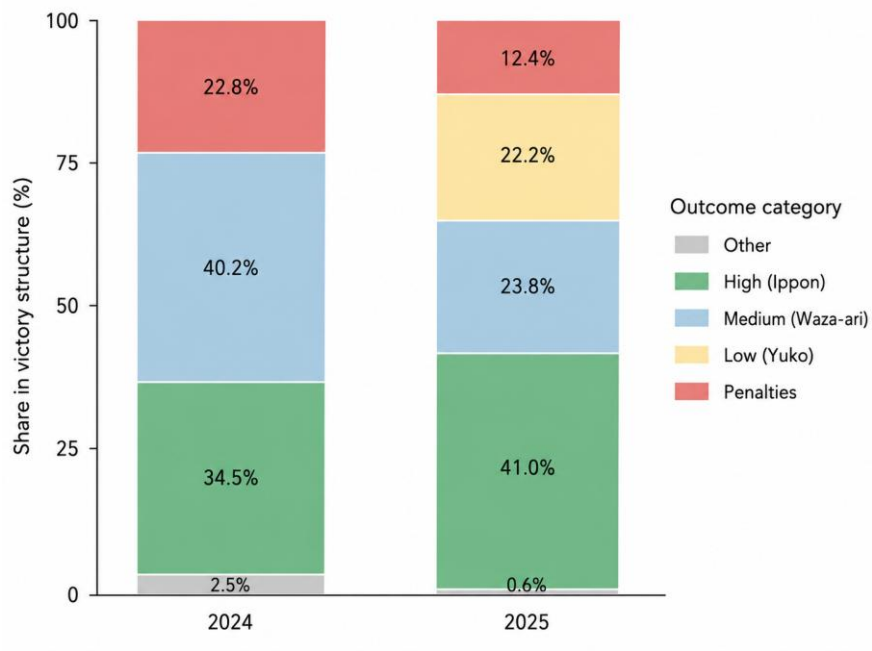


Figure 2. Distribution of categories of the decisive outcome leading to victory in 2024 and 2025.

Technical orientation of scoring actions

In both tournaments, scoring *nage-waza* actions predominated. Their proportion increased from 81.2% in 2024 to 86.3% in 2025, whereas the proportion of *katame-waza* actions decreased from 18.8% to 13.7%. After applying Yates' continuity correction, the difference did not reach statistical significance ($\chi^2(1) = 3.63$; $p = 0.057$; $V = 0.07$). The effect size was small; therefore, this finding should be interpreted as a trend rather than evidence of a substantive change in the overall relationship between *tachi waza* and *ne waza* actions (Table 3).

Table 3. Technical orientation of recorded scoring actions.

Year	*Nage-waza*, n	*Nage-waza*, %	Katame-waza, n	Katame-waza, %
2024	336	81.2	78	18.8
2025	353	86.3	56	13.7

Chi-square test with Yates' continuity correction: $\chi^2(1) = 3.63$; $p = 0.057$; Cramér's $V = 0.07$

Changes across weight categories

Victories by *yuko* were observed in all weight categories, while the proportion of penalty-based outcomes decreased across categories. The largest increases in the proportion of *yuko* victories were recorded in the −90 kg (+36.0 pp) and −60 kg (+33.3 pp) categories. The decrease in Medium outcomes was particularly pronounced in the −100 kg (−30.1 pp) and −73 kg (−20.5 pp) categories. The largest increases in the proportion of *ippon* victories were observed in the −100 kg (+23.7 pp), −66 kg (+15.3 pp), and +100 kg (+10.9 pp) categories, whereas in the −90 kg category the proportion of *ippon* victories decreased by 13.1 pp.

Significant associations were observed in five of the six weight categories for which the test could be estimated reliably, and the Cramér's V values generally indicated moderate to large effect sizes (Table 4; Figure 3). In the −90 kg category, the presence

of empty cells or cells with very low frequencies precluded reliable application of the test in the specified form. In the +100 kg category, the direction of change was consistent with the overall pattern, although the association was not statistically significant (p = 0.175).

Table 4. Changes in the proportion of outcome categories between 2024 and 2025 by weight category.

Weight category	Low Δ	Medium Δ	High Δ	Penalty Δ	Cramér's V	p
−60 kg	+33.3	−14.2	+1.4	−16.6	0.50	**<0.001**
−66 kg	+18.9	−11.0	+15.3	−19.8	0.43	**<0.001**
−73 kg	+20.5	−20.5	+7.7	−5.9	0.40	**0.003**
−81 kg	+18.8	−16.8	−0.6	−1.9	0.36	**0.006**
−90 kg	+36.0	−13.4	−13.1	−9.5	—	—
−100 kg	+17.8	−30.1	+23.7	−9.1	0.47	**<0.001**
+100 kg	+8.3	−9.0	+10.9	−8.0	0.28	0.175

Δ – change in percentage points; "—" – estimate not reported because of small or empty cells

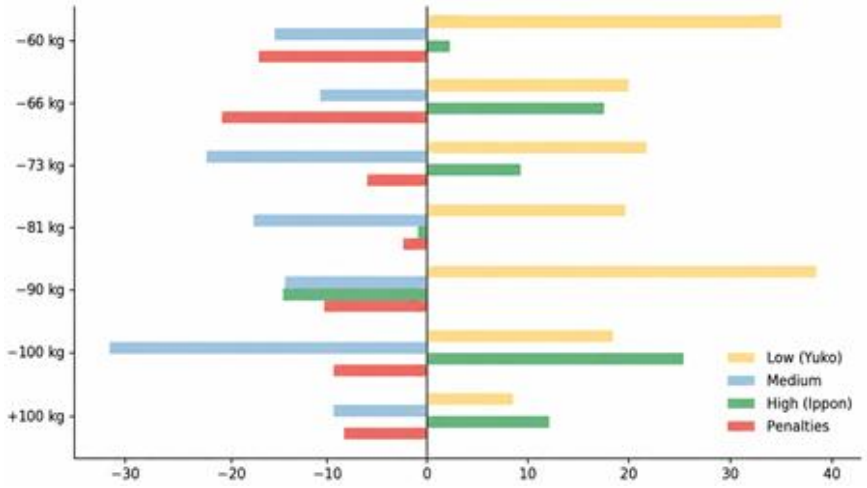


Figure 3. Changes in the proportions of outcome categories between 2024 and 2025 across men's weight categories (percentage points).

4. Discussion

Based on the analyses performed, a significant change in the structure of contest outcomes was identified following the implementation of the 2025 IJF rules. Differences between the pre-2025 and 2025 regulations, together with their potential effects and consequences in the major areas of competitive judo, are summarized in Table 5. The proportion of technically decided contests increased by 12.3 percentage points, whereas the proportion of contests decided by penalties decreased by 10.4 percentage points. It should be emphasized, however, that the absolute number of technical victories was almost identical in both tournaments. Thus, the observed change primarily reflected differences in the relative distribution of outcomes within a smaller total number of contests and a marked reduction in penalty-based final

outcomes rather than a simple increase in the absolute number of technically decided contests.

Table 5. Comparison of IJF rule changes introduced in 2025.

Area	Rules before 2025	2025 rules	Impact / consequences
Scoring	*Yuko* and *shido* penalties were less clearly defined; some *ne waza* actions received limited scoring recognition	Reintroduction of *yuko*; greater emphasis on positive activity in *ne-waza*	Athletes are required to engage more actively in *ne waza*; contests may become more dynamic
Permitted techniques	Reverse seoi-nage and selected grips were prohibited in some age categories	Reverse *seoi-nage* permitted for juniors and seniors; selected grips below the belt permitted	Greater variety of throwing techniques; coaches may incorporate new technical combinations
Safety	Rules concerning *kansetsu-waza* and the *bear hug* were less clearly defined; some throwing situations involved increased injury risk	Clearer restrictions on high-risk techniques; *bear hug* permitted under specified conditions	Reduced injury risk and greater consistency in refereeing decisions
Refereeing	*Shido* and *mate* were applied inconsistently; limited recognition of *ne-waza* activity	Clearer guidelines for *shido*, *mate*, and the time allowed to attack; greater emphasis on positive *ne-waza*	More consistent refereeing decisions and greater transparency in contest evaluation
Preparation / training	More restrictive use of techniques in *ne-waza* and differences in interpretation	More time allowed for active *ne-waza*; differentiated rules for cadets, juniors, and seniors	Coaches must adapt training to the revised regulations and age categories
Competition organization	Inconsistent interpretation of contest-area rules and unclear time-related limitations	Clearer rules regarding the contest area, time allowed to attack, and athlete responsibilities	Easier tournament management and greater international consistency

This finding is consistent with the stated direction of the IJF rule changes, which aimed to place greater responsibility on athletes to decide contests through direct technical actions and to reduce situations in which victory results solely from the accumulation of penalties [2]. Previous rule modifications, however, have produced heterogeneous effects. Franchini et al. [5] reported changes in the relative proportions of scores and penalties following the experimental regulations introduced in 2013, while Calmet et al. [4] described differences between Olympic Games conducted under different regulatory frameworks. In contrast, Katicips et al. [3] did not identify a uniform effect of rule changes across all groups analyzed. Similarly, Doppelhammer and Stöckl [7] found no differences in the number of attack attempts, attack frequency, effectiveness, or contest duration between the 2015 and 2018 World Championships. Lampe et al. [6] also reported selective changes in specific subgroups of techniques and penalties rather than a uniform improvement across all performance indicators.

The most pronounced difference between 2024 and 2025 resulted from the reintroduction of *yuko*. Because this scoring category did not exist in 2024, its 22.2% share in 2025 inherently contributed to the magnitude of the chi-square statistic. Therefore, the relatively large Cramér's V should not be interpreted solely as evidence of a sudden change in athlete behavior; it also partly reflects a structural modification

of the scoring system itself. From a tactical perspective, however, this finding remains important: an action that previously either did not receive a score or could not independently determine victory became a measurable source of competitive advantage.

The reintroduction of *yuko* was not accompanied by a decrease in the proportion of *ippon* victories. On the contrary, the proportion of High outcomes increased from 34.5% to 41.0%. The largest reductions were observed in the Medium and Penalty categories. This suggests that the new scoring system does not necessarily reduce the quality of successful technical actions but may simultaneously increase the number of available pathways to victory. In the analysis by Dopico-Calvo et al. [11], most contests ending before regulation time were decided by *ippon*, and the type of outcome varied according to the temporal phase of the contest and tournament round. Kons et al. [10], in turn, showed that scoring actions predominated in contests completed within regulation time, whereas penalties played a greater role during *golden score*. The absence of data on contest duration and *golden score* in the present dataset prevents determination of whether the decrease in penalty-based outcomes resulted from shorter contests, changes in behavior during overtime, or earlier acquisition of a *yuko* advantage.

Penalties remain an important component of judo tactics even when they do not directly determine the final outcome. Balcı and Ceylan demonstrated that receiving a *shido* affects both contest duration and outcome, whereas Kajmović et al. [8] reported that the most frequent infringements at the World Championships were non-combativity, grip avoidance, and false attacks. In the present study, however, only penalties that directly constituted the final mechanism of victory were analysed. Therefore, the present findings do not allow conclusions to be drawn regarding whether referees awarded fewer *shido*, whether the profile of infringements changed, or whether penalties became less important as a mechanism for enforcing activity. It can only be concluded that penalties less frequently represented the direct final outcome of the contest.

Conversely, no unequivocal change was identified in the relationship between *nage-waza* and *katame-waza*. The increase in the proportion of scoring technical actions performed in *tachi waza* combat from 81.2% to 86.3% was associated with a small effect size and remained at the threshold of statistical significance after continuity correction. This finding is consistent with previous observations that rule modifications do not necessarily produce substantial changes in the overall technical profile of judo contests [6, 13]. At the same time, the decrease in the proportion of *katame-waza* actions should not be interpreted as a reduction in the importance of *ne waza*. Dopico-Calvo et al. [12] demonstrated that scoring *ne-waza* actions frequently arise from the context of a preceding *tachi waza* action, particularly following an unsuccessful attack. Furthermore, the introduction of *yuko* for 5–9 s of *osaekomi* may have increased the number of short scoring control sequences whose competitive relevance is not fully captured by a simple comparison of the frequencies of technical actions.

Analysis by weight category revealed a common direction of change but differences in the magnitude of adaptation. *Yuko* victories appeared in all divisions, while the proportion of penalty-based victories decreased. At the same time, in the −100 and +100 kg categories, the increase in *yuko* coincided with an increase in *ippon*, whereas in the −90 kg category the proportion of *ippon* decreased. This variability is consistent with previous studies indicating that weight categories differ in technical-tactical

profiles, the duration of individual contest phases, and the groups of techniques used [14, 15]. Brito et al. [16] demonstrated differences in technical-tactical behavior between weight divisions, whereas Barreto et al. [19] reported that responses to rule changes may depend on body mass and the specific characteristics of competitive interaction. From a practical perspective, this suggests that the new rules should not be implemented identically in training across all weight categories.

From a coaching perspective, the present findings support three main directions for training. First, athletes should develop short and relatively low-risk sequences that enable them to score *yuko*, particularly during the early and middle phases of a contest [20]. Second, situational training should include management of a small scoring advantage, including maintaining activity without unnecessary risk, avoiding passivity, and modifying tactical behaviour after losing a *yuko* advantage [21]. Third, preparation should not be limited to tactical solutions aimed at winning through the opponent's accumulation of *shido*. High-quality *kumi-kata* and the ability to impose contest pace may still lead to penalties for the opponent; however, the current distribution of outcomes indicates a greater value of directly obtaining a technical score [22].

The interpretation of the analysed changes is also consistent with the concept of innovative agonology developed by Roman Maciej Kalina [23]. A combat sport may lose part of its educational value when competition becomes primarily a contest of procedural errors rather than a demonstration of technical skill. From this perspective, the introduced rule changes may reduce situations in which victory is achieved exclusively by forcing penalties upon the opponent [24]. These changes are also consistent with principles of preventive medicine. Innovative agonology emphasizes that the level of acceptable risk should be adjusted to the practitioner's level of training. The new regulations more clearly differentiate mature elite competition from youth development [25]. The restoration of a lower scoring category rewards both the attempt and the effectiveness of controlling an opponent's body, which may strengthen motivation to seek individualized tactical solutions [26]. Consequently, the analysed rule changes may contribute to directing judo toward a safer model of combat sport based on genuine technical proficiency, dynamic responses, and respect for the opponent's health [27].

Study Limitations

The present study has several limitations. First, only two tournaments were compared, one conducted before and one after the rule changes. Consequently, the effects of the regulations cannot be separated from differences in participant composition, tournament draw, athletes' competitive form, contest structure, competition location, or other season-related factors. Second, the study was observational and therefore does not permit causal inference. Third, only men's contests were included; therefore, the findings should not be generalized to women's competition. Fourth, the database relied on live event tagging, but no inter-rater agreement coefficient or results of repeated coding of a random sample of video recordings were available. Fifth, variables concerning contest duration, *golden score*, tournament round, the temporal sequence of scores and penalties, number of attack attempts, and specific techniques were unavailable. Sixth, detailed analyses by weight category were limited by small frequencies in some cells, particularly in the −90 kg category. In addition, no correction

for multiple comparisons across weight divisions was applied; therefore, stratified findings should be considered exploratory.

Directions for Future Research

Future studies should include a series of World Judo Tour competitions conducted before and after the rule changes, apply interrupted time-series or multilevel analytical approaches, and control for sex, weight category, tournament round, contest duration, and *golden score*. Sequential analyses would be particularly valuable for identifying the actions that precede *yuko* and determining whether obtaining a small scoring advantage changes attack frequency, the risk of receiving *shido*, and the probability of scoring *ippon*. The structure of infringements and the reliability of technical-action coding should also be investigated separately.

Practical Implications

Tactical preparation under the current regulations should include not only actions leading to *ippon* and *waza-ari*, but also the ability to obtain, maintain, and recover from a *yuko* advantage. At the same time, the lower proportion of contests ending with a third penalty suggests that a strategy based exclusively on forcing the opponent to accumulate *shido* may be less effective than directly seeking a scoring technical action.

5. Conclusions

Following the implementation of the new rules, the relative proportion of contests decided by technical actions increased, whereas the proportion of contests decided by penalties decreased. The principal change was a reorganization of the scoring structure associated with the reintroduction of *yuko*, which accounted for more than one-fifth of the outcomes determining victory. At the same time, no unequivocal change was identified in the relative contributions of scoring *nage-waza* and *katame-waza* actions. The direction of change was similar across all weight categories, although the magnitude of these changes and the relationship between *yuko* and *ippon* differed among divisions. These findings therefore support placing greater emphasis on direct scoring and the tactical management of a small advantage; however, further verification is required across a larger number of tournaments while accounting for contest duration, tournament round, and *golden score*.

Data Availability Statement: The data supporting this study's findings are available from the corresponding author upon reasonable request.

Institutional Review Board Statement: The study involved a secondary analysis of aggregated tournament data without contact with the players and without the use of identifying information. Approval from the Bioethics Committee was not required.

Funding: This study did not receive any external funding.

Conflicts of Interest: The authors declare no conflicts of interest.

References:

1. Barreto LBM, Aedo-Muñoz EA, Sorbazo Sotto DA et al. Judo combat time, scores, and penalties: Review of competition rules changes between 2010 and 2020. Rev Art Marcia Asiát 2022; 17(1): 19-37
2. International Judo Federation. IJF Sport and Organisation Rules (SOR), edition applicable in 2025. Lausanne: IJF; 2025
3. Katicips LFG, Silva Júnior JN, Kons RL et al. Impact of different judo rules: Analysis of scores and penalties in Paris Grand Slam Championships. RICYDE. Rev Int Cienc Deporte. 2018; 14(54): 334-343
4. Calmet M, Pierantozzi E, Sterkowicz S et al. Rule change and Olympic judo scores, penalties and match duration. Int J Perform Anal Sport 2017; 17(4): 458-465
5. Franchini E, Takito MY, Calmet M. European Judo Championships: Impact of the new rule changes on points and penalties. Int J Perform Anal Sport 2013; 13(2): 474-479
6. Doppelhammer F, Stöckl M. Effects of the 2017/18 rule changes in fight duration, fight decisions, scores, penalties, and attempts in judo, based on systematic competition analysis of the World Championships 2015 and 2018. Int J Perform Anal Sport 2020; 20(6): 1061-1071
7. Lampe N, Kajmovic H, Simenko J et al. The effects of judo rule changes on contestants' performance: Paris Grand Slam case study. Art Sci Judo 2022; 2(2): 56-65
8. Balcı ŞS, Ceylan B. Penalties in judo: The impact of shido on match durations and results. Int J Perform Anal Sport 2020; 20(4): 659-667
9. Kajmovic H, Karpljuk D, Kapo S et al. Comparison of individual penalties according to gender and weight categories of elite judo athletes from four World Championships. Biol. 2022; 11(9): 1284
10. Kons RL, Agostinho MF, Lopes-Silva JP et al. More time for judo matches? Analysis of type of techniques, time, scores, and penalties in the Tokyo 2020 Olympic Games. Front Sports Act Living. 2022; 4: 960365
11. Dopico-Calvo X, Mayo X, Santos L et al. When and how a judo contest ends: Analysis of scores, penalties, rounds and temporal units in 2018, 2019 and 2021 World Championships. Appl Sci 2023; 13(4): 2395
12. Dopico-Calvo X, Iglesias-Soler E, Santos L et al. Analysis of successful behaviors leading to groundwork scoring skills in elite judo athletes. Int J Environ Res Public Health. 2022; 19(6): 3165
13. Błach W, Rydzik Ł, Błach Ł et al. Characteristics of technical and tactical preparation of elite judokas during the World Championships and Olympic Games. Int J Environ Res Public Health. 2021; 18(11): 5841
14. Brito CJ, Moreira DG, Fernandes JR et al. Technical-tactical comparisons between weight divisions in elite judo athletes. Rev Portug Ciên Desp 2017; 17(S4A): 49-67
15. Monteiro LF, Gonçalves JM, Chambel L et al. Evolution of the temporal structure of world high competition judo combat (2013 to 2017). Rev Art Marcia Asiát 2019; 14(2s): 15-17
16. Kłys A, Sterkowicz-Przybycień K, Adam M et al. Performance analysis considering the technical-tactical variables in female judo athletes at different sport skill levels: Optimization of predictors. J Phys Educ Sport 2020; 20(4): 1775-1782
17. Agresti A. Categorical Data Analysis. NJ: Wiley; 2013
18. Cohen J. Statistical Power Analysis for the Behavioral Sciences. 2nd ed. eBook, NJ: Routledge; 2013
19. Barreto LBM, Aedo-Muñoz EA, Sorbazo Sotto DA et al. Road to Tokyo Olympic Games: Do new judo rules change the technical-tactical behaviour of elite male athletes? Int J Perform Anal Sport 2021; 21(6): 1140–1148
20. Prokopczyk A, Sokołowski M. Training experience and weekly training total time vs. aerobic capacity and level of effective restitution of male Polish Judo National Senior Team athletes during the preparation period for the Olympic Game. Arch Budo Sci Martial Arts Extreme Sports 2020; 16: 63-69
21. Prokopczyk A, Sokołowski M. Impact of training experience and training total time on aerobic capacity and level of effective restitution of female Polish Judo National Team athletes during the preparation for the Olympic Games. Arch Budo 2021; 17: 35-41
22. Meira Gonçalves J, Carvalho B, Silva V et al. Concussion in Judo Athletes: A Structured Return-To-Competition Protocol. Clin J Sport Med 2026; April 28: 10.1097/JSM.0000000000001454
23. Kalina RM. BUDO & INNOAGON – historical complexity but similar missions. Arch Budo J Inn Agon. 2024, 20: 1-15

24. Witkowski K, Kalina RM. Struggle: The Most Frequently Used Word in The Public Sphere Since The Beginning of The Covid-19 Pandemic. In: Healthcare and Medical Devices, Vol. 79: Proceedings of the 14th International Conference on Applied Human Factors and Ergonomics (AHFE 2023) and the Affiliated Conferences; 2023 Jul 20-24; San Francisco Marriott Marquis, San Francisco, California, USA. 2023; p. 299-306
25. Kruszewski A, Cherkashin I, Kruszewski M et al. Hand-to-hand combat in the 21st century: INNOAGON warrior or modern gladiator – a prospective study. Front Sports Act Living 2024; 6: 1-7
26. Kruszewski M. Complementary research methodology versus paradoxes of evaluating the effectiveness of hand-to-hand combat systems. Arch Budo J Inn Agon 2025, 20: 326-32
27. Kalina A, Kalina RM, Kruszewski M. et al. A scale of weekly psychomotor activity from the perspective of personal safety in a complementary framework. Arch Budo J Inn Agon 2026, 22: 74-87
28. International Judo Federation [https://www.ijf.org/ access: 10.08.2026]
29. Kano J. Kodokan judo: The essential guide to judo. NJ: Kodansha International; 2013
30. Ceylan B, Furkan O, Sukru SB. Match duration during high-level judo competitions: Golden score or not? Ido Movem Cul J Mart Art Anthropol 2022; 22(1): 21-26
31. Barth JRH, Burkhart SS, De Beer JF. The Bear-Hug Test: A New and Sensitive Test for Diagnosing a Subscapularis Tear. Arthroscopy 2006; 22: 1076-1084
32. Budō: The Martial Ways of Japan. Tokyo: Nippon Budokan Foundation; 2009

Authors

Sylwester Gaweł:	Not applicable
Arkadiusz Stanula:	https://orcid.org/0000-0003-1759-6456
Łukasz Rydzik:	https://orcid.org/0000-0001-7956-7488
Tadeusz Ambroży:	https://orcid.org/0000-0001-7361-9478
Paweł Adam Piepiora:	https://orcid.org/0000-0002-6525-3936
Marta Niewczas:	https://orcid.org/0000-0002-2687-3243

Citation: Gaweł S, Stanula A, Rydzik Ł. et al. Changes in the structure of men's match outcomes following the 2025 International Judo Federation Rule changes. Arch Budo J Inn Agon 2026; 22: 154-166