Technical and Data Report

VNL 2025

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1. INTRODUCTION

Following the inaugural edition of the FIVB Technical and Data Report in 2024, this second installment continues the mission of documenting volleyball's top-level evolution through a data-driven lens. Building on last year's comprehensive effort, the 2025 edition maintains the same analytical rigor while focusing more on comparative evaluation and longitudinal insights.

While 2024 was groundbreaking in introducing various new performance metrics, this year marks a refinement phase. Most parameters are consistent with last year's structure, ensuring comparability and trend visibility.

The 2025 Volleyball Nations League Technical and Data Report provides a comprehensive overview of team and player performance across physical, skill, and tactical dimensions. **For 2025, the report introduces a new Deep Dive section, designed to expand on specialized themes such as year-on-year efficiency trends, momentum and timeout strategies, age & height performance modeling, and serve risk–reward analysis.** This addition builds on the established KPI framework and provides richer context for understanding success factors at the elite level. This continuity allows us to deepen our understanding of how technical and physical variables influence competitive outcomes. The report aims to offer both a snapshot of the 2025 VNL season and a side-by-side look with 2024, offering valuable insights for decision-makers, analysts, coaches, and stakeholders.

2. GOALS

- Provide a data-grounded, season-over-season evaluation of volleyball at the elite level.
- Track and highlight changes in game speed, time metrics, and physical performance.
- Enable year-on-year comparisons with 2024 data using consistent metrics.
- Integrate any new technical comparisons that have shown promise in performance modeling.
- Offer detailed team-level profiles with color-coded performance benchmarking.

3. INNOVATIONS

The 2025 edition includes several innovations compared with the previous edition:

• Introduction of a new Deep Dive section, offering advanced analyses in four key areas:
– Year-on-Year Efficiencies and Rank Delta
– Momentum Metrics and Timeout Strategies
– Age & Height Performance Modeling
– Serve Risk & Reward Correlation with Ranking

This section allows for deeper exploration of trends that shape competitive outcomes beyond the standard KPI set.

- **Average Serve Speed:** Newly introduced in 2025, average serve speed is now tracked, while in 2024 all data collected was only for the fastest serves in every match. This additional parameter will allow us to evaluate serving evolution in the future.

  Most of the foundational innovations from last year (like ball-in-play percentage, contact intensity, and attack breakdowns) remain in place.

4. KEY INSIGHTS – 2025 VNL

Match tension increased in both the men's and women's editions of the 2025 VNL, with the rise being more significant in the women's competition. This is reflected in the tie-break distribution, where 5-set matches grew as a proportion of total matches.

The distribution of matches by set length highlights this trend:

- **Men**: Higher frequency of 5-set matches, building on 2024 values.
- **Women**: Clear increase in 4- and 5-set matches, compared to a higher 3-set match share in 2024.

On the other hand, total ball-in-play time decreased across both competitions, continuing the trend toward shorter rally dynamics, higher speed and longer intervals or "down time". These factors collectively point to a more contested field with sustained rally depth in higher rhythm in both tournaments, which could be commercially appealing.

A. TIME AND SPEED OF THE GAME

The average total duration of men's matches in 2025 was **1:53:54**, slightly higher than **1:48:53** in 2024. In the women's competition, the average duration was **1:50:08**, up from **1:37:34** in 2024.

Ball-in-play percentages decreased across both genders: from **14.5% to 12.2%** in men and from **17.9% to 16.1%** in women. Flying ball time was down to **13:52 from 15:48** for men and slightly up to **17:41 from 17:30** for women, reflecting diverging trends in total active play.

The number of touches per play minute increased, suggesting a higher tempo and richer rally dynamics. However, this was balanced out by a noticeable rise in non-play time: longer set intervals and an increase in average challenge time — up from **125 seconds to 278 seconds in the men's event**, **and up to 244 seconds from 121 seconds in the women's tournament.** The average number of challenges taken per match also increased **to little over 5, up from about 3 in 2024.**

Substitutions and timeouts per match remained comparable to last year, indicating that the additional down time stems largely from extended set intervals (**average set interval overrun was up to 131 seconds from 88 in 2024 for the women and up to 153 seconds from 130 seconds for the men**); as well as longer challenge review times.

OVERALL KPI COMPARISON – 2025 vs 2024

MEN

- Out-of-System Attack Efficiency: **17.05%** (↓ from 20.1%)
- Super Crunch Efficiency: **21.45%** (↓ from 39.1%)
- Reception Positivity: **46.1%** (↑ from 45.5%)
- Errors per Set: **6.57** (↓ from 7.44)

WOMEN

- Out-of-System Attack Efficiency: **15.3%** (↑ from 15.2%)
- Super Crunch Efficiency: **22.6%** (no change)
- Reception Positivity: **47.6%** (↓ from 48.1%)
- Errors per Set: **5.17** (↓ from 6.02)

These shifts reaffirm the central role of reception, transition control, and late-stage efficiency in deciding outcomes at the elite level. It is also noteworthy that while **in-system attack efficiency remained largely unchanged, out-of-system efficiency declined slightly in the men's event, which may reflect the younger player pool, and making it difficult to measure the impact of the revised interpretation of positional fault rules affecting offensive system structure.**

B. COMPETITIVE BALANCE

The competitive balance between the teams in VNL followed distinct trajectories in 2025. In the men's edition, matches remained highly contested with a marginal decrease in rally duration,

while the women's tournament showed tighter scorelines and increased match tension across the board.

Match tension was recorded at **61.20 for men and 55.34 for women** – indicating a continued medium-to-high tension for men, but a notable increase in tension for the women's game compared to **2024 (48.80).**

Tie-break rates confirm this trend: **35% of men's matches went into 5 sets, a serious increase from 2024 (28%) while the women's exploded to 32%, up from just 13% in 2024.**

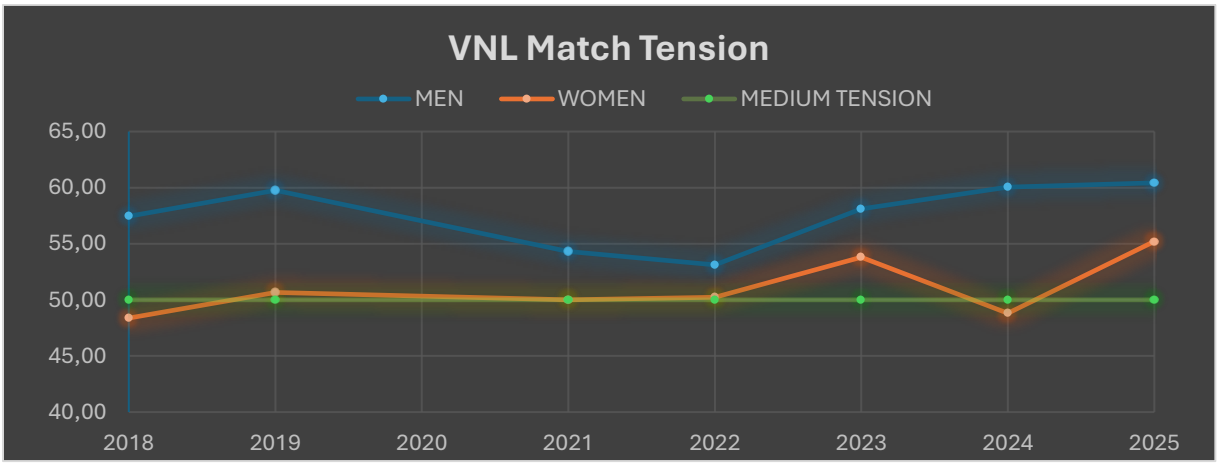
Despite low fluctuations in total match durations, internal match dynamics shifted with a decrease in overall rally durations as high as 13%.

However, **contact intensity — measured by ball contacts per play minute — increased in the women's VNL (6.5 contacts per rally, up from 6.4), and in the men's VNL (5.36, up from 5.2),** showing that while play time declined slightly, rallies remained technically rich.

Block touches (shown in the team technical profiles) remain higher for women's teams on average.

Spike height differences remain consistent, with men averaging **3.50m and women 3.15m, similar to the 2024 split of 3.58m vs 3.12m**.

These patterns reinforce a key trend: women's game continues to produce longer, more complex rallies with higher defensive input. Meanwhile, the men's edition reflects faster transitions and higher scoring pressure, but with slightly reduced total ball in-play time in 2025 compared to the year prior.



Substitutions and Timeouts per set and match are important in determining what the not-in-play portion of the match is comprised of and to plan interruptions for the streaming production. For the time calculation, we have an average of 5 sec per substitution and 35 sec per timeout.

MEN

	Substitutions per Set / Match	Timeouts per Set/Match
2024	5.62 / 22.0	2.91 / 11.4
2025	5.57 / 21.6	2.99 / 11.6

WOMEN

	Substitutions per Set / Match	Timeouts per Set/Match
2024	5.65 / 20.48	2.98 / 10.79
2025	6.40 / 25.03	2.96 / 11.59

On average, we have **8:29** minutes per match spent in timeouts and substitutions per match in the men's VNL **(62% of the ball-in-play time)** and **8:51** for the women **(50% of the ball-in-play time).**

2024	MEN	WOMEN
Average Time in Subs and Timeouts Per Match	08:29 mm:ss	08:00 mm:ss
Average Ball-In-Play Time	15:48 mm:ss	17:30 mm:ss
2025	**MEN**	**WOMEN**
Average Time in Subs and Timeouts Per Match	08:34 mm:ss	08:51 mm:ss
Average Ball-In-Play Time	13:52 mm:ss	17:41 mm:ss

C. RALLY DATA

- **Pseudo-rallies** kept their usual metrics at **25% for the men and 17% for the women**. The gap between genders remains stable.

Both genders have lower ace expectancy at 5.4% of attempts for the men and 5.1% for the women, which is a serious decrease compared to 2024 (10% for the men and 15% for the women).

However, in the men's game the average number of serve errors is above 19%, while in the women's, it's more than 10%, observed for the first time. Less aces and more errors equal the same overall number of 0 attack rallies.

- The average rally duration in the men's competition **was down 13%** to **4.75s vs 5.46 s in 2024, and 6.25s vs 7.15s in 2024** if pseudo rallies are not considered.
- The average rally duration in the women's competition **was down almost 5% to 6.20s vs. 6.50s in 2024, and 7.33 vs. 7.64s in 2024** if pseudo rallies are not considered.

MEN

2024

Average Rally Duration	Proper Rally Duration
5.46	7.15

2025

Average Rally Duration, s	Proper Rally Duration, s
4.75	6.25
vs. previous year	vs. previous year
-13.0%	-12.6%

WOMEN

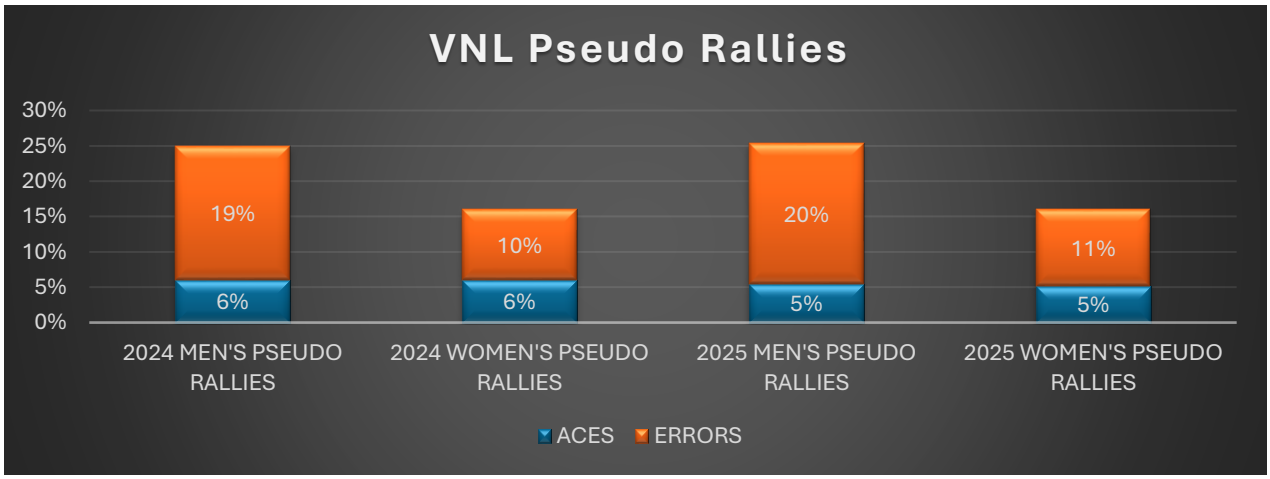
2024

Average Rally Duration	Proper Rally Duration
6.50	7.64

2025

Average Rally Duration, s	Proper Rally Duration, s
6.20	7.33
vs. previous year	vs. previous year
-4.6%	-4.1%

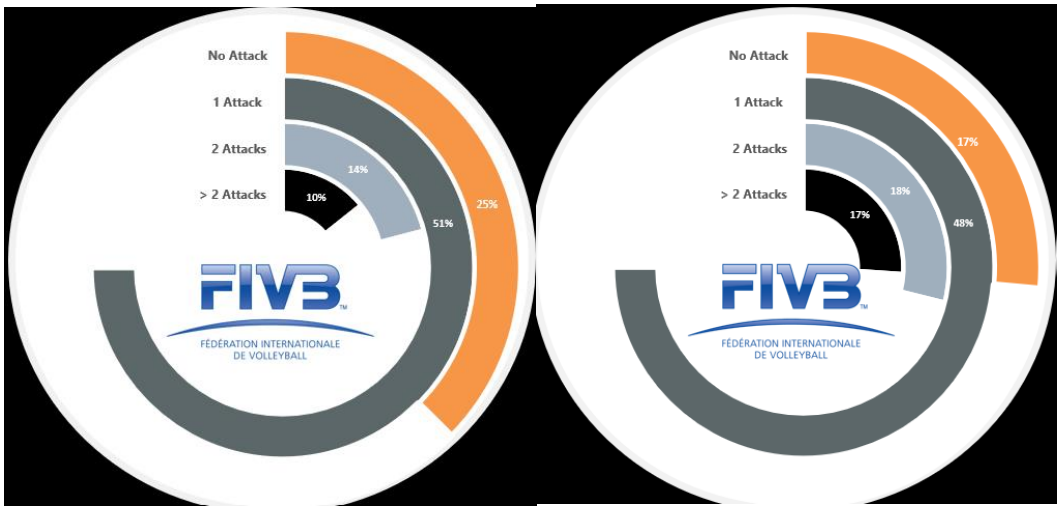
Overall, in both genders we are seeing a trend into shorter play, reinforcing the increased data points discussed in the previous section.



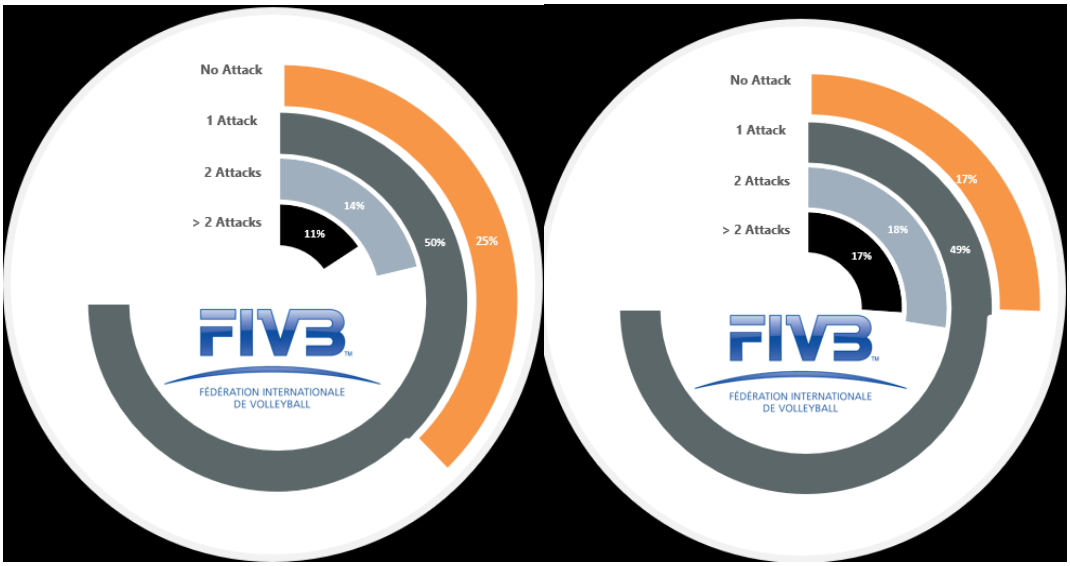
- **Average net crossings** per rally were **1.93** for the men's edition and **2.38** for the women. No noticeable difference versus last year's data **(1.91 vs. 2.37**).

- **Rallies by number of attacks -** About half of all rallies in both genders are over after a single attack, contributing to 25% vs 17% in men's and women's pseudo rallies respectively, leaving only **less than a quarter of them with more than one attack for the men and 35% for the women. No noticeable changes year over year in this parameter.**

2024 MEN WOMEN



2025 MEN WOMEN



D. PHYSICAL AND SKILL DATA

- **Average height** remains an easy parameter to monitor long-term trends in successful players' physical characteristics. The correlation between average height and final ranking in 2025 again proved statistically weak. To refine the picture, we collected height by playing position. Once adjusted, the pattern held: while taller lineups provide certain tactical

advantages (e.g., blocking reach), there is no consistent evidence that they translate directly into higher rankings.

2024/2025 MEN

Avg. Height, Opposites	Avg. Height, Outside Hitters	Avg. Height, Middle Blockers	Avg. Height, Setters	Avg. Height, Liberos
201	197	203	192	182

Avg. Height, Opposites	Avg. Height, Outside Hitters	Avg. Height, Middle Blockers	Avg. Height, Setters	Avg. Height, Liberos
201	197	203	191	182
vs. previous year	vs. previous year	vs. previous year	vs. previous year	vs. previous year
0.0%	0.0%	0.0%	-0.5%	0.0%

2024/2025 WOMEN

Avg. Height, Opposites	Avg. Height, Outside Hitters	Avg. Height, Middle Blockers	Avg. Height, Setters	Avg. Height, Liberos
188	184	189	179	170

Avg. Height, Opposites	Avg. Height, Outside Hitters	Avg. Height, Middle Blockers	Avg. Height, Setters	Avg. Height, Liberos
187	184	189	180	170
vs. previous year	vs. previous year	vs. previous year	vs. previous year	vs. previous year
-0.5%	0.0%	0.0%	0.6%	0.0%

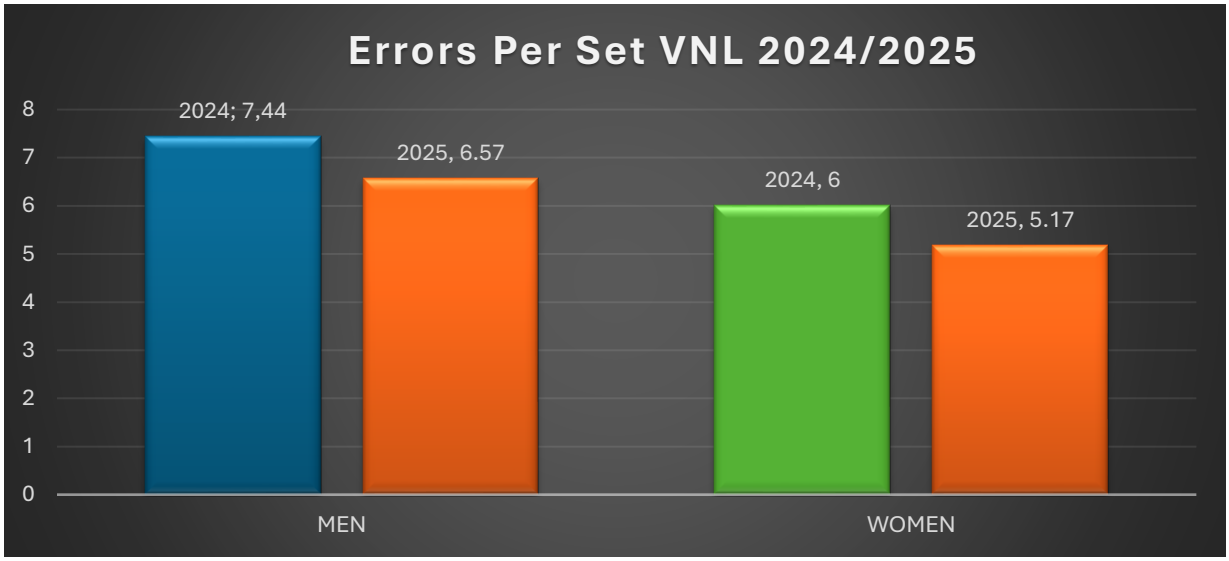
- **Average age** is a significant indicator of how teams position the VNL within the broader Olympic cycle. It highlights whether the competition is approached as a developmental platform to introduce new players, or as a season-defining event fielding full-strength rosters. In 2025, the average age **dropped sharply** compared to the Olympic year 2024:
  - **Men: 25.32 years (vs. 27.14 in 2024)**
  - **Women: 24.29 years (vs. 26.16 in 2024)**

  This represents **a reduction of nearly two years on average**, much larger than the modest year-to-year fluctuations previously observed. The data clearly shows that in the post-Olympic season, many federations **shifted toward younger rosters**, using the VNL as a **transition and development stage** for the next cycle, rather than relying on veteran lineups.
- **Quality of reception** reflects both the strength of the opponent's serve and the technical skill of receivers. At the VNL level, formations remain largely standardized across all rotations, with only minor tactical deviations (e.g., the opposite attacking from zone 2 in P1, more common in women's play).

- **Men:** In 2025, average positivity was **46.0%**, with medal teams at **46.3%**. This is a slight improvement over 2024 (45.6% → 46.0%), but the medalist gap remained minimal (0.3 pp),

confirming that reception is less decisive in the men's field where powerful serving compresses values across teams.

- **Women:** In 2025, average positivity was **47.7%**, with medal teams at **49.5%**. Both values were lower than in 2024 (48.1% average; 52.0% medalists). **The reduction of the medalist advantage (from +3.9 to +1.9) highlights a narrowing reception gap, suggesting that mid-ranked teams have improved reception systems and reduced one of the traditional differentiators in women's volleyball.** This is also due to the less experienced rosters in 2025.



- **Total errors per set** remained a key separator between teams, though 2025 showed a clear downward trend in both genders.

  Men: The average fell from **7.44 errors/set in 2024** to **6.57 in 2025**, with medal teams improving from **6.96 → 6.09**. This confirms that top teams paired high efficiency with better error discipline, but also that the broader field has closed the gap, reflecting improved control.

  Women: The decline was even sharper, from **6.00 errors/set in 2024** to **5.17 in 2025**. Medal teams dropped only slightly (**5.56 → 5.00**), meaning that the traditional advantage of lower error rates among the top contenders has now almost disappeared, with most teams achieving greater stability in controlling own play.

- On top of collecting the **fastest serves and highest spikes** per match, we started collecting the average serve speeds per match as well.

MEN 2024/2025

Fastest Serve	Highest Spike
144.7	3.58

Fastest Serve, km/h	Highest Spike, m
135.2	3.50
vs. previous year	vs. previous year
-6.6%	-2.2%

WOMEN 2024/2025

Fastest Serve	Highest Spike
118.4	3.12

Fastest Serve, km/h	Highest Spike, m
114.6	3.15
vs. previous year	vs. previous year
-3.2%	1.0%

Fastest serves and highest spikes were tracked again in 2025, and the results show an interesting divergence between maximums and averages when compared to 2024.

- Men:

Average Serve Speed km/h
88,13
vs. previous year
0,0%

- **Fastest serve dropped from 144.7 km/h (2024) to 135.2 km/h (2025).**
- **Highest spike fell from 3.58 m (2024) to 3.50 m (2025).**
- However, 2025 introduced the monitoring of average serve speeds, recorded at 88.1 km/h.

- Women:

Average Serve Speed km/h
68,93
vs. previous year
0,0%

- **Fastest serve decreased from 118.4 km/h (2024) to 114.6 km/h (2025).**
- **Highest spike increased slightly, from 3.12 m (2024) to 3.15 m (2025).**
  The decline in maximum serve speed highlights how single standout performances can skew yearly highs, while the consistency of spike reach suggests a gradual but steady physical progression across the women's field in the generational shift that was observed in many rosters this season.

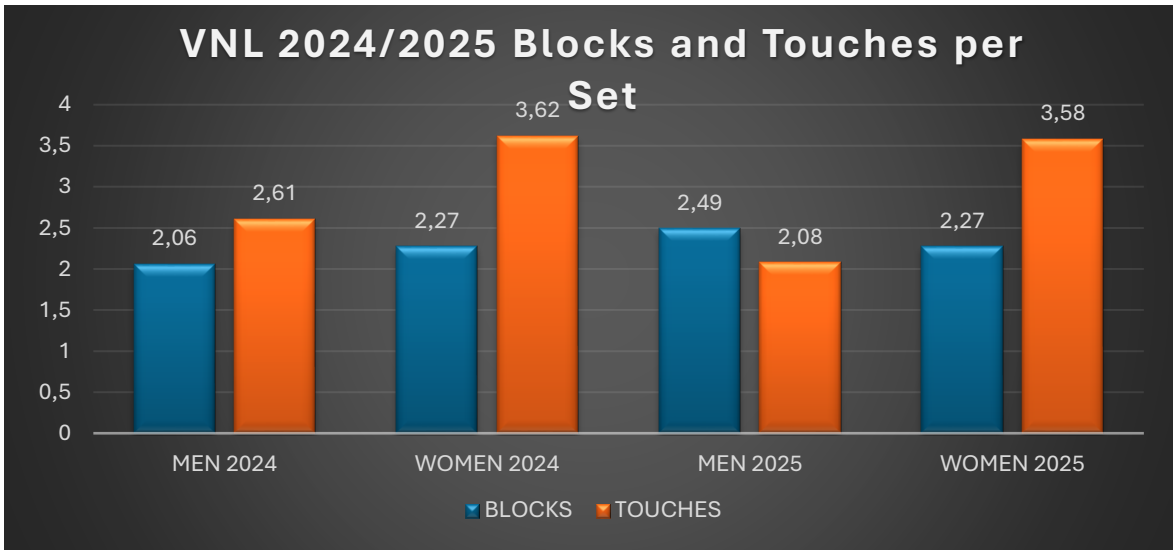
The comparison of maximum vs. average serve speeds underlines that extreme records do not reflect typical play. In men's volleyball, the average serve speed (88 km/h) is only ~65% of the

single recorded maximum (135 km/h). In women's volleyball, the ratio is even lower (averages ~69 km/h vs. 114 km/h max). This confirms that while individual servers can produce extraordinary peaks, the competitive rhythm of serving is built around much more sustainable velocities.

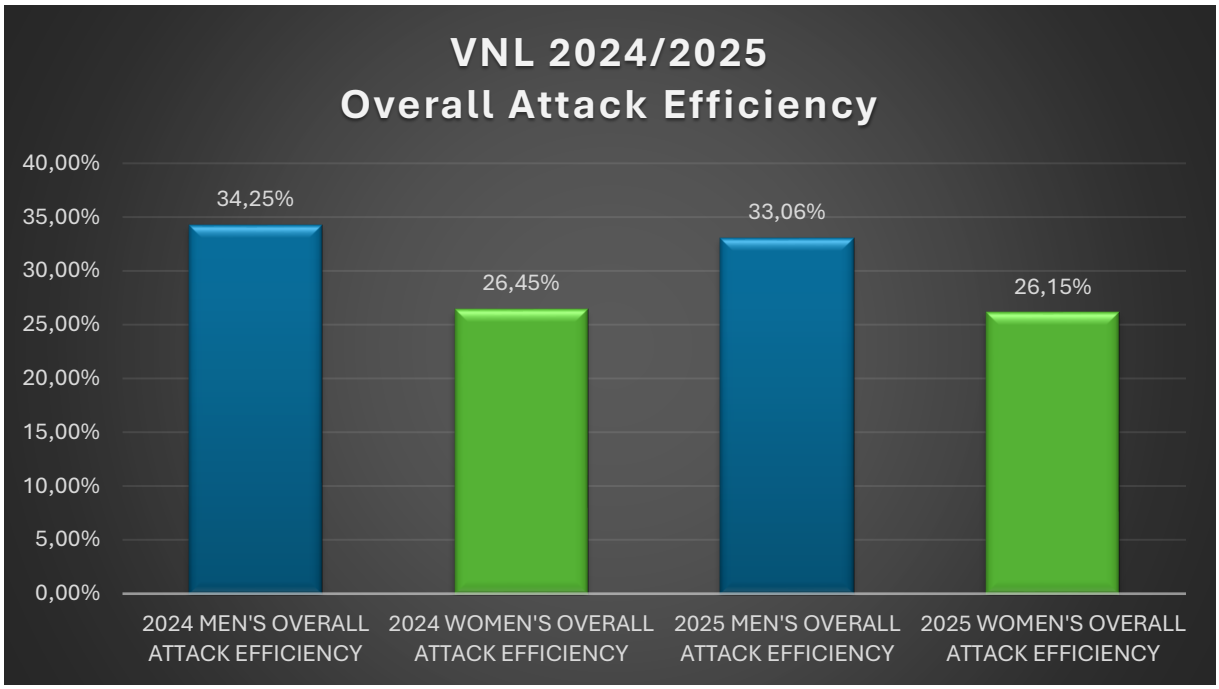
- **Blocks and touches** per set remain an important parameter beyond direct kills, reflecting the ability to generate transition opportunities.

  Men: Average touches dropped significantly in 2025 (from 2.61 → 2.08), suggesting fewer neutralizing contacts overall. Medal teams, however, improved slightly (2.42 → 2.37), which raised their relative advantage over the rest. The **average block kills per set increased almost 20%, which is statistically very significant.** This supports the observation that elite men's teams continue to leverage block organization as part of transition scoring.

- **Women**: The averages remained high (above 3.5 per set) but declined slightly (from 3.62 → 3.58). Medalist values fell more sharply (3.61 → 3.44), effectively decreasing the gap with the field. This reinforces the conclusion that block/touch volume is not a consistent predictor of ranking in the women's competition, where other factors such as serve-reception balance and out-of-system attack efficiency carry greater weight.



E. ATTACK EFFICIENCY OVERVIEW – no significant changes observed 2024/2025



5. MEN'S 2025 VNL

5.1 General Match Data

All data presented below is based on the total match duration, including the intervals between sets.

M VNL	Avg. Total Duration	Avg. # of Rallies	Rallies/min, total	Match Tension	5 set matches	4 set matches	3 set matches
2018	02:13:54	167	1.50	57.46	21%	28%	51%
2019	02:18:51	173	1.46	59.76	22%	40%	38%
2021	01:59:51	166	1.38	54.30	22%	29%	49%
2022	02:06:11	164	1.51	53.13	14%	40%	46%
2023	01:52:30	172	1.53	58.12	23%	35%	42%
2024	01:48:53	175	1.59	60.04	28%	36%	37%
2025	01:53:54	174	1.54	60.43	35%	38%	27%

Source: Calculated from official VIS data

In 2025, men's VNL matches improved marginally in terms of match tension and slightly increased their average duration. A huge improvement in the 3/4/5 set distribution was observed with **only 27% of the matches finishing in straight sets, which is the lowest recorded from the VNL's inception in 2018**.

5.2 Team Technical Profiles

The following are the team-specific profiles, with color-coded parameters, compared with competition averages: Green – above average, Yellow – average, Red - below average.

Poland completed their rise from bronze in 2024 to gold in 2025 by combining consistency with improved stability in decisive moments. While their overall attack efficiency rates were slightly lower than the previous year (**overall 37.1% vs. 42% in 2024**), they reduced errors substantially (6.1 vs. 7.2 errors/set) and improved block touches (2.41 vs. 2.11), while also lifting their crunch-time efficiency from 32% to 38.9%. This balance allowed them to overtake both of last year's finalists, France and Japan, neither of whom returned to the podium.

Italy, runners-up, shifted from fifth in 2024 to silver in 2025 by emphasizing the cleanest side-out game in the field. Their in-system attack rose to a tournament-best 58.0%, up from 54% the year before, while their error rate dropped dramatically (5.9 vs. 7.1). Italy's serving efficiency also improved significantly (Ace-to-error ratio 0.41 vs. 0.30 in 2024). However, their out-of-system and crunch-time efficiencies fell sharply compared with last year (14.8% vs. 27%, and 32.7% vs. 48%).

Brazil climbed from seventh in 2024 to bronze in 2025 by becoming the most resilient team in decisive phases. Their crunch-time efficiency surged from 36% to 41.3%, the highest among the medalists, while also improving in error control (6.3 vs. 7.3 errors/set) and serve effectiveness (Ace-to-error ratio 0.38 vs. 0.29). Although their block-touch volume declined (2.16 vs. 2.91), their ability to execute under pressure offset this loss and carried them to the podium.

By contrast, the 2024 finalists showed different profiles: France, gold medalists a year earlier, had relied on balanced overall efficiency (37%) and a moderate crunch-time output (38%), while Japan had thrived on a unique block-touch advantage (3.18 per set) and strong crunch play (44%). **In 2025, however, the decisive differentiators shifted toward serve-to-error efficiency and error reduction, confirming a new competitive balance in the post-Olympic cycle.**

POLAND M	MEN									
STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	37.10%	POSITIVE RECEPTION %	44.73%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	38.86%			OVERALL	5%	18%	PER SET	2.68	2.41
	SUPER CRUNC	46.67%	IN SYSTEM EFF	51.73%	CRUNCH TIM	4%	19%		ERRORS	
	TEAM RANK	1	OUT OF SYSTEM	25.58%	SUPER CRUNC	5%	26%	PER SET	6.14	

ITALY M	MEN									
STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	35.30%	POSITIVE RECEPTION %	46.83%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	32.74%			OVERALL	7%	17%	PER SET	2.43	2.55
	SUPER CRUNC	34.78%	IN SYSTEM EFF	57.96%	CRUNCH TIM	8%	17%		ERRORS	
	TEAM RANK	2	OUT OF SYSTEM	14.81%	SUPER CRUNC	0%	16%	PER SET	5.88	

BRAZIL M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	35.53%	POSITIVE RECEPTION %	47.37%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	41.28%			OVERALL	6%	16%	PER SET	3.11	2.16
	SUPER CRUNC	43.75%	IN SYSTEM EFF	48.32%	CRUNCH TIN	8%	22%		ERRORS	
	TEAM RANK	3	OUT OF SYSTEM	21.55%	SUPER CRUNC	4%	26%	PER SET	6.26	

SLOVENIA M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	30.29%	POSITIVE RECEPTION %	45.38%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	33.59%			OVERALL	5%	18%	PER SET	3.13	1.88
	SUPER CRUNC	0.00%	IN SYSTEM EFF	41.43%	CRUNCH TIN	6%	26%		ERRORS	
	TEAM RANK	4	OUT OF SYSTEM	20.27%	SUPER CRUNC	9%	36%	PER SET	6.30	

FRANCE M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	36.56%	POSITIVE RECEPTION %	52.46%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	31.33%			OVERALL	7%	23%	PER SET	2.25	1.92
	SUPER CRUNC	25.93%	IN SYSTEM EFF	43.12%	CRUNCH TIN	5%	28%		ERRORS	
	TEAM RANK	5	OUT OF SYSTEM	22.67%	SUPER CRUNC	12%	23%	PER SET	7.69	

JAPAN M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	35.24%	POSITIVE RECEPTION %	51.44%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	27.59%			OVERALL	6%	18%	PER SET	2.74	1.21
	SUPER CRUNC	9.38%	IN SYSTEM EFF	50.93%	CRUNCH TIN	4%	20%		ERRORS	
	TEAM RANK	6	OUT OF SYSTEM	12.61%	SUPER CRUNC	5%	14%	PER SET	5.98	

CUBA M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	33.73%	POSITIVE RECEPTION %	46.35%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	43.26%			OVERALL	5%	21%	PER SET	2.48	2.53
	SUPER CRUNC	64.29%	IN SYSTEM EFF	46.25%	CRUNCH TIN	4%	23%		ERRORS	
	TEAM RANK	7	OUT OF SYSTEM	18.05%	SUPER CRUNC	0%	14%	PER SET	7.02	

CHINA M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	26.94%	POSITIVE RECEPTION %	40.02%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	26.42%			OVERALL	4%	16%	PER SET	2.09	2.00
	SUPER CRUNC	40.00%	IN SYSTEM EFF	39.89%	CRUNCH TIN	6%	23%		ERRORS	
	TEAM RANK	8	OUT OF SYSTEM	15.58%	SUPER CRUNC	0%	33%	PER SET	6.17	

IRAN M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	34.08%	POSITIVE RECEPTION %	48.57%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	20.56%			OVERALL	6%	18%	PER SET	2.04	2.00
	SUPER CRUNC	0.00%	IN SYSTEM EFF	46.31%	CRUNCH TIN	3%	18%		ERRORS	
	TEAM RANK	9	OUT OF SYSTEM	12.98%	SUPER CRUNC	0%	13%	PER SET	6.12	

UKRAINE M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	33.69%	POSITIVE RECEPTION %	42.33%	OVERALL	5%	19%	PER SET	2.20	2.32
	CRUNCH TIME	32.06%			CRUNCH TIM	8%	25%		ERRORS	
	SUPER CRUNC	37.50%	IN SYSTEM EFF	49.87%	SUPER CRUNC	0%	36%	PER SET	6.22	
	TEAM RANK	10	OUT OF SYSTEM	18.27%						

BULGARIA M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	31.02%	POSITIVE RECEPTION %	45.23%	OVERALL	6%	21%	PER SET	2.33	2.29
	CRUNCH TIME	41.38%			CRUNCH TIM	12%	19%		ERRORS	
	SUPER CRUNC	8.33%	IN SYSTEM EFF	44.72%	SUPER CRUNC	30%	10%	PER SET	6.87	
	TEAM RANK	11	OUT OF SYSTEM	10.64%						

USA M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	31.75%	POSITIVE RECEPTION %	42.41%	OVERALL	5%	21%	PER SET	2.44	2.10
	CRUNCH TIME	34.26%			CRUNCH TIM	7%	22%		ERRORS	
	SUPER CRUNC	36.36%	IN SYSTEM EFF	48.86%	SUPER CRUNC	8%	23%	PER SET	7.02	
	TEAM RANK	12	OUT OF SYSTEM	16.55%						

ARGENTINA M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	33.98%	POSITIVE RECEPTION %	46.96%	OVERALL	5%	22%	PER SET	2.44	2.04
	CRUNCH TIME	37.93%			CRUNCH TIM	4%	26%		ERRORS	
	SUPER CRUNC	25.00%	IN SYSTEM EFF	46.45%	SUPER CRUNC	0%	19%	PER SET	7.00	
	TEAM RANK	13	OUT OF SYSTEM	23.78%						

CANADA M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	35.86%	POSITIVE RECEPTION %	45.54%	OVERALL	6%	21%	PER SET	2.43	2.00
	CRUNCH TIME	28.00%			CRUNCH TIM	6%	22%		ERRORS	
	SUPER CRUNC	13.64%	IN SYSTEM EFF	45.81%	SUPER CRUNC	11%	19%	PER SET	7.00	
	TEAM RANK	14	OUT OF SYSTEM	11.81%						

GERMANY M — MEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	33.95%	POSITIVE RECEPTION %	44.50%	OVERALL	4%	20%	PER SET	2.63	1.79
	CRUNCH TIME	27.27%			CRUNCH TIM	6%	21%		ERRORS	
	SUPER CRUNC	45.45%	IN SYSTEM EFF	47.26%	SUPER CRUNC	0%	18%	PER SET	6.46	
	TEAM RANK	15	OUT OF SYSTEM	19.80%						

SERBIA M — MEN

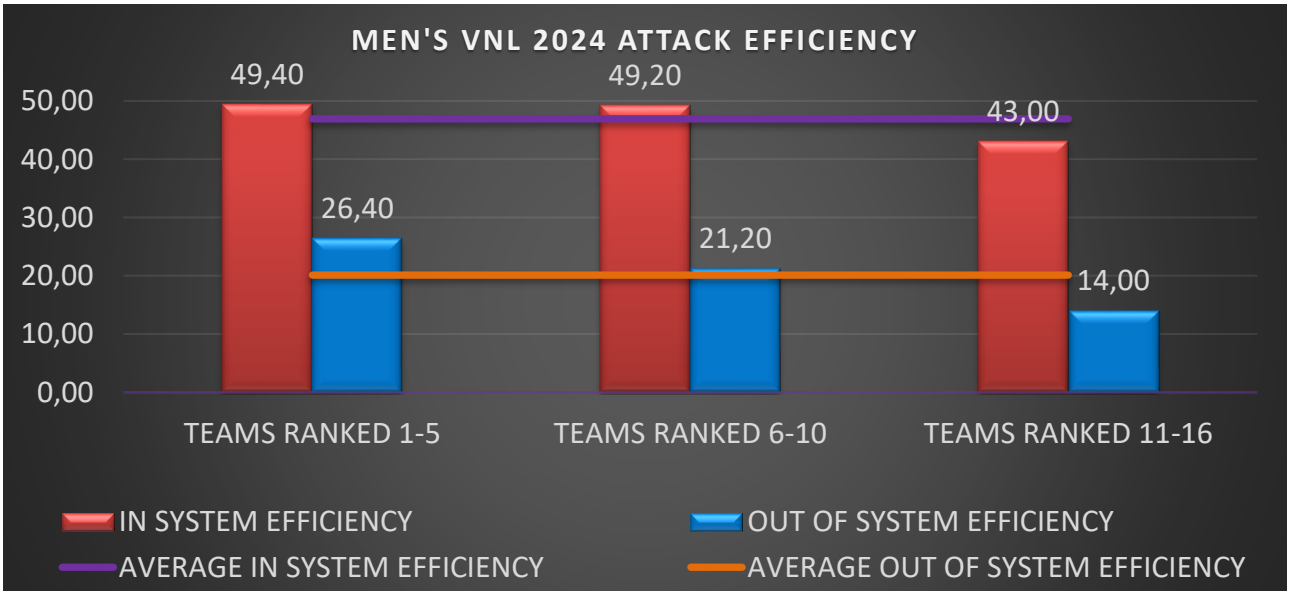
STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	30.35%	POSITIVE RECEPTION %	42.91%	OVERALL	4%	19%	PER SET	2.59	2.18
	CRUNCH TIME	48.81%			CRUNCH TIM	8%	19%		ERRORS	
	SUPER CRUNC	-100.00%	IN SYSTEM EFF	43.44%	SUPER CRUNC	0%	100%	PER SET	6.23	
	TEAM RANK	16	OUT OF SYSTEM	10.49%						

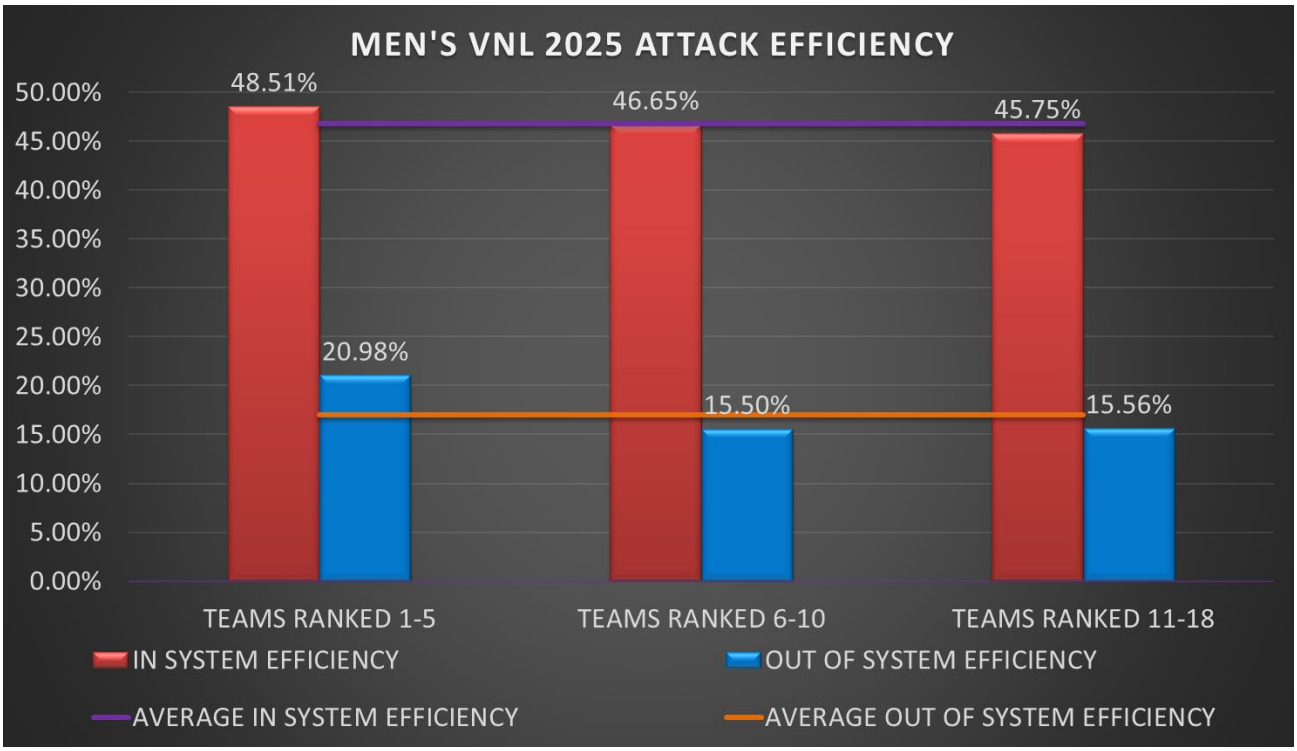
TURKIYE M	MEN									
STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	30.10%	POSITIVE RECEPTION %	41.55%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	32.46%			OVERALL	6%	18%	PER SET	2.76	2.10
	SUPER CRUNC	35.00%	IN SYSTEM EFF	49.85%	CRUNCH TIM	5%	19%		ERRORS	
	TEAM RANK	17	OUT OF SYSTEM	16.56%	SUPER CRUNC	0%	20%	PER SET	6.74	

NETHERLANDS M	MEN									
STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	29.64%	POSITIVE RECEPTION %	53.51%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	39.19%			OVERALL	4%	22%	PER SET	2.02	1.96
	SUPER CRUNC	20.00%	IN SYSTEM EFF	39.66%	CRUNCH TIM	5%	16%		ERRORS	
	TEAM RANK	18	OUT OF SYSTEM	14.84%	SUPER CRUNC	0%	0%	PER SET	7.13	

5.3 Attack Efficiency

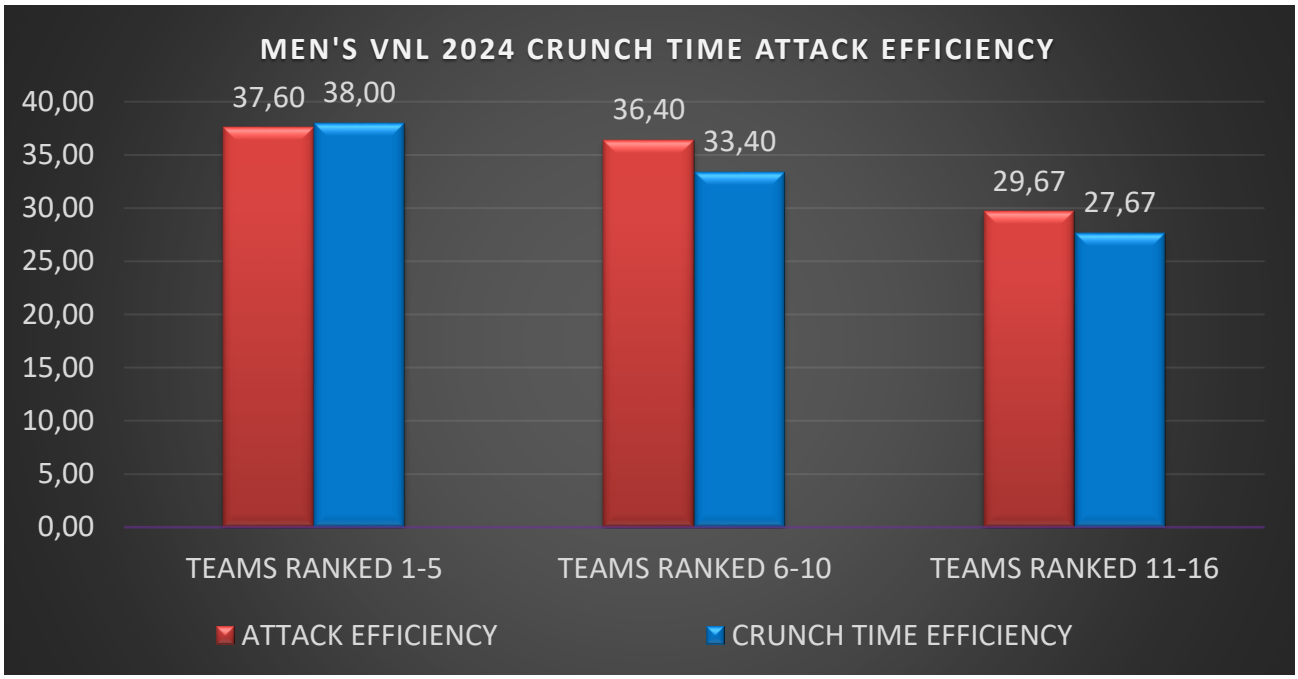
Determining the impact of attack per reception quality on final ranking

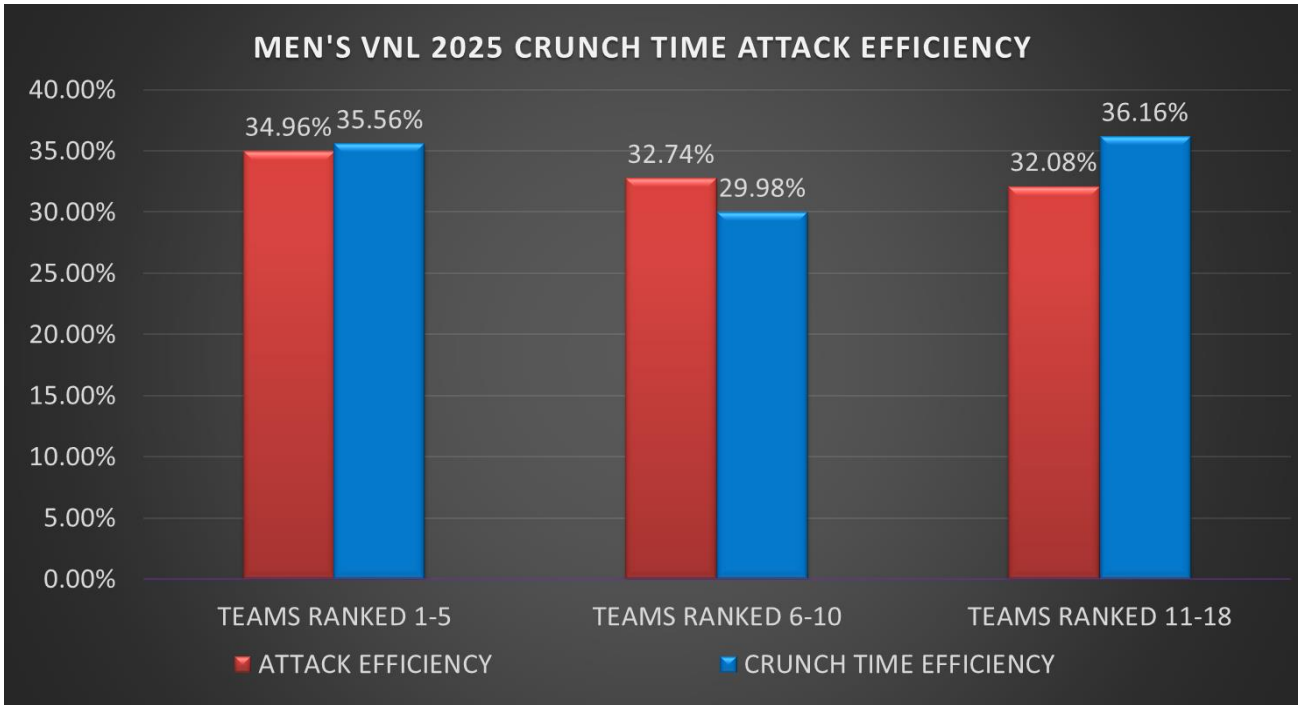




In 2025, there was a clear downward trend in out-of-system efficiency, which could be linked to the overall increase in average blocks per set. The efficiency dropped by around 20% and overall blocks per set were about 20% higher. High ball was more difficult to kill probably more because of better tactical preparation and less due to the younger, less experienced pool of players.

Crunch Time Attack Efficiency - Comparing overall performance to performance in crucial parts of the match

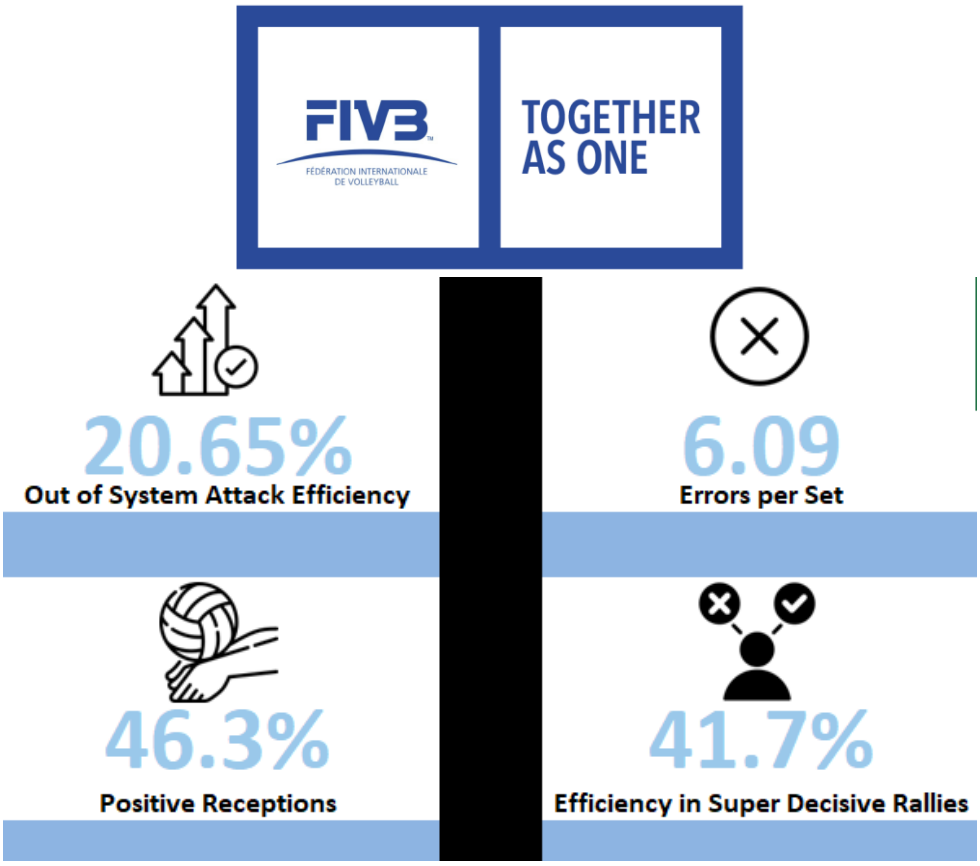




In the crunch time efficiency, changes in efficiency were much less significant.

5.4 Medal-Winning KPI Profile

What makes a team medal-worthy, facing the best teams in the world? The following shows the most impactful KPIs that we have observed as differentiating the top 3 teams from the rest.



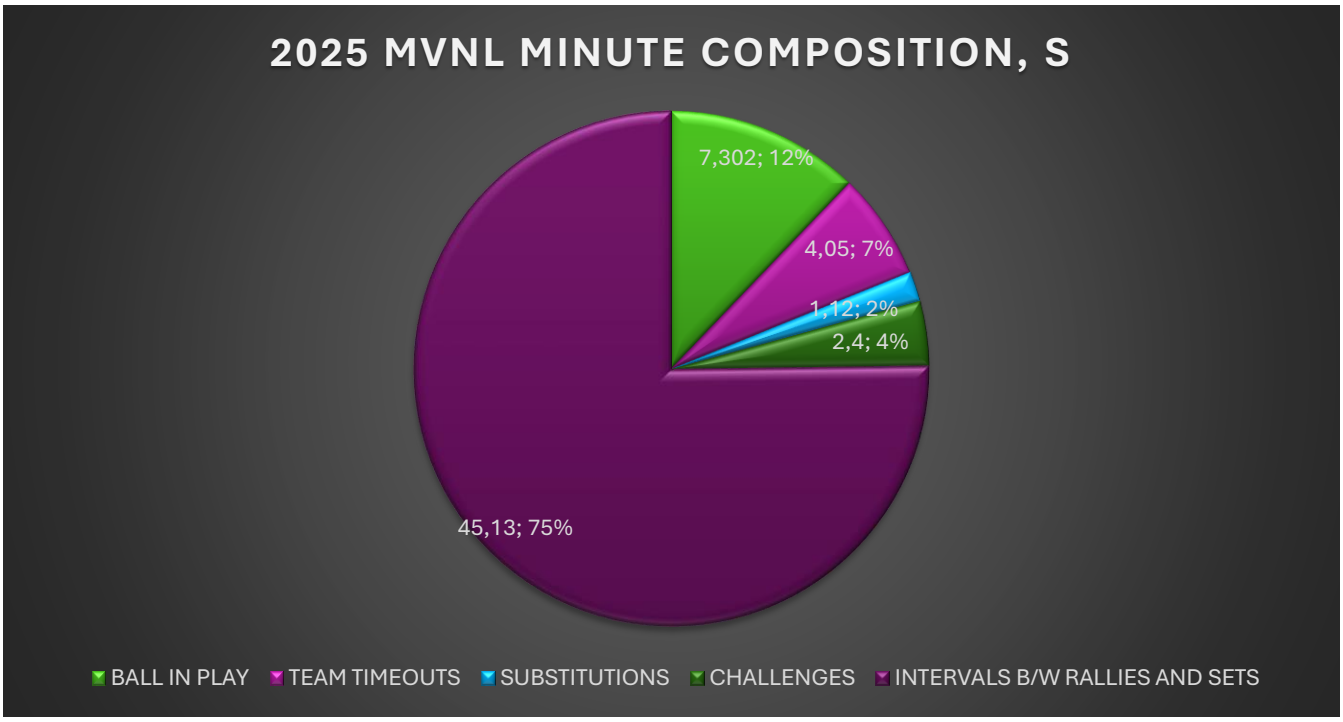
5.5 Challenge Data

	# Challenge Per Match	# Challenges Per Set	Sec Per Ch.	Sec per Set	Sec per Match
2024 MVNL	3.19	0.83	39	32	125
2025 MVNL	5.02	1.28	55	70	278

A serious increase in the duration of the average challenge review and also in the number of challenges being called was observed in 2025.

5.6 VNL Minute

A visualization of the match duration time components in the men's tournament, compiled in 60 seconds, thus showing the VNL minute.



6. WOMEN'S 2025 VNL

6.1 General Match Data

In 2025, women's VNL matches **increased significantly in terms of match tension and average duration**. 2025 is a record in terms of number of 5-set matches, 32 % in the season, and record high match tension, since the inception of VNL.

W VNL	Avg. Total Duration	Avg. # of Rallies	Rallies/ min, total	Match Tension	5 set matches	4 set matches	3 set matches
2018	2:08:34	160	1.47	48.38	20%	30%	50%
2019	2:10:52	163	1.48	50.65	18%	37%	45%
2021	2:17:04	162	1.50	50.00	20%	29%	50%
2022	1:43:33	164	1.59	50.24	18%	38%	43%
2023	1:52:58	164	1.55	53.80	30%	27%	43%
2024	1:37:44	159	1.65	48.80	13%	36%	51%
2025	**1:50:08**	**171**	**1.55**	**55.21**	**32%**	**28%**	**41%**

Source: Calculated from official VIS data

6.2 Team Technical Profiles

The following are the team-specific profiles, with color-coded parameters, compared with competition averages: Green – above average, Yellow – average, Red - below average.

Italy successfully defended their title in 2025, maintaining the strongest overall profile in the women's competition. Their **overall efficiency (33.2%)** remained nearly identical to 2024, supported by stable in-system play **(42.1% vs. 43%)** and a significant improvement in crunch-time output (37.2% vs. 20%). While their serve efficiency declined **(Ace-to-error ratio 0.50 vs. 0.70 in 2024)**, Italy offset this with improved error control (**5.1 errors/set vs. 5.7)** and consistent block presence.

Brazil also repeated as silver medalists, with performance shifts across phases. Their in-system attack climbed to **41.5% (from 37% in 2024**), though out-of-system production fell **(16.0% vs. 27%**). Crunch-time efficiency remained modest **(26.1% vs. 21%),** but incremental gains in stability and lower error **rates (5.1 vs. 5.3)** allowed Brazil to maintain their position on the podium despite a less balanced attacking profile.

Poland again completed the podium, improving both their overall (**30.2% vs. 29%)** and especially **their out-of-system efficiency (22.5% vs. 10% in 2024),** while maintaining strong crunch-time results (**37.1% vs. 38%).** Their error rate also dropped meaningfully **(4.8 vs. 5.7 errors/set),** confirming a more controlled performance.

The 2025 women's podium was therefore a repeat of 2024 in terms of composition, but the underlying profiles shifted. **Whereas the 2024 medalists excelled with higher serving efficiency (Ace-to-error ratios of 0.70 for Italy and 0.67 for Brazil), the 2025 edition was defined more by error reduction and crunch-time execution, particularly for Italy and Poland.**

ITALY W	WOMEN									
STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	33.20%	POSITIVE RECEPTION	50.00%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	37.24%			OVERALL	5%	10%	PER SET	2.87	4.02
	SUPER CRUNC	40.91%	IN SYSTEM EFF	42.12%	CRUNCH TIM	4%	7%		ERRORS	
	TEAM RANK	1	OUT OF SYSTEM	14.44%	SUPER CRUNC	4%	7%	PER SET	5.06	

BRAZIL W	WOMEN									
STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE			BLOCKS AND TEAM ERRORS		
	OVERALL	30.29%	POSITIVE RECEPTION	49.41%		ACES	ERRORS		KILLS	TOUCHES
	CRUNCH TIME	26.12%			OVERALL	5%	11%	PER SET	3.13	3.05
	SUPER CRUNC	8.00%	IN SYSTEM EFF	41.47%	CRUNCH TIM	3%	6%		ERRORS	
	TEAM RANK	2	OUT OF SYSTEM	15.96%	SUPER CRUNC	0%	0%	PER SET	5.14	

POLAND W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	30.20%	POSITIVE RECEPTION	49.18%	OVERALL	5%	10%	PER SET	2.83	3.24
	CRUNCH TIME	37.07%	IN SYSTEM EFF	40.22%	CRUNCH TIN	4%	6%	ERRORS		
	SUPER CRUNC	20.00%	OUT OF SYSTEM	22.47%	SUPER CRUNC	17%	0%	PER SET	4.81	
	TEAM RANK	3								

JAPAN W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	28.65%	POSITIVE RECEPTION	58.28%	OVERALL	6%	11%	PER SET	1.05	4.13
	CRUNCH TIME	30.25%	IN SYSTEM EFF	35.75%	CRUNCH TIN	6%	2%	ERRORS		
	SUPER CRUNC	33.33%	OUT OF SYSTEM	22.09%	SUPER CRUNC	29%	0%	PER SET	5.04	
	TEAM RANK	4								

CHINA W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	31.40%	POSITIVE RECEPTION	51.72%	OVERALL	4%	6%	PER SET	2.18	3.40
	CRUNCH TIME	37.04%	IN SYSTEM EFF	33.02%	CRUNCH TIN	4%	5%	ERRORS		
	SUPER CRUNC	47.06%	OUT OF SYSTEM	30.95%	SUPER CRUNC	0%	4%	PER SET	3.85	
	TEAM RANK	5								

TURKIYE W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	28.73%	POSITIVE RECEPTION	53.56%	OVERALL	5%	11%	PER SET	2.76	3.15
	CRUNCH TIME	40.00%	IN SYSTEM EFF	33.26%	CRUNCH TIN	4%	7%	ERRORS		
	SUPER CRUNC	42.86%	OUT OF SYSTEM	18.99%	SUPER CRUNC	0%	14%	PER SET	5.22	
	TEAM RANK	6								

GERMANY W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	24.33%	POSITIVE RECEPTION	49.48%	OVERALL	7%	11%	PER SET	2.74	3.92
	CRUNCH TIME	29.06%	IN SYSTEM EFF	39.88%	CRUNCH TIN	5%	13%	ERRORS		
	SUPER CRUNC	15.79%	OUT OF SYSTEM	7.43%	SUPER CRUNC	0%	20%	PER SET	5.28	
	TEAM RANK	7								

USA W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	28	POSITIVE RECEPTION %	50	OVERALL	5%	11%	PER SET	2.43	4.40
	CRUNCH TIME	27	IN SYSTEM EFF	42	CRUNCH TIME	3%	12%	ERRORS		
	SUPER CRUNC	50	OUT OF SYSTEM	17	SUPER CRUNCH	0%	0%	PER SET	5.66	
	TEAM RANK	7								

USA W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	25.50%	POSITIVE RECEPTION	42.28%	OVERALL	4%	11%	PER SET	2.54	3.77
	CRUNCH TIME	28.22%			CRUNCH TIM	1%	9%		ERRORS	
	SUPER CRUNC	34.00%	IN SYSTEM EFF	35.24%	SUPER CRUNC	0%	6%	PER SET	5.67	
	TEAM RANK	8	OUT OF SYSTEM	20.23%						

NETHERLANDS W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	28	POSITIVE RECEPTION %	45	OVERALL	5%	11%	PER SET	2.64	4.19
	CRUNCH TIME	42			CRUNCH TIME	4%	3%		ERRORS	
	SUPER CRUNC	50	IN SYSTEM EFF	42	SUPER CRUNCH	0%	0%	PER SET	5.62	
	TEAM RANK	8	OUT OF SYSTEM	17						

FRANCE W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	23.27%	POSITIVE RECEPTION	48.50%	OVERALL	6%	15%	PER SET	2.35	3.42
	CRUNCH TIME	18.03%			CRUNCH TIN	2%	10%		ERRORS	
	SUPER CRUNC	-10.00%	IN SYSTEM EFF	28.64%	SUPER CRUNC	0%	0%	PER SET	6.13	
	TEAM RANK	9	OUT OF SYSTEM	14.29%						

NETHERLANDS W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	26.48%	POSITIVE RECEPTION	42.72%	OVERALL	6%	12%	PER SET	1.70	3.35
	CRUNCH TIME	31.48%			CRUNCH TIN	2%	10%		ERRORS	
	SUPER CRUNC	-7.14%	IN SYSTEM EFF	43.85%	SUPER CRUNC	0%	40%	PER SET	5.74	
	TEAM RANK	10	OUT OF SYSTEM	6.91%						

DOMINICAN W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	26	POSITIVE RECEPTION %	42	OVERALL	5%	11%	PER SET	1.91	3.41
	CRUNCH TIME	26			CRUNCH TIME	3%	11%		ERRORS	
	SUPER CRUNC	25	IN SYSTEM EFF	31	SUPER CRUNCH	0%	0%	PER SET	6.48	
	TEAM RANK	10	OUT OF SYSTEM	16						

CZECHIA W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	25.95%	POSITIVE RECEPTION	48.52%	OVERALL	5%	11%	PER SET	2.49	3.74
	CRUNCH TIME	35.12%			CRUNCH TIN	2%	7%		ERRORS	
	SUPER CRUNC	52.94%	IN SYSTEM EFF	36.90%	SUPER CRUNC	0%	13%	PER SET	5.23	
	TEAM RANK	11	OUT OF SYSTEM	16.75%						

DOMINICAN W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	25.46%	POSITIVE RECEPTION	41.05%	OVERALL	5%	11%	PER SET	2.60	4.06
	CRUNCH TIME	18.42%			CRUNCH TIN	1%	11%		ERRORS	
	SUPER CRUNC	20.00%	IN SYSTEM EFF	33.76%	SUPER CRUNC	0%	8%	PER SET	5.11	
	TEAM RANK	12	OUT OF SYSTEM	22.58%						

GERMANY W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	27	POSITIVE RECEPTION %	50	OVERALL	7%	11%	PER SET	2.07	3.38
	CRUNCH TIME	22			CRUNCH TIME	7%	11%		ERRORS	
	SUPER CRUNC	0	IN SYSTEM EFF	35	SUPER CRUNCH	0%	0%	PER SET	6.29	
	TEAM RANK	12	OUT OF SYSTEM	19						

FRANCE W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	22	POSITIVE RECEPTION %	43	OVERALL	6%	13%	PER SET	2.07	2.41
	CRUNCH TIME	31			CRUNCH TIME	9%	7%		ERRORS	
	SUPER CRUNC	14	IN SYSTEM EFF	31	SUPER CRUNCH	11%	11%	PER SET	6.78	
	TEAM RANK	13	OUT OF SYSTEM	3						

BULGARIA W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	22.13%	POSITIVE RECEPTION	46.54%	OVERALL	4%	9%	PER SET	2.16	3.90
	CRUNCH TIME	25.77%			CRUNCH TIN	0%	9%		ERRORS	
	SUPER CRUNC	37.93%	IN SYSTEM EFF	33.19%	SUPER CRUNC	0%	5%	PER SET	4.74	
	TEAM RANK	13	OUT OF SYSTEM	10.34%						

BELGIUM W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	22.52%	POSITIVE RECEPTION	44.38%	OVERALL	5%	10%	PER SET	1.61	3.59
	CRUNCH TIME	23.49%			CRUNCH TIN	6%	7%		ERRORS	
	SUPER CRUNC	19.23%	IN SYSTEM EFF	32.17%	SUPER CRUNC	0%	15%	PER SET	4.73	
	TEAM RANK	14	OUT OF SYSTEM	13.02%						

THAILAND W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	23	POSITIVE RECEPTION %	50	OVERALL	5%	9%	PER SET	0.96	3.32
	CRUNCH TIME	21			CRUNCH TIME	5%	8%		ERRORS	
	SUPER CRUNC	0	IN SYSTEM EFF	34	SUPER CRUNCH	0%	0%	PER SET	5.40	
	TEAM RANK	14	OUT OF SYSTEM	7						

SERBIA W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	24.23%	POSITIVE RECEPTION	50.10%	OVERALL	6%	14%	PER SET	2.76	2.51
	CRUNCH TIME	13.33%			CRUNCH TIN	5%	7%		ERRORS	
	SUPER CRUNC	7.14%	IN SYSTEM EFF	33.75%	SUPER CRUNC	0%	0%	PER SET	6.29	
	TEAM RANK	15	OUT OF SYSTEM	13.16%						

CANADA W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	25.89%	POSITIVE RECEPTION	43.11%	OVERALL	5%	13%	PER SET	2.29	4.04
	CRUNCH TIME	41.40%	IN SYSTEM EFF	40.23%	CRUNCH TIN	3%	13%	ERRORS		
	SUPER CRUNC	25.00%	OUT OF SYSTEM	13.27%	SUPER CRUNC	0%	17%	PER SET	5.48	
	TEAM RANK	16								

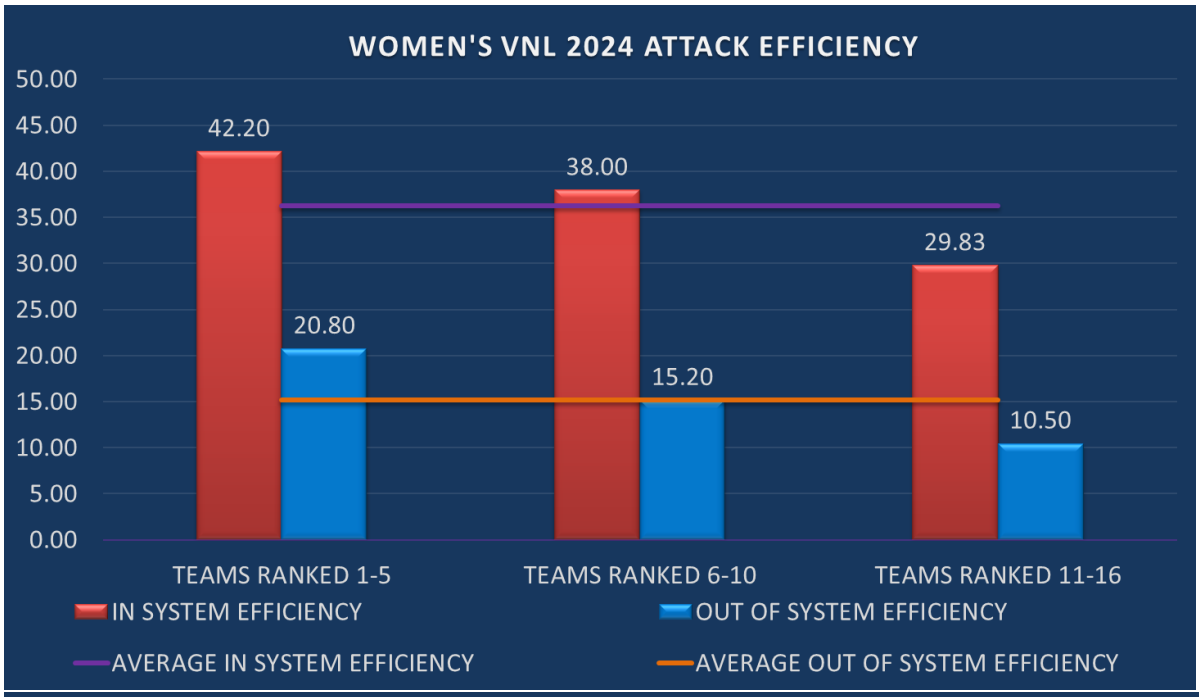
THAILAND W — WOMEN

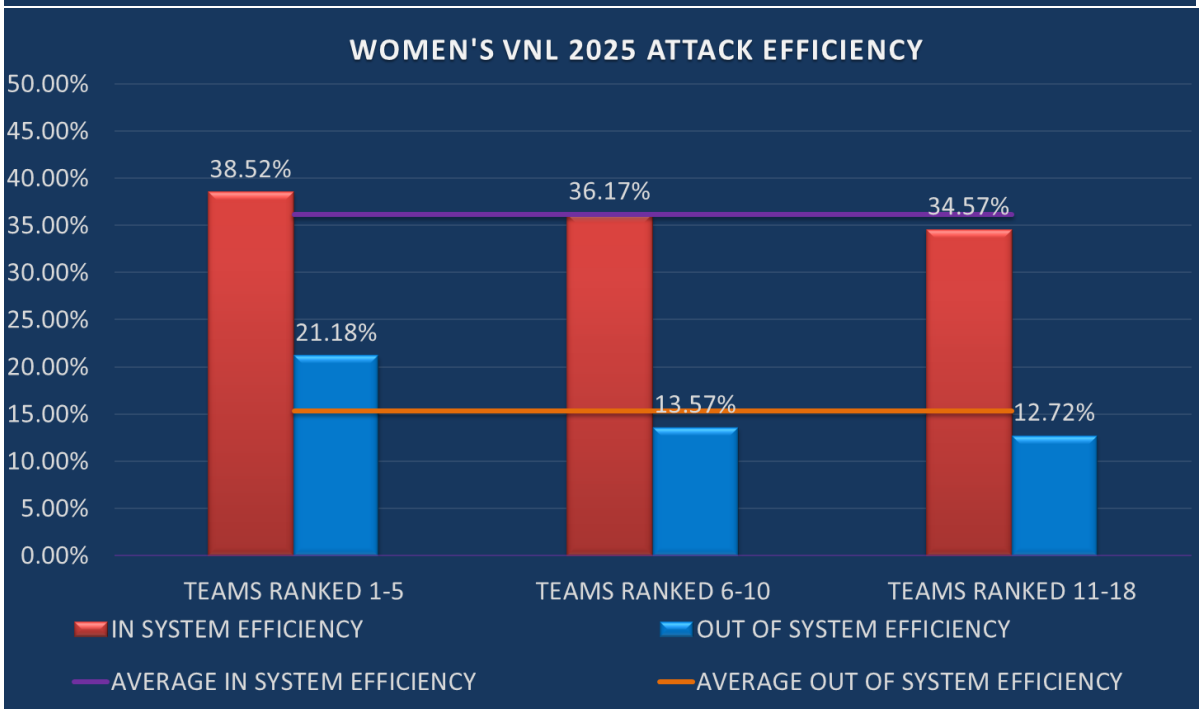
STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	25.50%	POSITIVE RECEPTION	48.32%	OVERALL	3%	8%	PER SET	1.42	3.82
	CRUNCH TIME	32.35%	IN SYSTEM EFF	35.38%	CRUNCH TIN	2%	8%	ERRORS		
	SUPER CRUNC	16.13%	OUT OF SYSTEM	11.52%	SUPER CRUNC	0%	7%	PER SET	4.13	
	TEAM RANK	17								

KOREA W — WOMEN

STATS AND RANKINGS	ATTACK EFFFICIENCY		EFFICIENCY IN AND OUT OF SYSTEM		SERVE PERFORMANCE	ACES	ERRORS	BLOCKS AND TEAM ERRORS	KILLS	TOUCHES
	OVERALL	16.99%	POSITIVE RECEPTION	40.55%	OVERALL	5%	13%	PER SET	1.37	3.37
	CRUNCH TIME	16.67%	IN SYSTEM EFF	31.13%	CRUNCH TIN	0%	9%	ERRORS		
	SUPER CRUNC	3.57%	OUT OF SYSTEM	1.15%	SUPER CRUNC	0%	17%	PER SET	5.43	
	TEAM RANK	18								

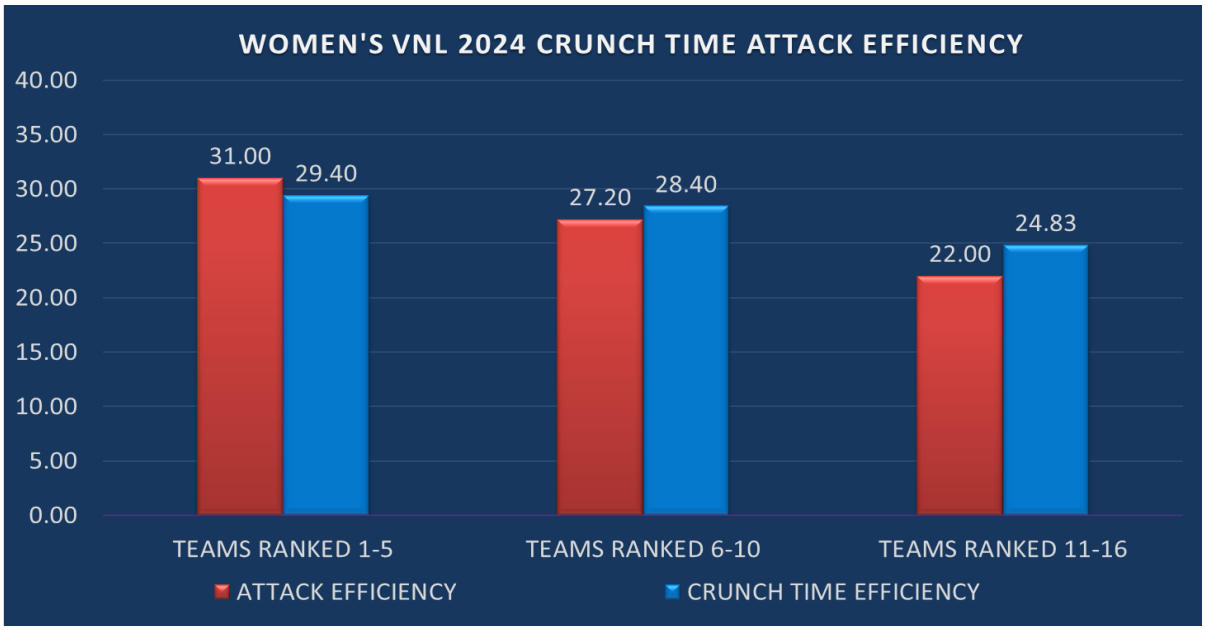
6.3 Attack Efficiency

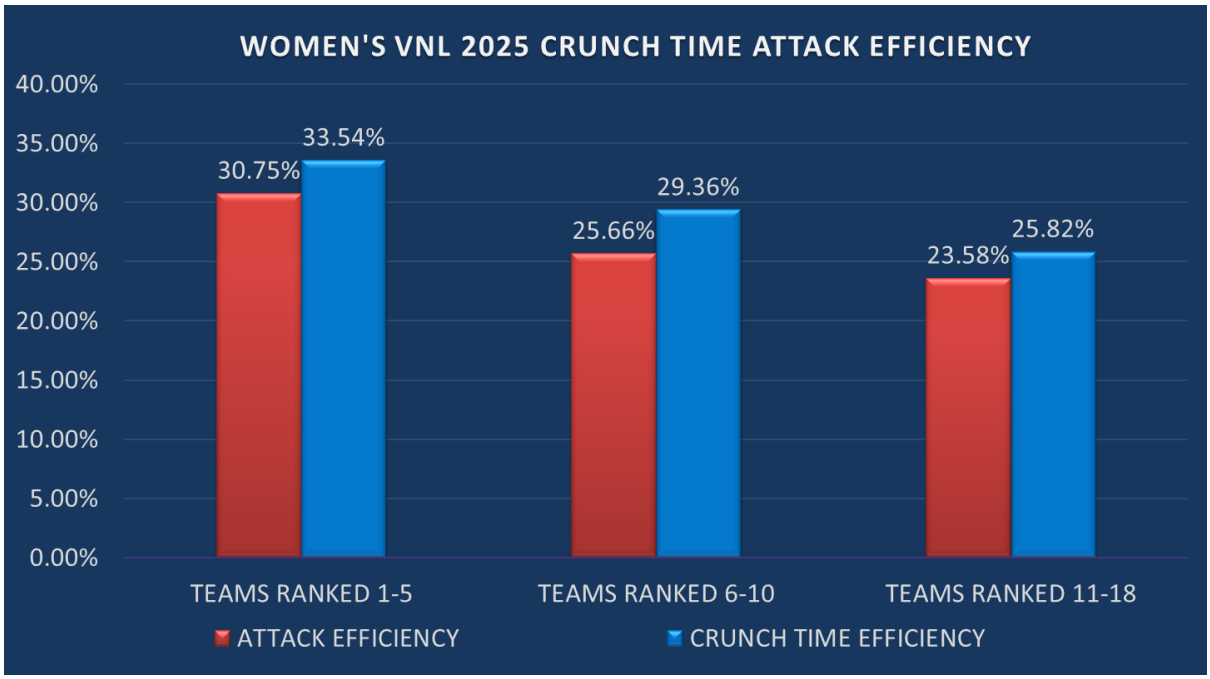




In 2025, in system attack efficiency **slightly decreased,** in correlation with the increase of match tension, while out-of-system efficiency remained mostly unchanged.

Crunch Time Efficiency

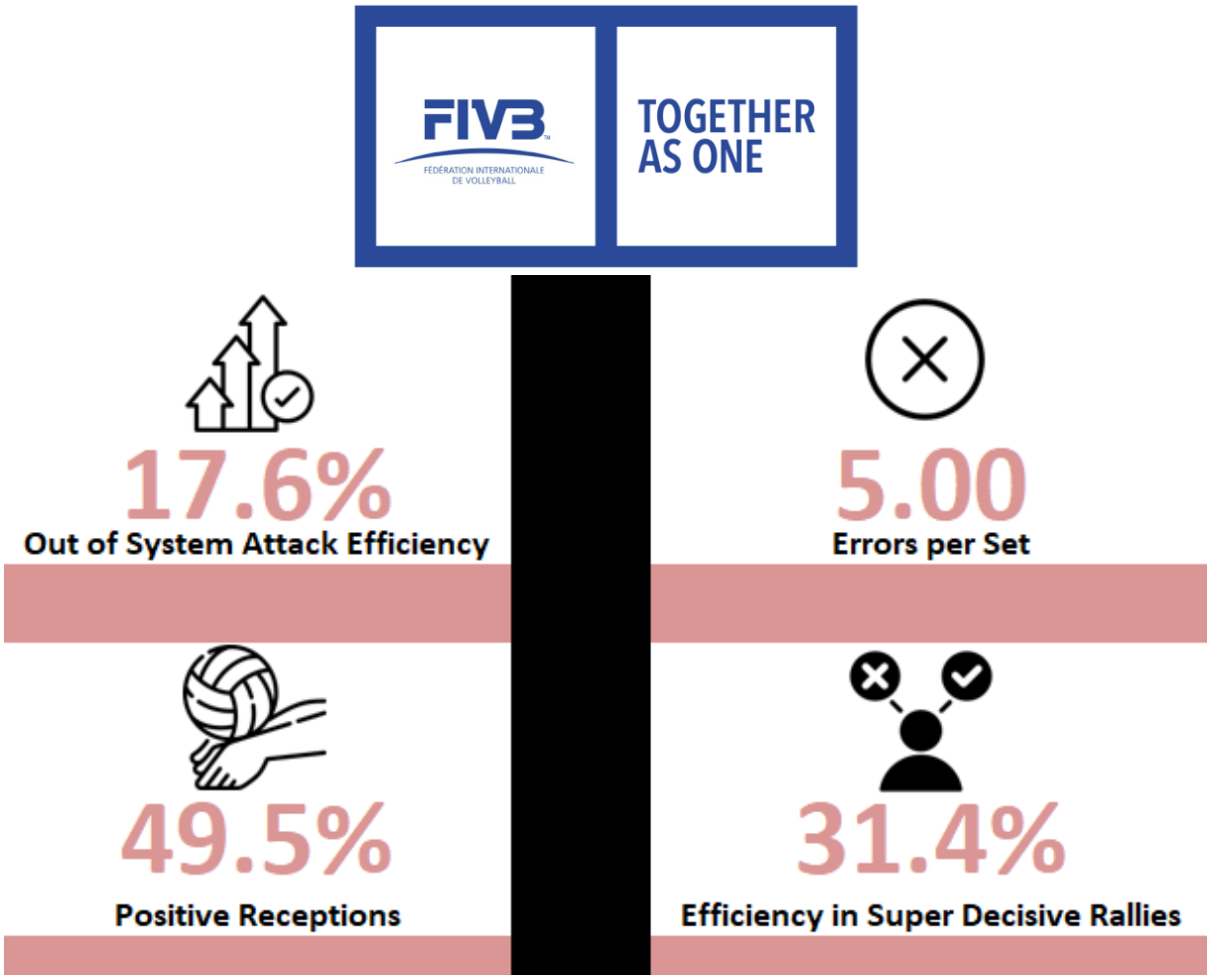




Mostly unchanged from 2024, crunch time efficiency only increased slightly in the top-ranked teams in 2025.

6.4 Medal-Winning KPI Profile

The following shows the most impactful KPIs that we have observed as differentiating the top 3 teams from the rest.



Slight decrease in out-of-system efficiency and stronger in super-crunch efficiency marked this year's medal-winning profile.

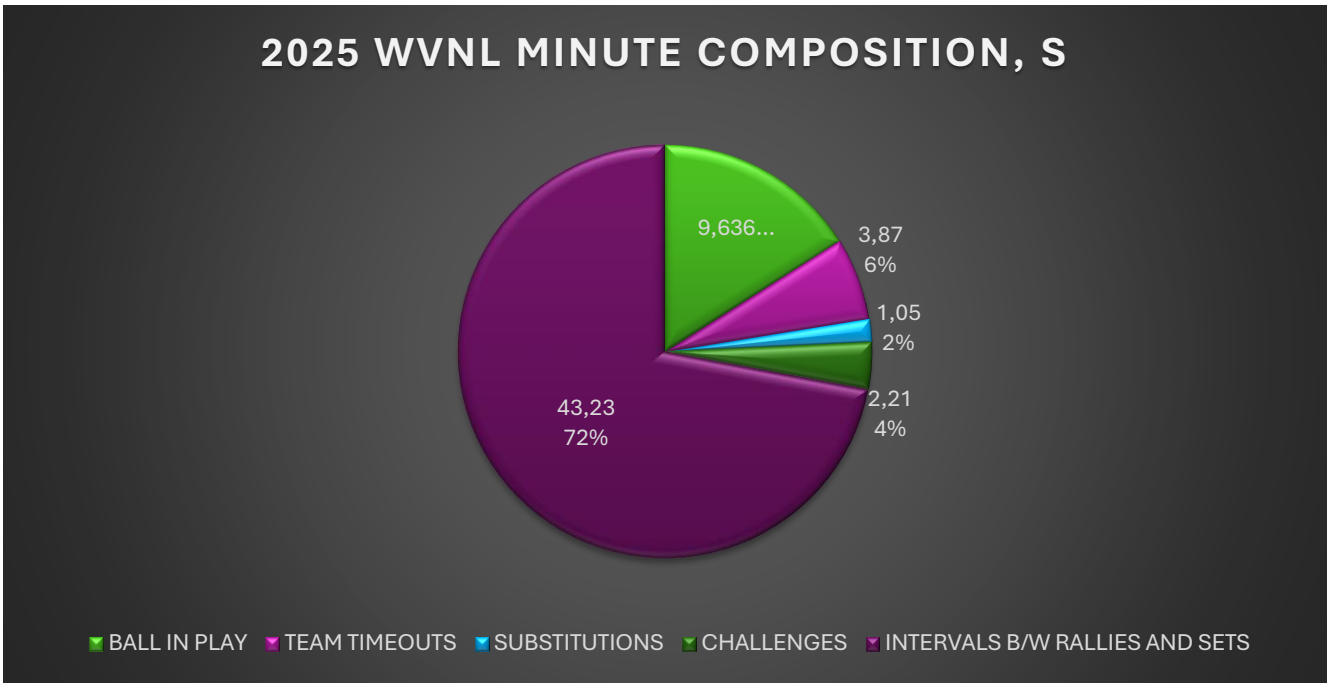
6.5 Challenge Data

	# Challenge Per Match	# Challenges Per Set	Sec Per Ch.	Sec per Set	Sec per Match
2024 WVNL	3.19	0.83	38.2	32	125
2025 WVNL	5.13	1.27	48.1	61	244

The challenge time data is very similar to men's edition, with a huge increase in both number of challenges and the time for their processing. Not impactful on the overall time picture (1 or 2 minutes over 120) but in comparison with the previous year, the trend is very noticeable.

6.6 WVNL Minute

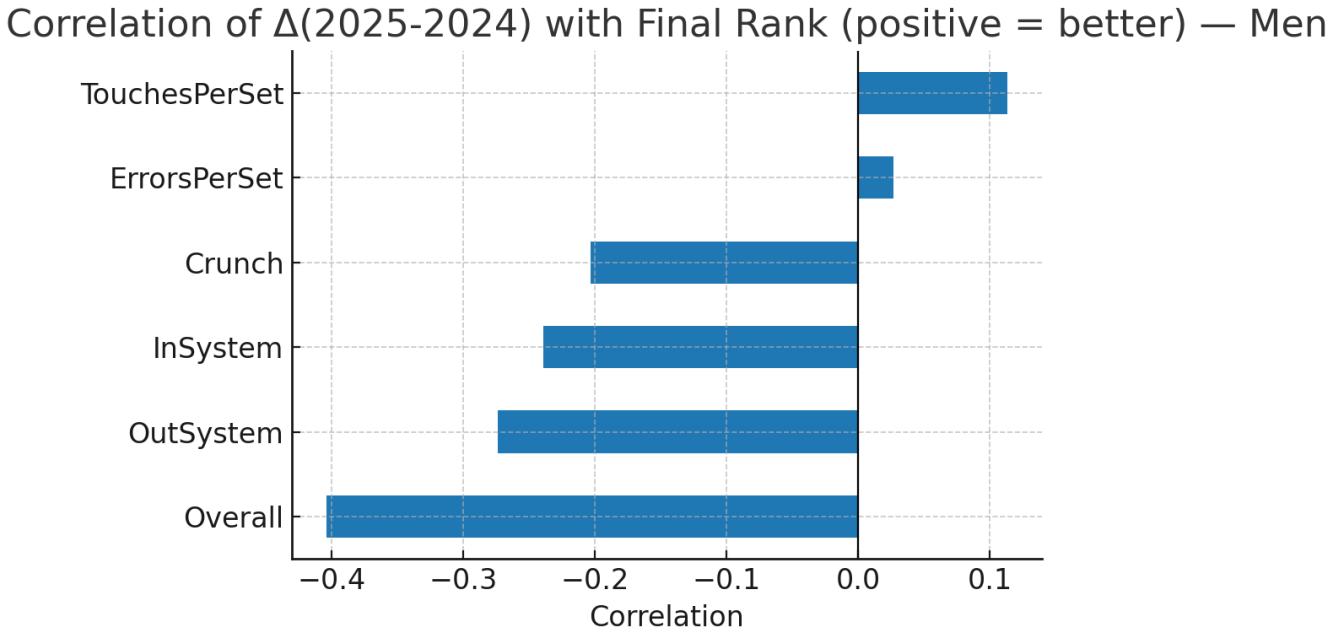
A visualization of the match duration time components in the women's tournament, compiled in 60 seconds, thus showing the VNL minute.

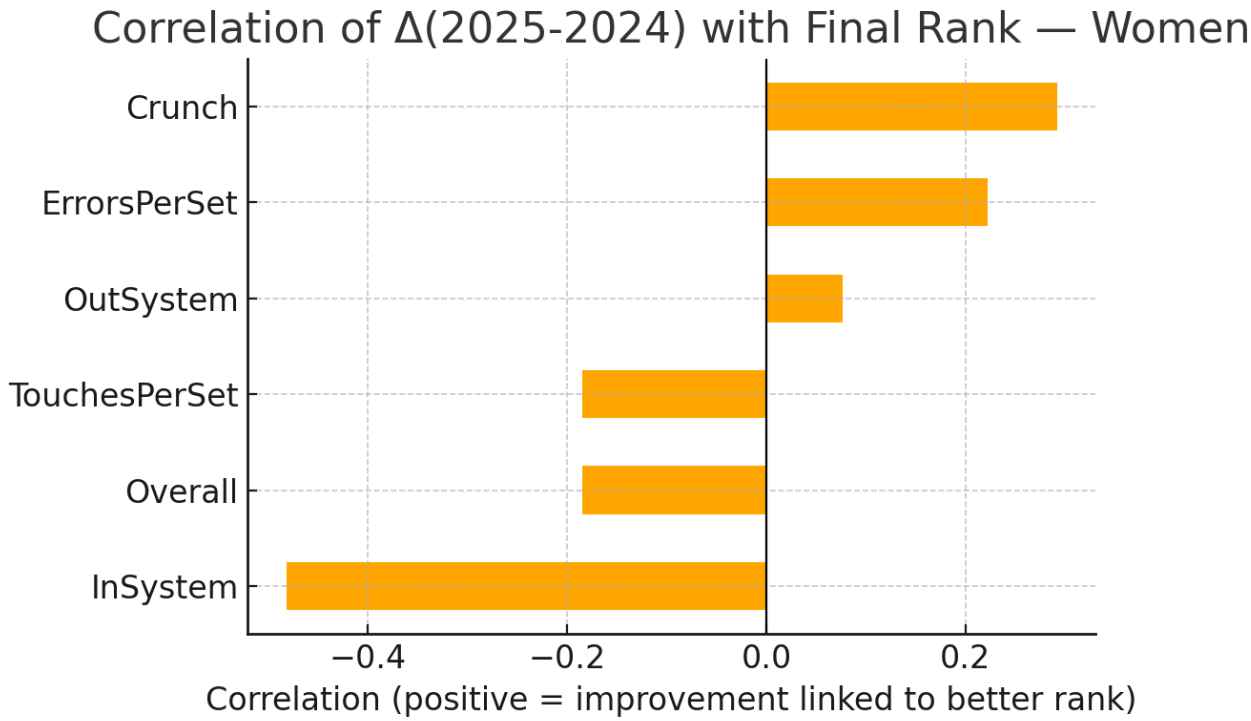


7. DEEP DIVE

7.1 Year-on-Year KPI Delta vs Rank Delta

Year-to-Year Efficiencies and Ranking Impact





When comparing **2025 performance against 2024 baselines** for the 16 teams that played in both seasons, an interesting pattern emerges. On the surface, some correlations appear counter-intuitive: improvements in **In-System** or **Overall Attack Efficiency** do not show a positive link with better final ranking. In fact, the correlation is negative for women's In-System efficiency and men's Overall efficiency.

This paradox is explained by the **ceiling effect**:

- In 2024, the top-ranked teams were already performing at very high levels in these attacking metrics. By 2025, they had little room to improve further, and in some cases their efficiencies dropped slightly while still retaining elite performance.
- Conversely, several mid- and lower-tier teams posted the biggest efficiency gains, but those gains were not sufficient to significantly improve their competitive position. The statistical result is that "improvement" in these metrics is more visible in lower-ranked teams, while the best teams remain consistently strong.

Where meaningful differentiation did emerge was in **Crunch Time Efficiency** and **error management**:

- For the **women**, increases in Crunch efficiency (+0.29 correlation with rank) and reductions in errors (+0.22) were directly associated with better final standings. These are the pressure moments where small margins separate the very best from the rest.

- For the **men**, changes in attacking efficiencies did not explain much variance, but defensive stability showed influence: more block touches (+0.11) and fewer errors (+0.03) aligned with stronger rankings.

Key takeaway:

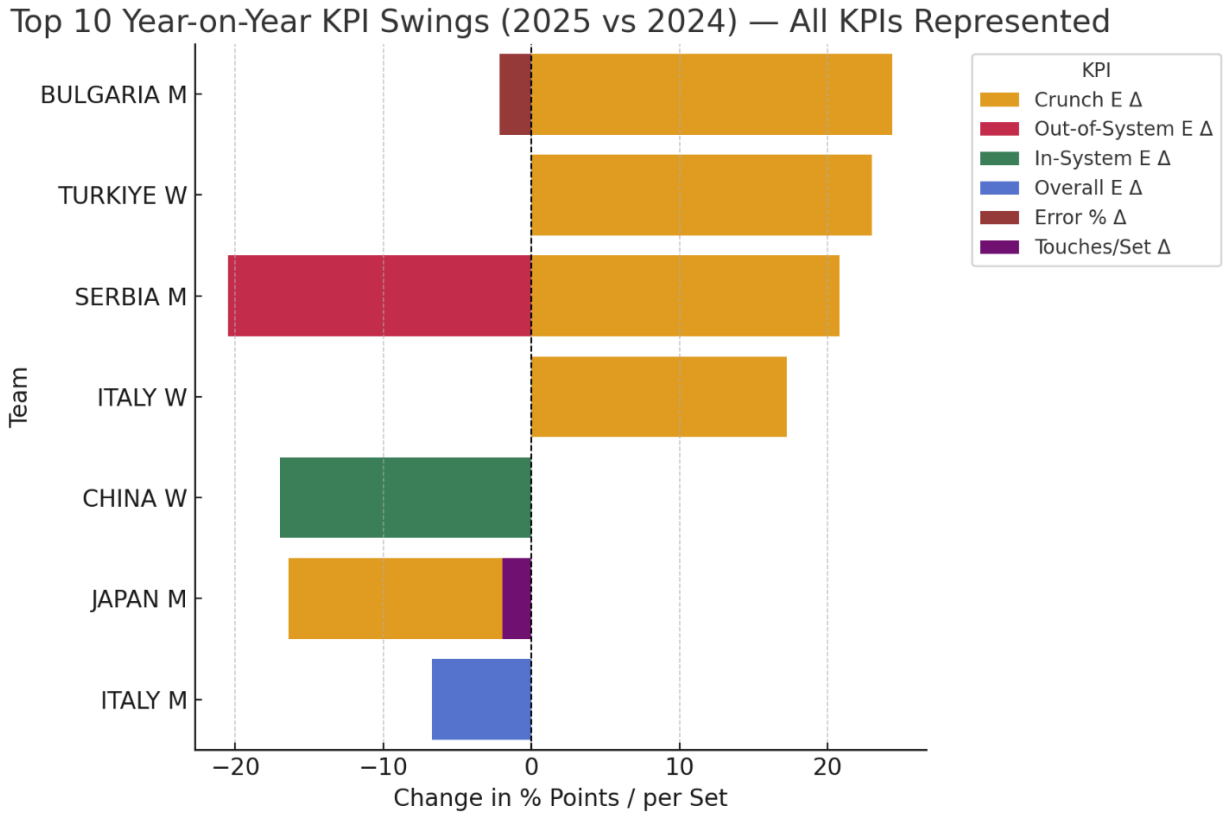
Top teams are already operating near the ceiling in attack efficiencies, so year-to-year gains there do not strongly predict ranking changes. Instead, **performance under pressure (Crunch)** and **limiting errors** remain the decisive factors driving success.

Crunch Time Attack Efficiency dominates the top swings, confirming it as the most volatile and impactful KPI. Both Bulgaria M (+24pp) and Türkiye W (+23pp) made dramatic improvements that translated into higher competitiveness.

Negative swings matter too: Serbia M is unique for appearing twice — huge gains in Crunch (+20.8pp) but a collapse Out-of-System (−20.5pp), explaining their lower rank.

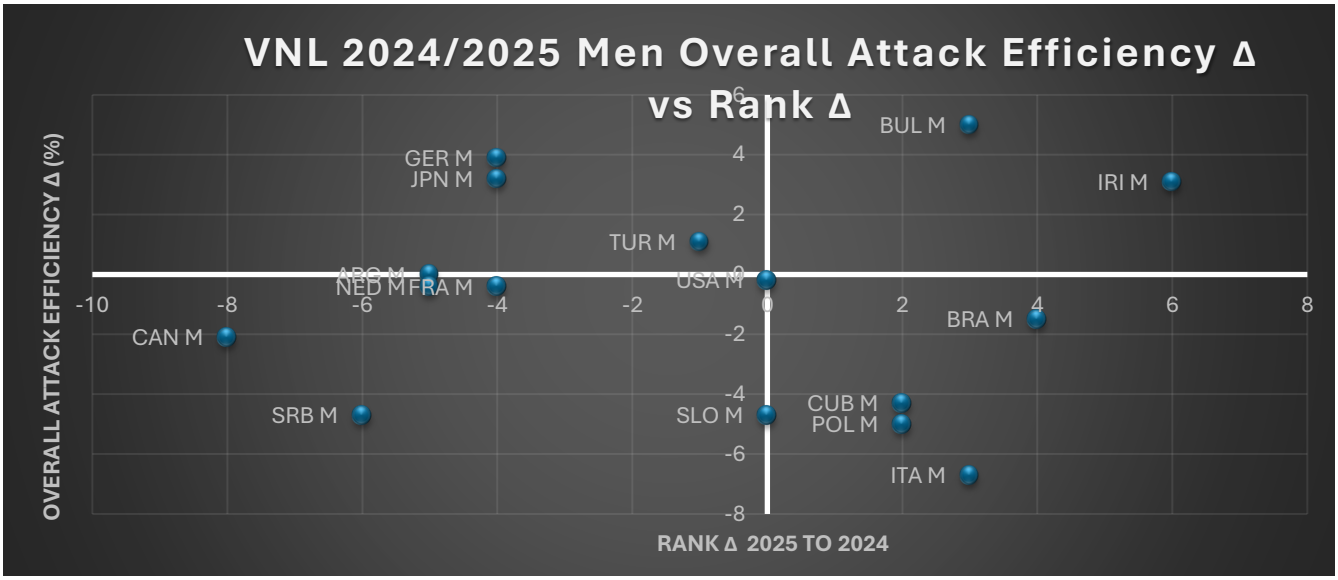
Top teams still shifting: Italy W (champions) posted a +17pp Crunch gain, consolidating their #1 spot. Conversely, Italy M slipped −6.7pp in Overall efficiency despite finishing 2nd.

Systemic warning signs: China W's In-System drop (−17pp) shows vulnerability in what was their strength. Japan M's negative Crunch and fewer block touches also signal why their progress stalled.

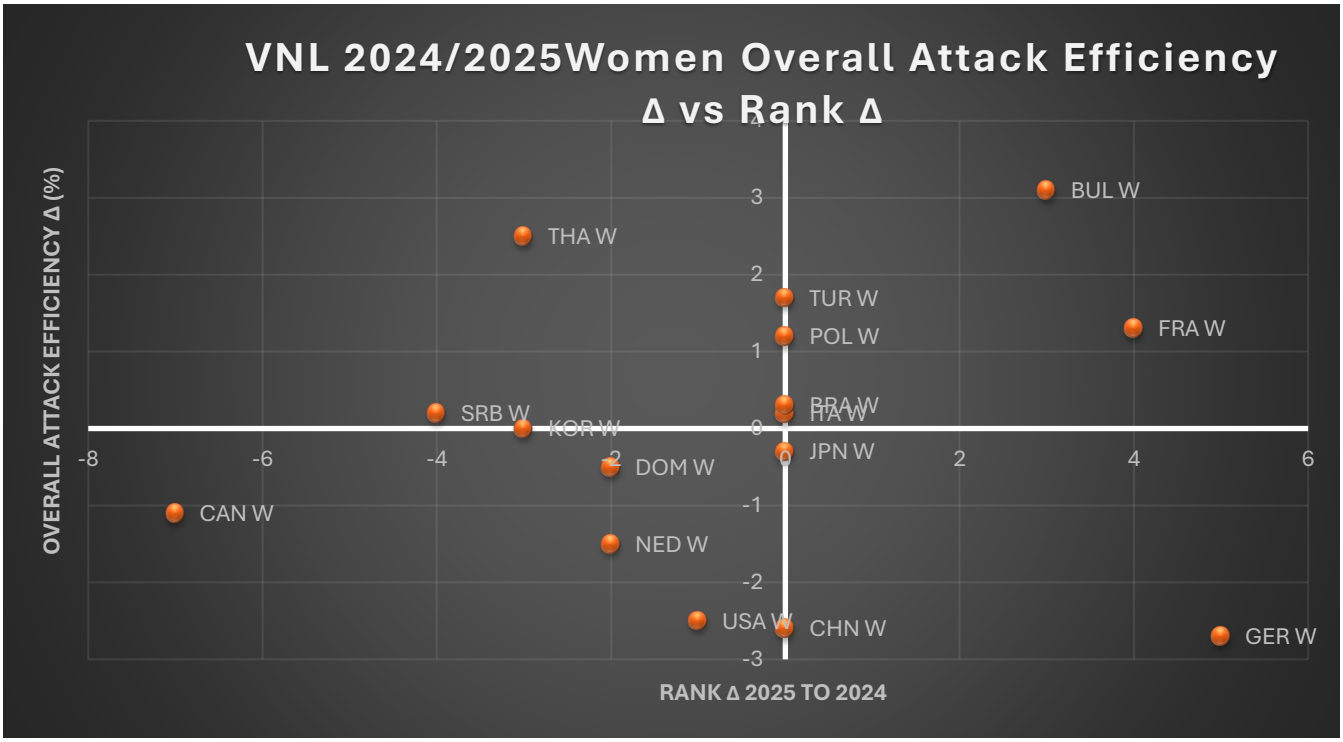


The charts below show the relationship between changes in team ranking and changes in Overall Attack Efficiency for both genders. In this context, a positive Rank Δ indicates an improvement in final ranking (e.g., moving from 6th to 2nd), while a negative Rank Δ indicates a decline.

Overall Attack Efficiency (Men): Men's In-System Efficiency vs Rank Δ

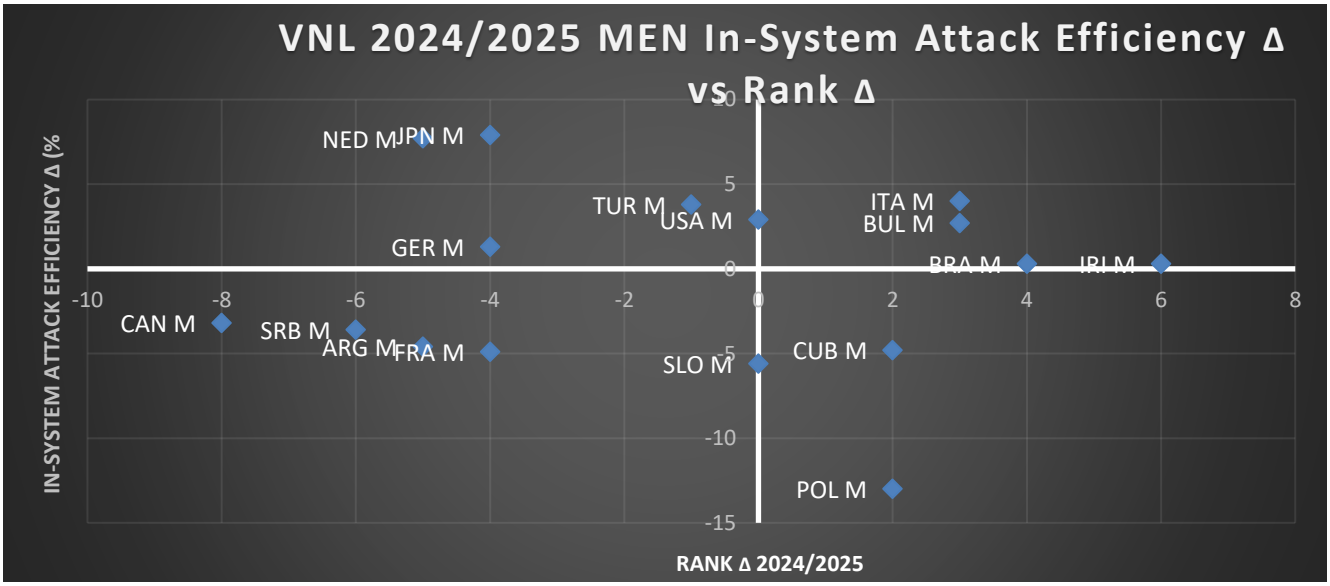


Overall Attack Efficiency (Women): Women's In-System Efficiency vs Rank Δ

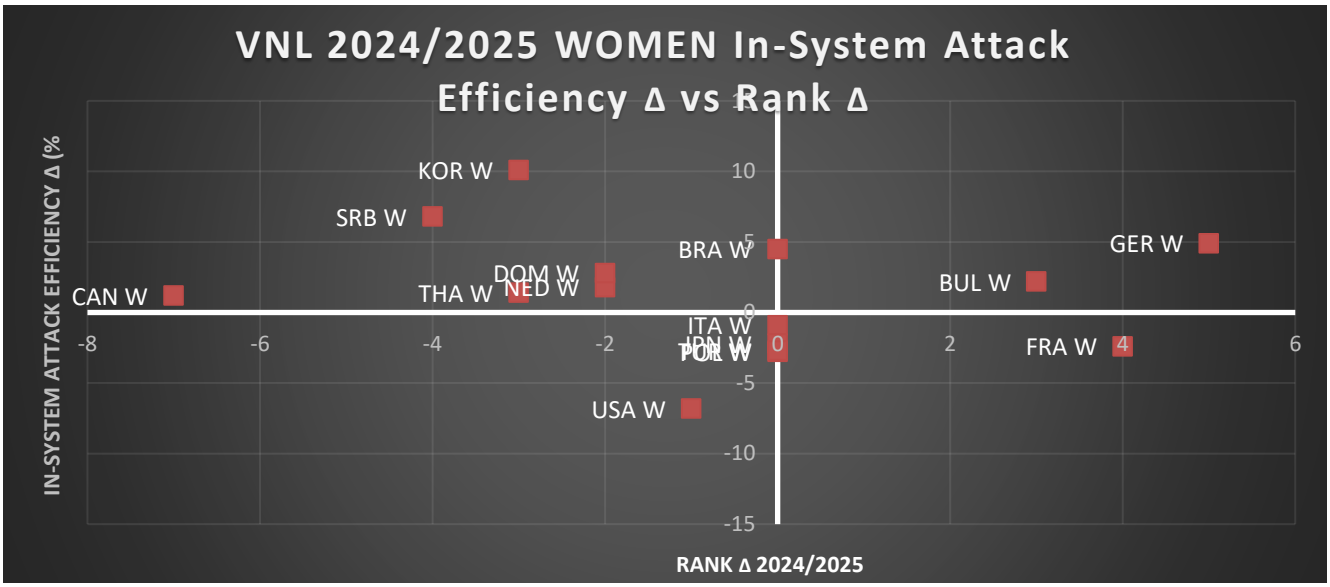


In the men's event Bulgaria and Iran made advances in both rank and overall attack efficiency, while Serbia made a huge double shift downward. In the women's tournament Bulgaria and Grance made a noticeable improvement, while Canada declined steeply.

In-System Efficiency (Men): Men's In-System Efficiency vs Rank Δ



In-System Efficiency (Women): Women's In-System Efficiency vs Rank Δ

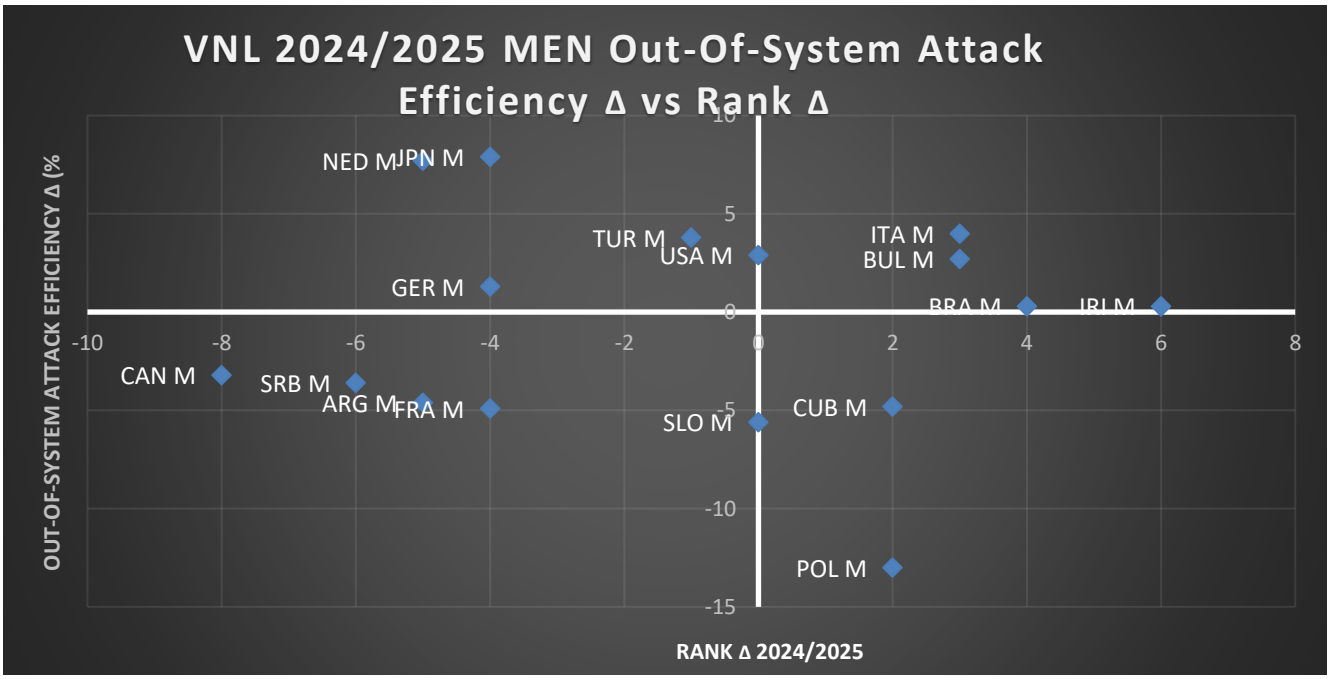


In the women's chart, most teams remain clustered near zero, reinforcing system stability. Notably, Bulgaria and Germany posted improvements in efficiency aligned with upward rank movement, while USA fell slightly in both metrics.

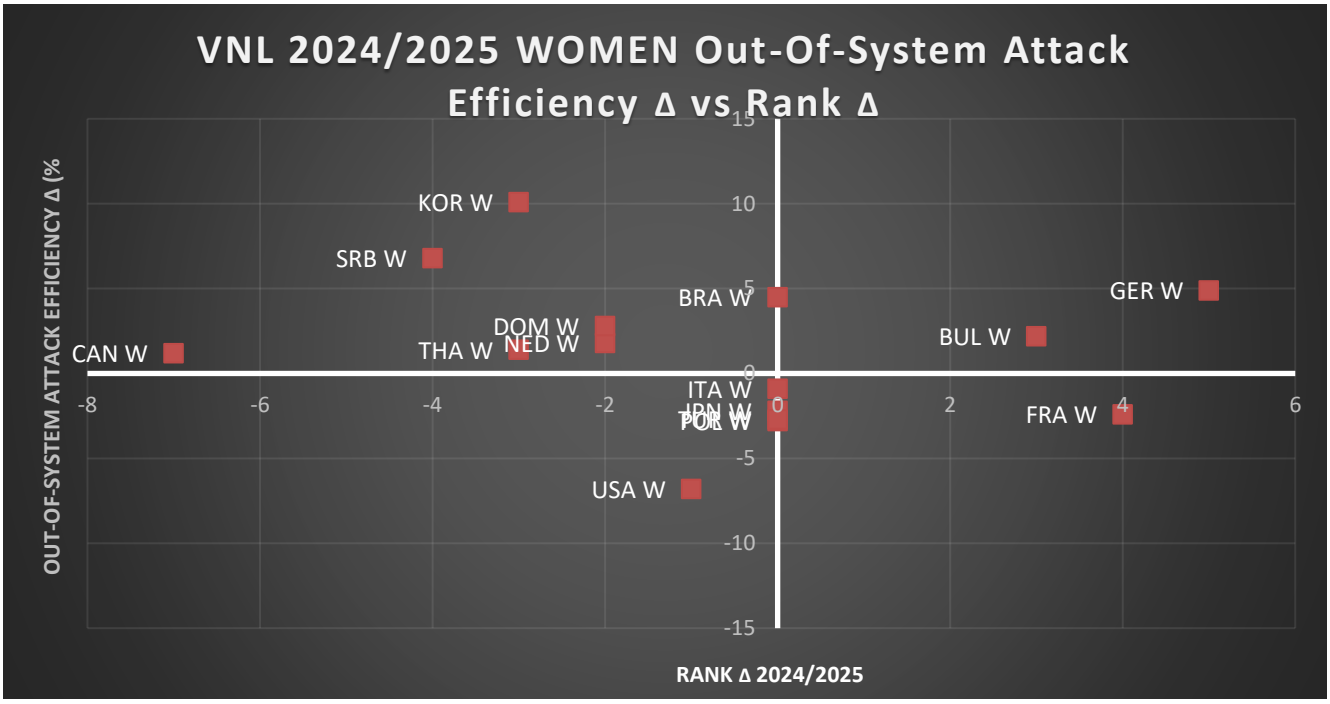
In contrast, the men's field again showed stronger performance volatility. Italy and Bulgaria made large efficiency gains with improved ranks, while Canada and Serbia declined in both.

We also analyzed Out-of-System Attack Efficiency in the same way:

Out-of-System Efficiency (Men): Men's Out-of-System Efficiency vs Rank Δ



Out-of-System Efficiency (Women): Women's Out-of-System Efficiency vs Rank Δ



On the men's side, Japan and Netherlands led efficiency gains, but Italy and Bulgaria showed the highest correlation with upward rank movement, while France, and Argentina showed clear declines, closely aligned with a lower ranking. These results confirm that out-of-system execution remains a critical differentiator.

In the women's chart, Germany and Bulgaria posted substantial improvements in out-of-system attack, coupled with positive rank deltas. USA saw both a decline in rank and drop in efficiency, reinforcing the tactical importance of high-ball execution.

7.2 Momentum Metrics

For the sake of the current report, in both the men's and women's VNL 2025 tournaments, momentum will be defined by the length of scoring streaks and the way coaches deployed timeouts to manage them.

Scoring streaks and dominance patterns. In the men's competition, medal-winning teams (Poland, Italy, Brazil) regularly pieced together 4–6-point runs. Poland turned a 19–18 edge into 24–18 against the Netherlands with five straight points and logged a six-point burst versus Türkiye. Italy's men limited opponents to single-point side-outs while creating four-point surges, and Brazil produced a decisive five-point swing in the bronze-medal match. Bottom teams (Serbia, Türkiye, Netherlands) seldom strung together more than three consecutive points and quickly relinquished momentum. Similar patterns emerged in the women's tournament: Italy and Poland generated 4- to 5-point runs and rarely conceded long streaks, while Brazil's women

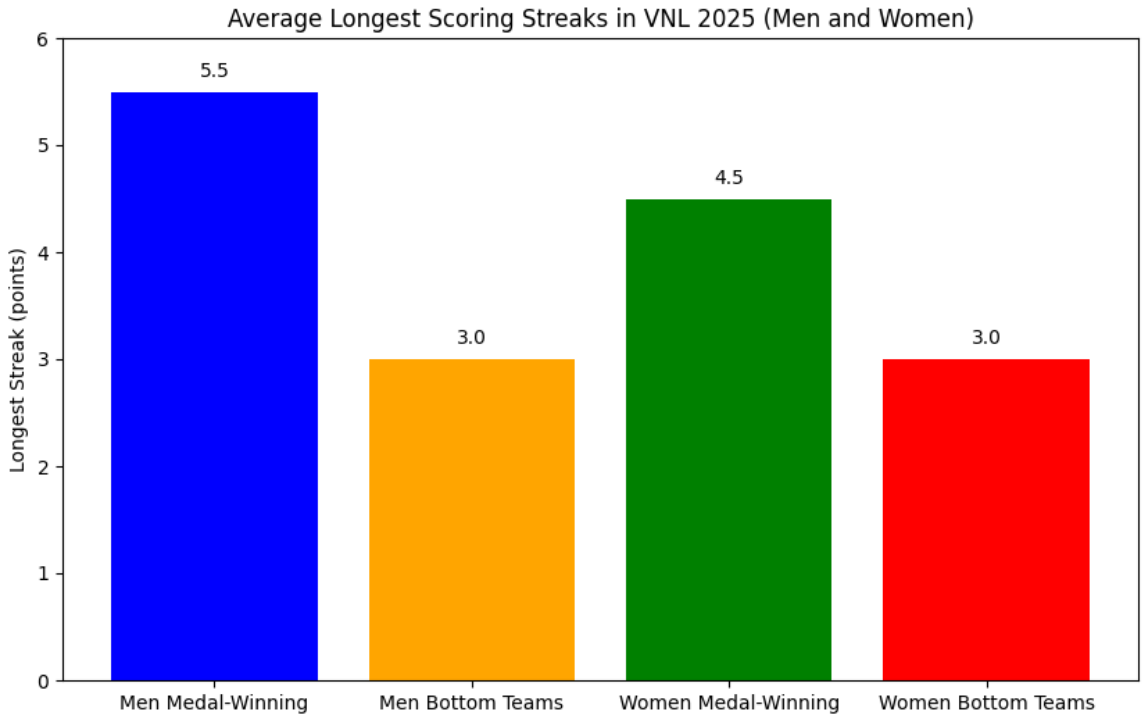
and lower-ranked Canada, Thailand and Korea struggled to extend beyond three points, often surrendering multi-point runs that decided sets.

Patience. From the play-by-play data examined, the most extended run an opponent scored before a timeout was called occurred in the men's match between Poland and Türkiye. Poland turned a 14–13 edge into a 20–13 lead by scoring six consecutive points. Türkiye didn't stop play until after the sixth point, at which point Poland had already established a decisive cushion. **No other match reviewed showed a run exceeding six points before a timeout was taken;** most coaches intervened after three or four lost rallies, and **some—like Canada's women—called timeouts after just two points.**

Timeout strategy. Some research suggests timeouts are most effective when called after **1–3** lost rallies and a **2–3-point deficit.** Men's medal-winning teams adhered to this proactive philosophy: Poland took a timeout while leading 24–21 versus the Netherlands, mostly to put pressure on the server, and won the next rally to seal the set, while Italy paused at 16–13 against the Netherlands to reinforce tactics. Brazil used timeouts sparingly, mainly to organize end-game plays. In contrast, the bottom-ranked men's squads waited until they were down three or more points; Türkiye called breaks at 13–10 and 18–21 against Poland but continued to concede points afterwards. The women's event mirrored this divide. Italy and Poland's dominance meant they rarely needed timeouts, whereas Canada used two timeouts in quick succession at 18–19 and at 20-22 in a close set with the Netherlands without reversing the momentum; Korea sometimes did not call timeouts at all during opponent runs. These observations align with findings that coaches often request timeouts after the opponent scores 1–3 points, yet they are less likely to be effective when the deficit is already large.

Outcome. Momentum metrics thus highlight a clear performance gap: **teams that regularly produced runs of four or more points and timed their timeouts strategically (Poland, Italy and, to a lesser extent, Brazil) maintained control of sets and matches. Teams unable to exceed three-point streaks and using timeouts reactively (Serbia, Türkiye, Netherlands, Canada, Thailand, Korea) saw little benefit from those breaks and struggled to halt their opponents' momentum.**

This bar chart shows the average longest scoring streaks recorded by medal-winning and bottom teams in the 2025 VNL. Men's medal-winning teams averaged 5.5 points per run, while the men's and women's bottom teams averaged 3 points. Women's medal-winning teams averaged 4.5 points.

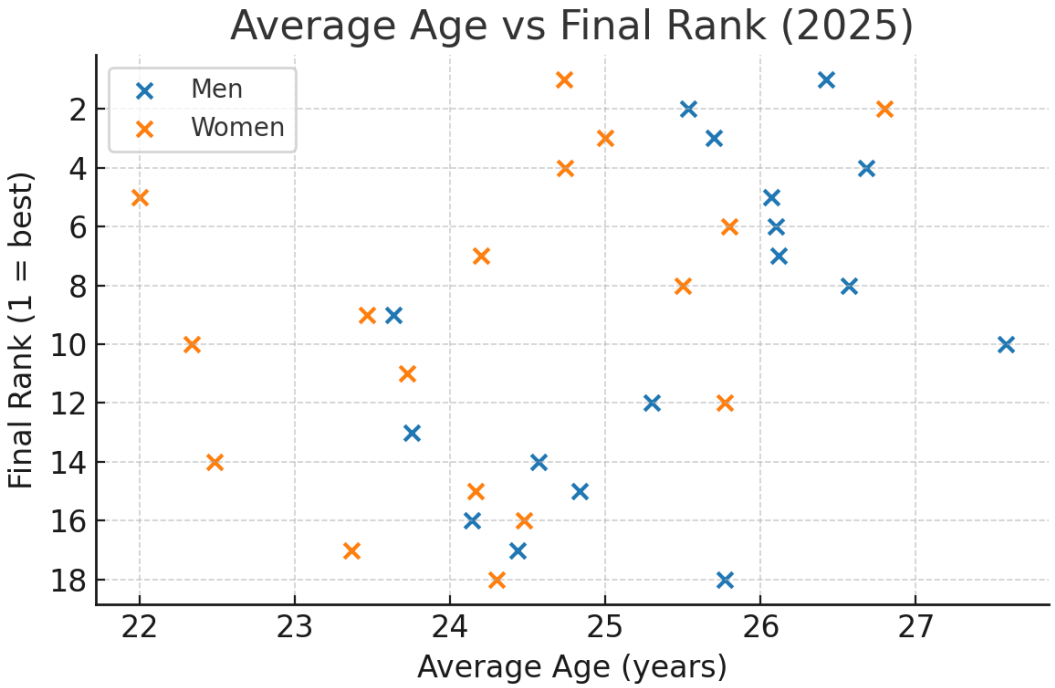


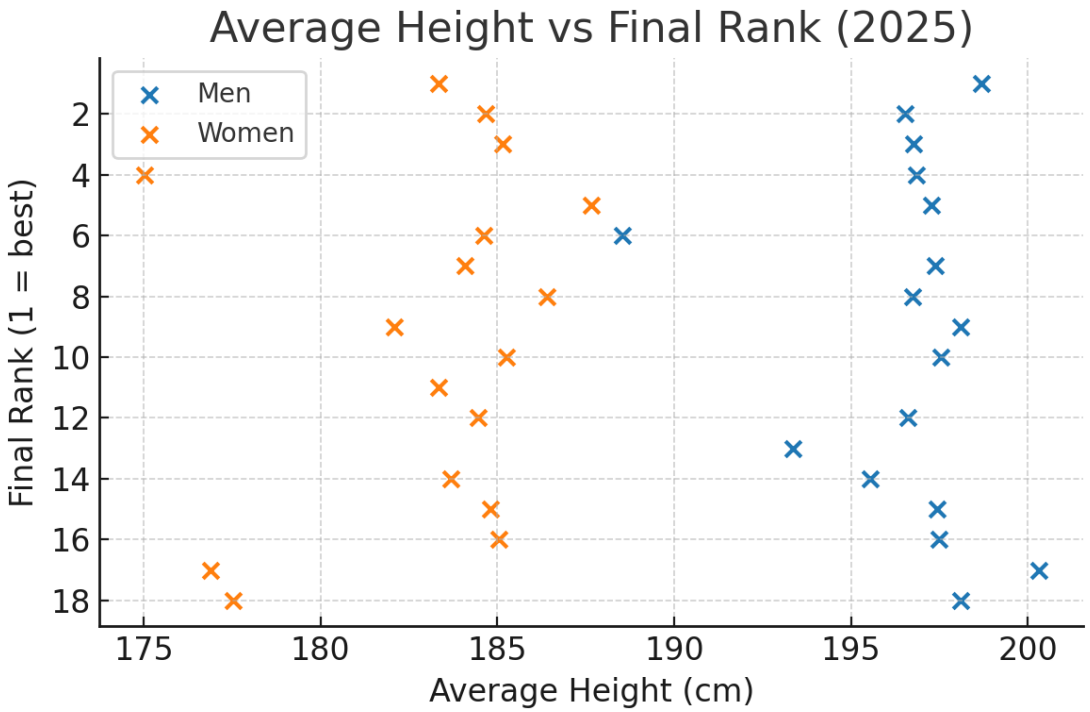
7.3 Age & Height Performance Modeling

To explore physical trends at the elite level, we analyzed **average team height and age** using player-level data, then mapped these against final rankings. We also investigated the impact of age on **decisive set outcomes**.

Key Findings

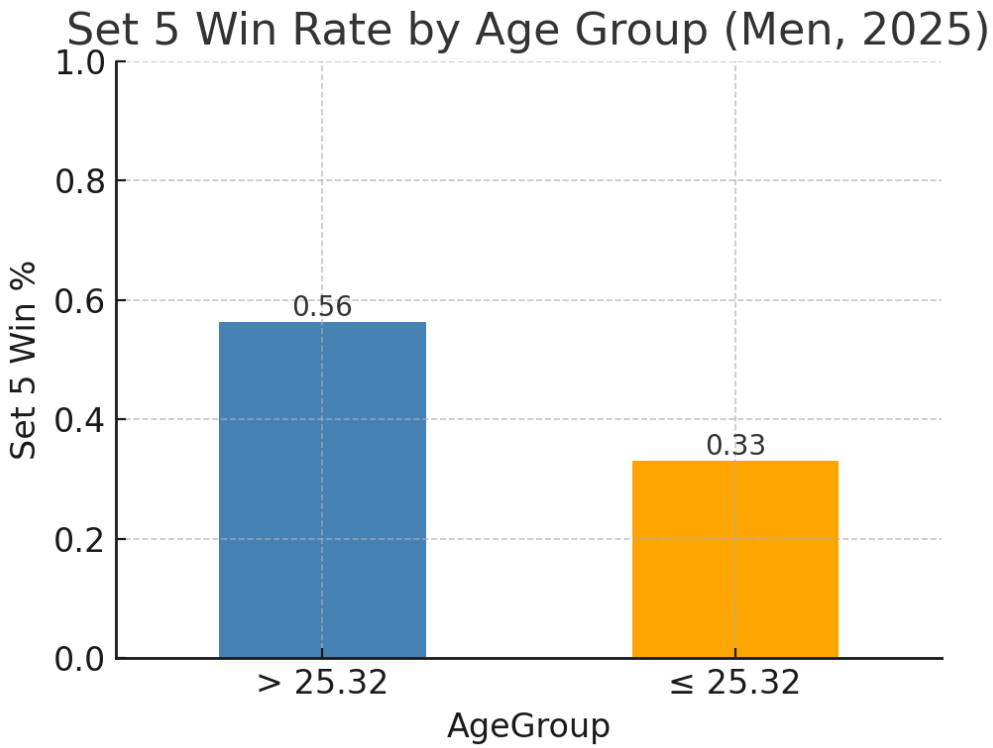
- **Height:** Across both genders, no statistically meaningful correlation was observed between **average team height** and final rank (scatterplots confirm diffuse patterns). Height alone is not a predictor of performance at the VNL level.
- **Age:**
    - Scatterplots show no strong linear link between team age and ranking. However, situational performance analyses reveal age matters most in **decisive, late stages**.
    - Using the official player rosters, average team age was **25.3 years (Men)** and **24.3 years (Women)**.
    - In **5-set matches**, teams **above the average age** were far more successful in winning the decisive 5th set:Men: **56.2%** win rate (older) vs **33.1%** (younger). Women: **63.0%** win rate (older) vs **42.7%** (younger).

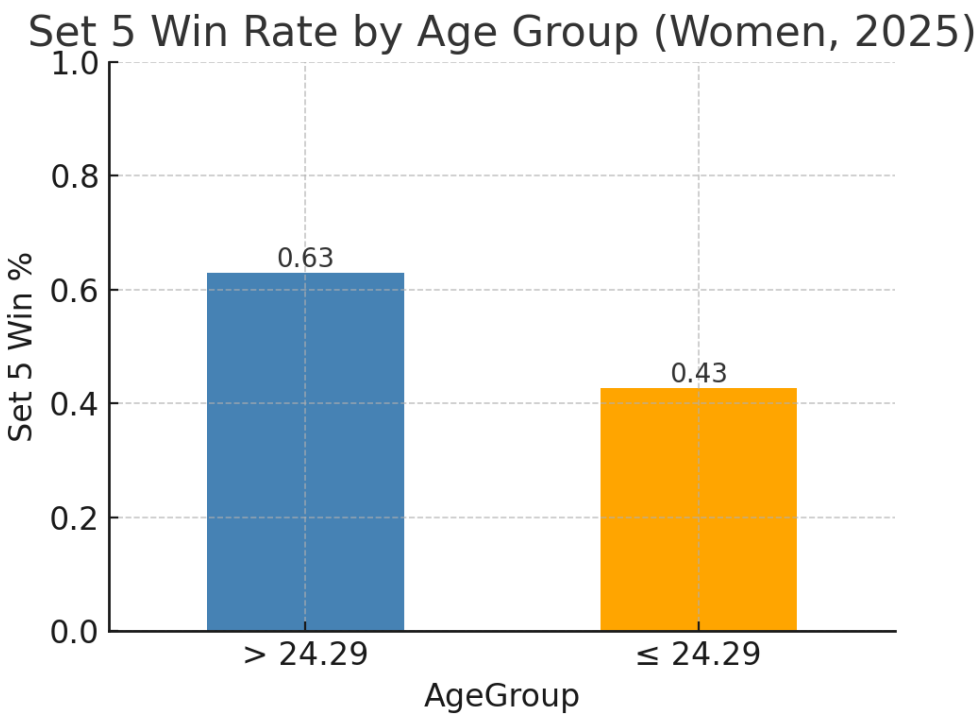

Average Age vs Final Rank (2025)
Men
Women
Final Rank (1 = best)
Average Age (years)
2
4
6
8
10
12
14
16
18
22
23
24
25
26
27


Average Height vs Final Rank (2025)
Men
Women
Final Rank (1 = best)
Average Height (cm)
2
4
6
8
10
12
14
16
18
175
180
185
190
195
200

Key Findings

- **Height:** Across both genders, no statistically meaningful correlation was observed between **average team height** and final rank (scatterplots confirm diffuse patterns). Height alone is not a predictor of performance at the VNL level.
- **Age:**
    - Scatterplots show no strong linear link between team age and ranking. However, situational performance analyses reveal age matters most in **decisive, late stages**.
    - Using the official player rosters, average team age was **25.3 years (Men)** and **24.3 years (Women)**.
    - In **5-set matches**, teams **above the average age** were far more successful in winning the decisive 5th set:
        - Men: **56.2%** win rate (older) vs **33.1%** (younger).
        - Women: **63.0%** win rate (older) vs **42.7%** (younger).
    - This demonstrates that **experience and maturity** strongly improve resilience under pressure. Younger teams often start explosively but lack the same composure in extended, high stakes matches.





7.4 Serve Risk and Reward Analysis

This section evaluates how teams balanced aggressive serving with error minimization by analyzing the ratio of **service aces to service errors** (% of total serves).

Key Findings

When comparing **ace-to-error ratios** to **final ranks**, there is a **clear positive correlation**:

- Teams with **higher ace-to-error ratios** consistently finished in the **top half** of the standings.
- Conversely, teams with **lower ratios** were almost always clustered near the **bottom**.

Men's VNL 2025:

- **Italy, Brazil, and Iran** — all among the **Top 6 finishers** — also ranked **top 3 in serve efficiency** (ratios from 0.37–0.41).
- **Serbia, Argentina, Netherlands**, three of the **bottom 6 teams**, posted the lowest serve ratios (0.19–0.22).

Women's VNL 2025:

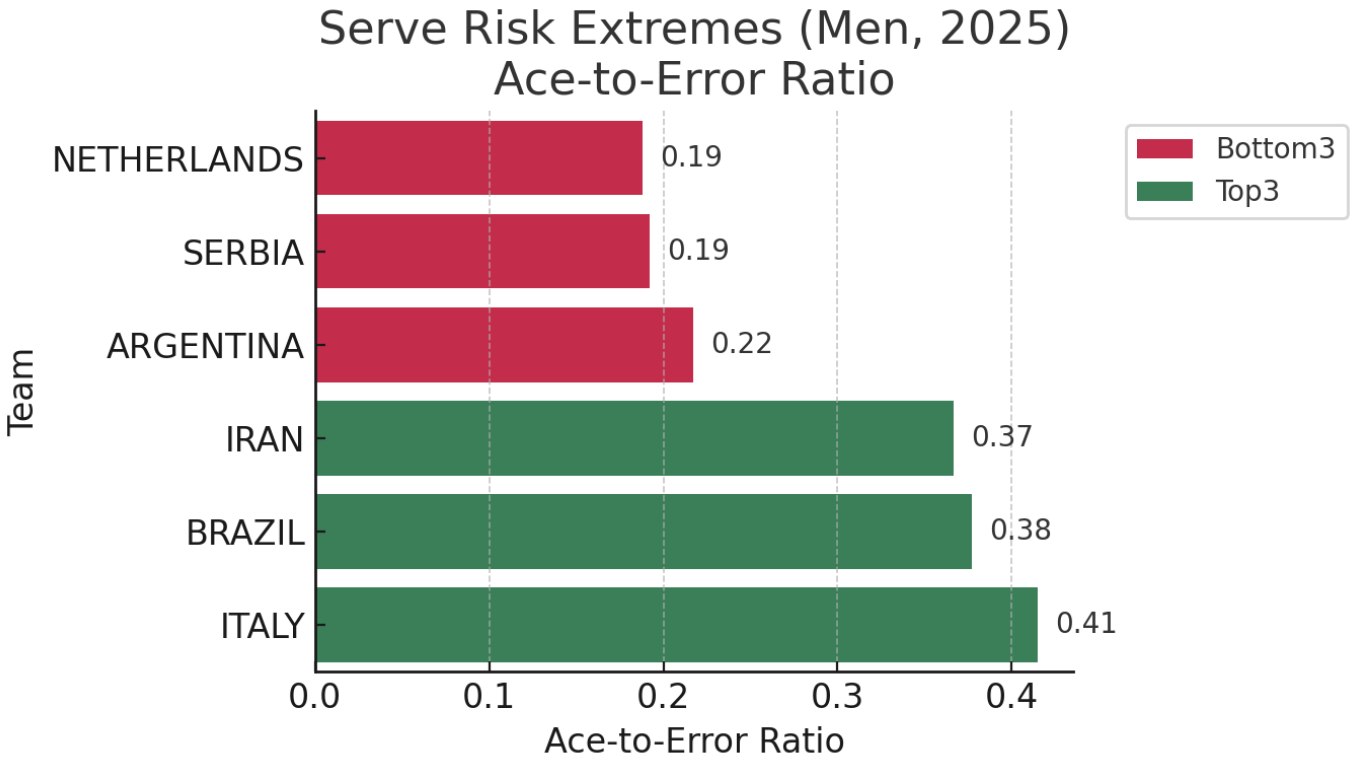
- **China and Germany**, both reaching the **semifinals**, had the two highest ratios (0.68 and 0.60).
- **USA and Thailand**, finishing in the lower half, were among the least efficient (0.35–0.39).

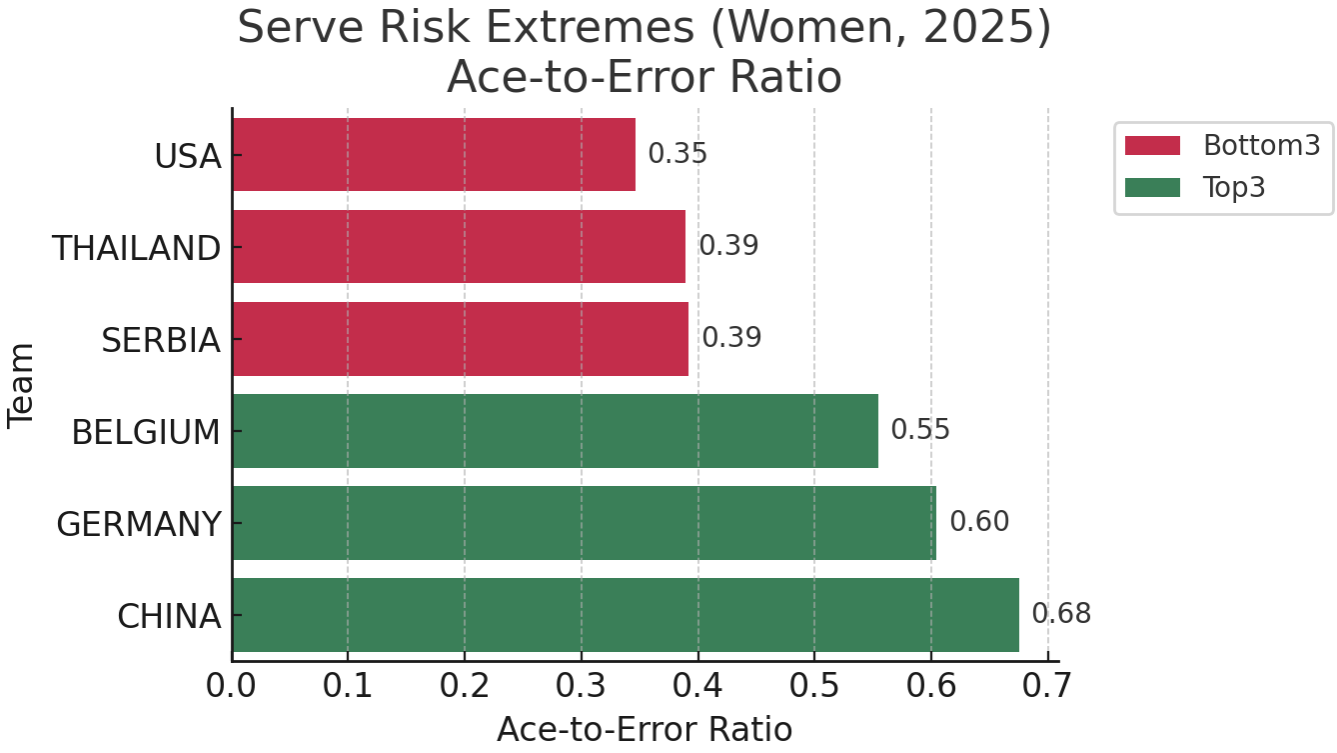
Interpretation:

- Aces-to-errors is not just a stylistic stat — it **directly reflects scoring pressure vs. wasted opportunities**.
- The correlation indicates that **efficient serving is a major performance driver at the VNL level**. Teams able to create pressure from the baseline without leaking points through errors gain a decisive competitive edge.

Our data highlights a direct connection between serve efficiency and team success. Both in the men's and women's competitions, teams with the best ace-to-error ratios consistently placed among the top finishers, while those with the weakest ratios ranked near the bottom.

- For example, Italy and Brazil — ranked 2nd and 3rd — posted the highest serve efficiency values in the men's event, whereas Serbia, Argentina, and the Netherlands, who finished in the bottom third, had the lowest ratios. A similar trend was seen in the women's event, where China and Germany led both in serving efficiency and tournament placement, while the USA and Thailand lagged in both.
- Statistical analysis supports this observation: the Pearson correlation coefficient between ace-to-error ratio and final ranking was **-0.71 for men** and **-0.66 for women**, indicating a strong link between serving efficiency and competitive success.
- These results underline the strategic importance of serving efficiency: the ability to balance risk and reward from the baseline is not only a stylistic choice but a **clear predictor of final ranking outcomes** at the elite level.


Serve Risk Extremes (Men, 2025)
Ace-to-Error Ratio
NETHERLANDS
SERBIA
ARGENTINA
IRAN
BRAZIL
ITALY
0.19
0.19
0.22
0.37
0.38
0.41
Team
0.0
0.1
0.2
0.3
0.4
Ace-to-Error Ratio
Bottom3
Top3


Serve Risk Extremes (Women, 2025)
Ace-to-Error Ratio
USA
THAILAND
SERBIA
BELGIUM
GERMANY
CHINA
0.35
0.39
0.39
0.55
0.60
0.68
Team
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
Ace-to-Error Ratio
Bottom3
Top3