



RELATIONSHIP BETWEEN ON AND OFF-WATER TESTS AND CANOE SLALOM PERFORMANCE

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BACKGROUND

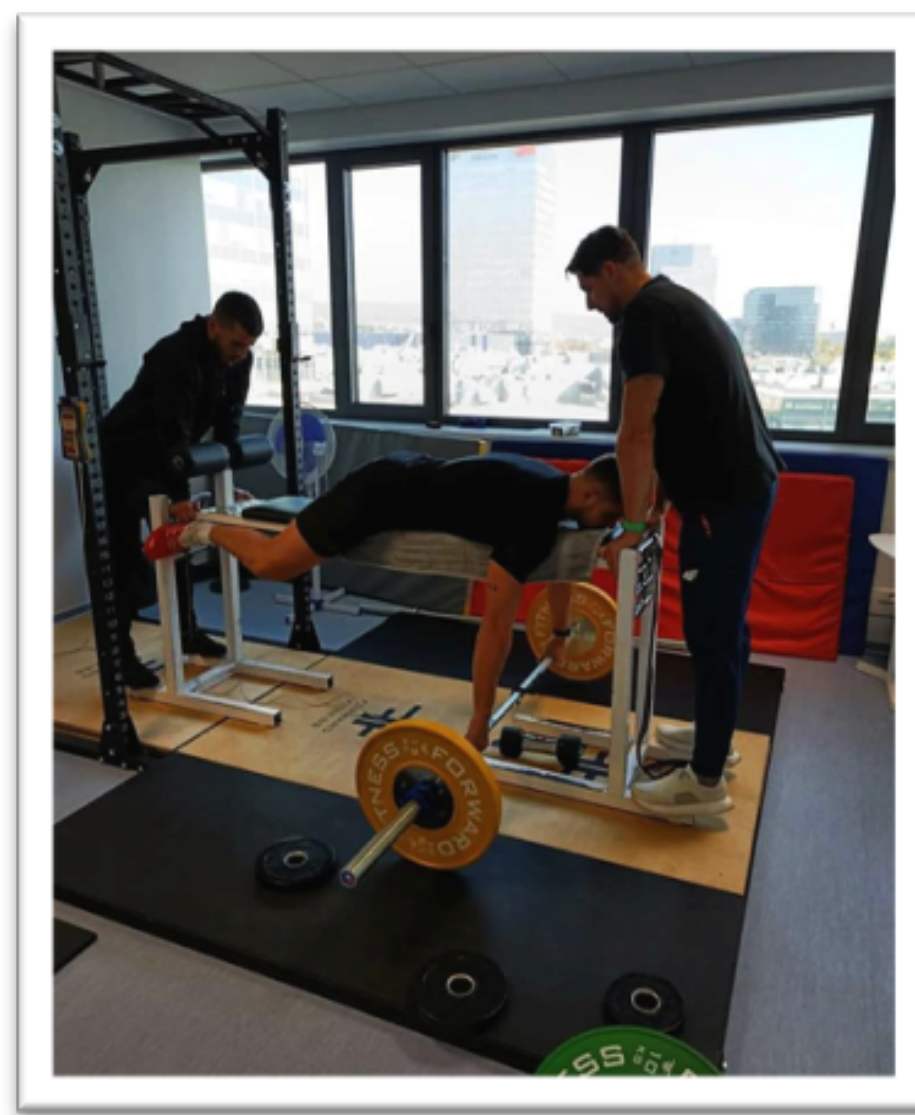
This study aims to evaluate the relationship between on and off-water tests and canoe slalom performance. Understanding these relationships is important to optimizing the training process as well as identifying the strengths and weaknesses of the athletes.



Source: Felix Krupa



Source: NSC



Source: NSC



Source: SLOVAK CANOEING

MATERIALS AND METHODS

Twenty-two (n=22) the Slovak national team members of junior and U23 age group racing in a category K1 men (K1M), K1 women (K1W), C1 men (C1M) or C1 women (C1W) volunteered to take part in this study. On-water testing consisted of two flatwater tests: a sprint with a turn to both sides, (SBS) and a 12 × 15-m all-out shuttle test (12x15m AOT). Off-water testing battery included a test on a paddle ergometer 3 x 200m and maximal power output (Pmax) in the bench press and bench pull. The canoe slalom performance was measured at the Slovak National Championships (MSR) and expressed as a time with and without penalties. The relationship was assessed using the Pearson correlation coefficient and interpreted as follows: (0.3-0.5) = moderate, (0.5-0.7) = large, (0.7-0.9) = very large, (0.9-1) = nearly perfect level of relationship. Statistical significance was accepted at $p \leq 0.05$.

RESULTS

All monitored parameters showed a significant level of relationship with the canoe slalom performance with and without penalties. The nearly perfect level of relationship ($r=0.9-1$) was only recorded between 12x15m AOT and canoe slalom performance without penalties. There was a very large relationship ($r=0.7-0.9$) between the SBS and the canoe slalom performance with and without penalty seconds as well as 12x15m AOT and canoe slalom performance with penalties. In other measured parameters, moderate to large relationship was observed ($r=0.3-0.7$).

CONCLUSIONS

The results obtained from this study have shown a moderate to nearly perfect level of relationship between measured parameters. Based on these findings, we recommend to regular use of presented tests in the monitoring of athletes. These performance-related tests can contribute to enhancing sports performance by optimizing the training process as well as identifying the strengths and weaknesses of the individual athletes.

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Measured variables	MSR time [s]		MSR total time [s]	
	r	p	r	p
12 × 15 AOT [s]	,914**	,000	,815**	,000
SBS [s]	,890**	,000	,778**	,000
Best time 200m [s]	,469*	,014	,354	,070
Best time 200m [W]	-,527**	,005	-,387*	,046
Total time 3x200m [s]	,474*	,012	,372	,056
Bench press Pmax [W]	-,647**	,000	-,490**	,009
Bench pull Pmax [W]	-,577**	,002	-,482*	,011
Bench press [W/kg]	-,637**	,000	-,481*	,011
Bench pull [W/kg]	-,582**	,001	-,499**	,008

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