上海体育大学
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Original research

Pre-competition Weight Loss Practices in Chinese National and International Level Sanda athletes

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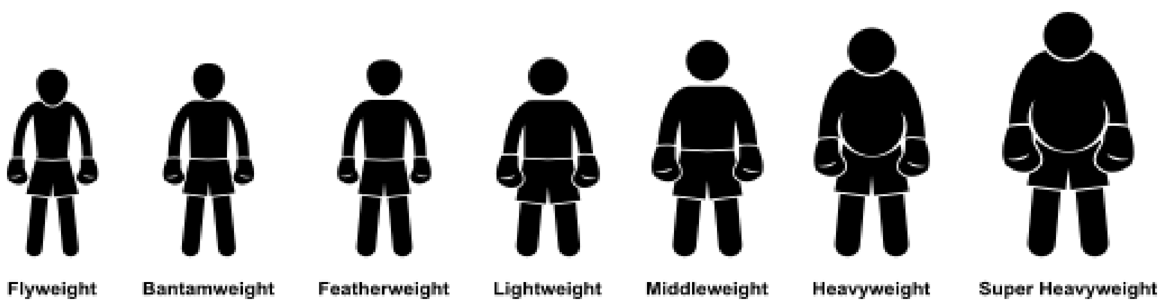
Background

Sanda is an unarmed combat sport (CS) developed from traditional wushu techniques and comprises punching, kicking, throwing, wrestling and defensive techniques.

Sanda athletes at the World Championships are separated into 11 weight categories for males (48kg, 52kg, 56kg, 60kg, 65kg, 70kg, 75kg, 80kg, 85kg, 90kg, 90+kg) and 7 for females (48kg, 52kg, 56kg, 60kg, 65kg, 70kg, 75kg).



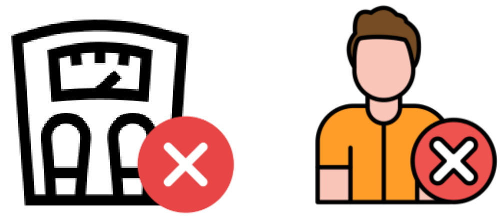
Wushu-2026 Youth Olympic Games 2026

IWUF Official Events

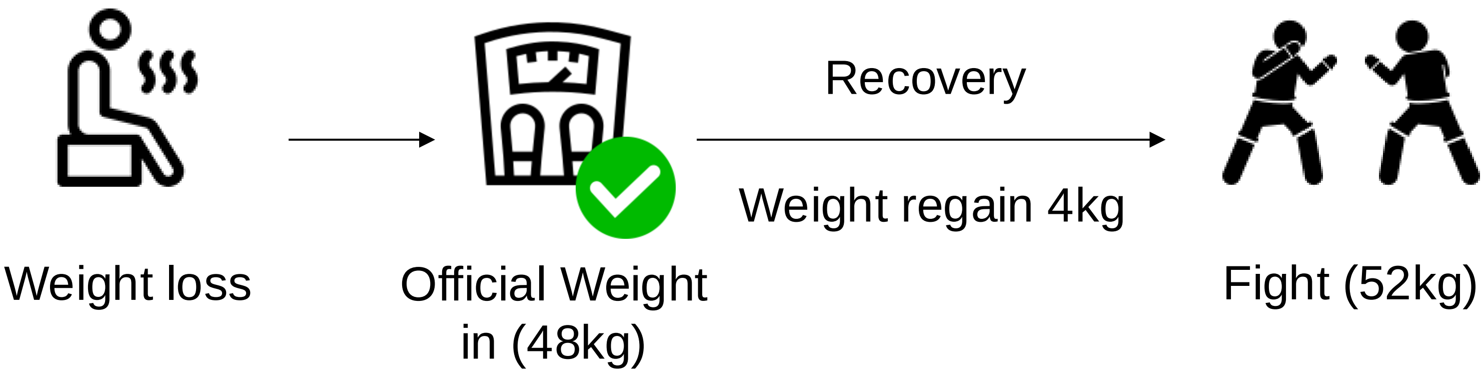
- World Wushu Championships
- World Junior Wushu Championships
- Taolu World Cup
- Sanda World Cup
- World Kungfu Championships
- World Taijiquan Championships

Background

To ensure athletes compete against opponents of similar body size and weight for fairness, athletes exceeding their allocated weight category limits are disqualified.



To gain a competitive advantage over their opponents, combat sport athletes tend to choose a weight category lower than their habitual weight through weight loss (WL).



Studies have shown that rapid WL can negatively affect athletes' physical and mental health and athletic performance. However, CS athletes still believe WL is beneficial and continue to adopt WL strategies.

Background

Although prior research has broadly investigated WL practices of CS athletes, this has mostly been conducted in non-Asian populations and Olympic (e.g., Taekwondo, Judo and wrestling) and professional (e.g., MMA) CS.

Little is known about WL practice in China or in Sanda sport.

Therefore, this study aimed to investigate the WL practices of Chinese Sanda athletes.

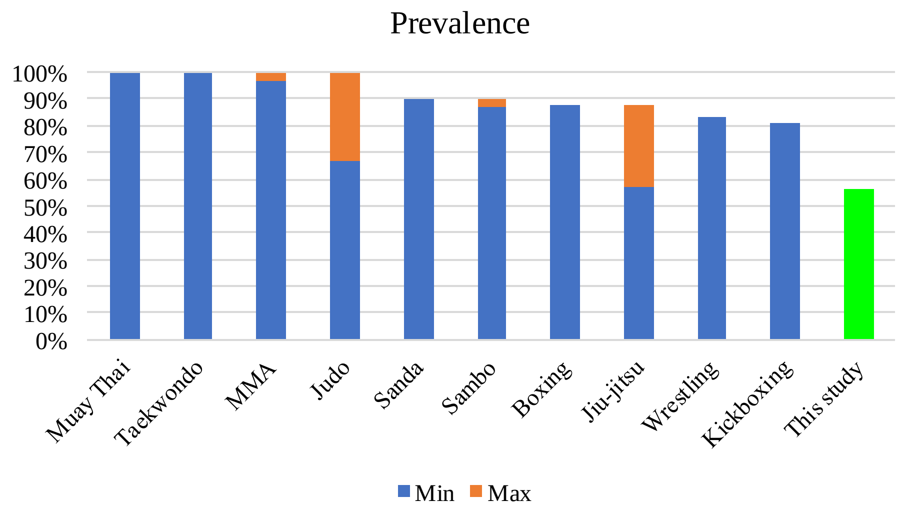
Method

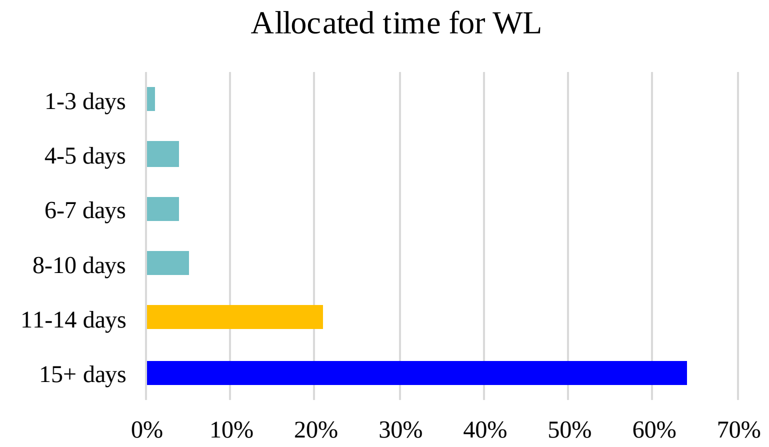
An observational cross-sectional approach was used to questionnaire Chinese Sanda athletes to ascertain their WL practices.
The questionnaire used for this study was the pre-validated RWLQ by Artioli et al.
To target the relevant population, this study adopted convenience sampling.
In total, 223 participants completed the questionnaire.
The inclusion criteria for participants were: (i) consent to participate in research, (ii) participation in at least one official Sanda competition in the last 12 months, (iii) participation in Sanda competition at national or international level, (iv) currently training as an athlete on a sports team, and (v) does not compete in the 100+kg division.
Finally, responses from 169 Sanda athletes (96 males, 73 females) were valid.

Results

Table 1 General information of Chinese Sanda athletes.

Variables	All participants (n=169)			Participants who engaged in weight loss (n=95)		
	Mean ± SD	Max	Min	Mean ± SD	Max	Min
Age (years)	18.9 ± 2.9	30	15	19.5 ± 3.3	30	16
Body mass (kg)	65.2 ± 12.4	102.0	45.0	65.9 ± 13.0	102.0	46.0
Stature (cm)	172.1 ± 8.4	191	152	172.6 ± 8.4	191	152
Age began training in Sanda (years)	12.8 ± 1.9	17	6	12.6 ± 2.0	17	6
Age began competing in Sanda (years)	15.9 ± 1.8	20	10	15.8 ± 1.8	19	10
Current weight category of participation (kg)	63.0 ± 11.9	100	42	62.7 ± 12.2	100	48
Off-season weight (kg)	65.6 ± 12.5	105.0	44.0	66.9 ± 13.0	105.0	48.0
Competitions that participated last competitive season (n)	1.9 ± 1.0	5	1	1.8 ± 1.0	5	1
Medals during the year (n)	0.9 ± 0.9	4	0	0.9 ± 0.9	4	0



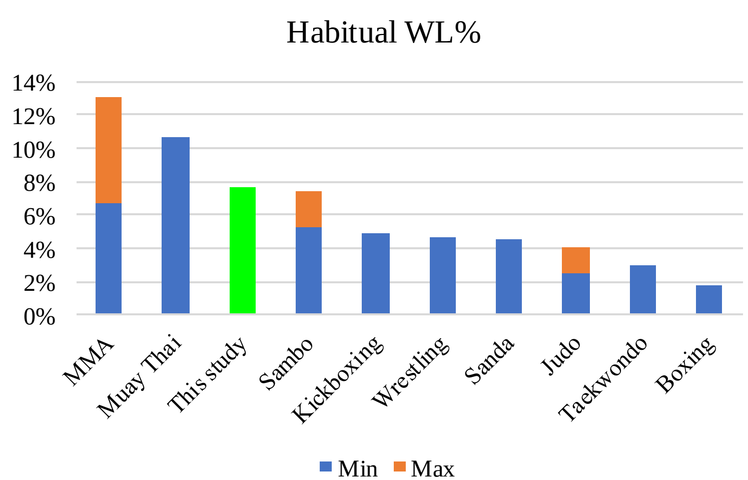


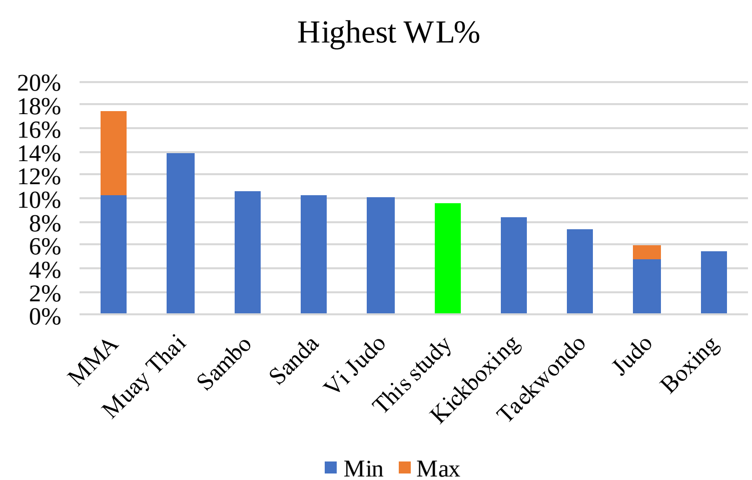
Results

Table 2 Weight loss history of Chinese Sanda athletes who reported engaging in weight loss practices (n=95).

Variables	Total (n=95)	Male (n=63)	Female (n=32)	National (n=85)	International (n=10)	Junior (n=33)	Senior (n=62)
Highest weight loss (kg)	7.1 ± 2.9	7.8 ± 3.0	5.8 ± 2.1	7.0 ± 2.9	8.2 ± 2.2	7.5 ± 3.9	7.0 ± 2.2
Highest weight loss (%)	10.8 ± 4.2	11.6 ± 4.3	9.2 ± 3.5*	10.6 ± 4.2	12.7 ± 3.8	11.3 ± 5.2	10.5 ± 3.5
No. weight losses in the last year	1.9 ± 1.4	2.1 ± 1.4	1.6 ± 1.2	1.7 ± 1.1	3.5 ± 2.1*	2.0 ± 1.4	1.8 ± 1.4
Habitual weight loss (kg)	5.0 ± 2.3	5.5 ± 2.5	4.0 ± 1.7	4.9 ± 2.4	5.8 ± 2.0	5.3 ± 3.0	4.8 ± 1.9
Habitual weight loss (%)	7.6 ± 3.7	8.2 ± 3.8	6.4 ± 3.1*	7.5 ± 3.7	9.0 ± 3.6	8.2 ± 4.6	7.3 ± 3.1
Age began weight loss (yr)	17.0 ± 1.8	16.9 ± 1.8	17.3 ± 1.8	17.0 ± 1.8	17.4 ± 1.7	15.9 ± 1.4	17.6 ± 1.8
Post-competition weight regains (kg)	3.9 ± 1.9	4.6 ± 1.9	2.6 ± 0.9	3.9 ± 1.9	3.6 ± 1.3	4.2 ± 2.6	3.8 ± 1.4
Post-competition weight regains (%)	5.9 ± 2.9	6.8 ± 3.0	4.2 ± 1.7	6.0 ± 3.0	5.5 ± 2.0	6.5 ± 4.0	5.6 ± 2.0
RWLS	30.4 ± 6.4	31.6 ± 6.4	28.1 ± 6.0*	30.4 ± 6.5	31.1 ± 6.4	32.4 ± 7.7	29.4 ± 5.4

Note: RWLS: rapid weight loss score. * = differences between groups ($P<0.05$). Only highest weight loss (%), No. weight losses in the last year, habitual weight loss (%), and RWLS were analyzed using inferential statistics.





Results

Table 3 Frequency analysis (%) of the weight loss methods used by Chinese Sanda athletes (n=95).

	Always	Sometimes	Almost Never	Never Used	Do Not Use Any More
Gradual dieting	34.7	25.3	15.8	24.2	0.0
Skipping meals	20.0	36.8	19.0	20.0	4.2
Fasting	0.0	8.4	28.4	56.8	6.3
Restricting fluid ingestion	32.6	43.2	9.5	14.7	0.0
Increased exercise	52.6	32.6	8.4	6.3	0.0
Training in a heated room	20.0	34.7	23.2	21.1	1.1
Sauna	6.3	30.5	27.4	35.8	0.0
Training in plastic suits	51.6	35.8	4.2	8.4	0.0
Use plastic suit all-day	5.3	17.9	26.3	50.5	0.0
Spitting	0.0	9.5	10.5	76.8	3.2
Laxatives	0.0	1.1	3.2	94.7	1.1
Diuretics	0.0	0.0	2.1	96.8	1.1
Diet pills	0.0	2.1	3.2	93.7	1.1
Vomiting	0.0	1.1	11.6	84.2	3.2
Hot water immersion	0.0	13.7	13.7	71.6	1.1
Hot saltwater immersion	0.0	2.1	9.5	88.4	0.0
Others	0.0	2.1	1.1	94.7	2.1

Most frequently used

Results

Table 4. Frequency analysis (%) of the sources of influence on the weight loss practices of Chinese Sanda athletes (n=95).

	Very influential	Some influence	Unsure	Little influence	Not influential
Other athletes (different sports)	1.1	13.7	6.3	17.9	61.1
Other athletes (same sport)	13.7	25.3	3.2	25.3	32.6
Doctors	6.3	8.4	6.3	21.1	57.9
Strength and conditioning coaches	20.0	22.1	10.5	15.8	31.6
Coaches	41.1	27.4	6.3	10.5	14.7
Parents	15.8	16.8	12.6	17.9	36.8
Nutritionists	7.4	10.5	10.5	12.6	59.0
Journal articles	0.0	7.4	6.3	8.4	77.9
Book/magazines	0.0	5.3	6.3	8.4	80.0
Internet sources	0.0	5.3	9.5	16.8	68.4
Others	0.0	1.1	4.2	3.2	91.6

People have high influence on their WL practices

Conclusion

- Compared to other CS, the prevalence of WL is relatively low amongst Chinese national and international Sanda athletes, but the magnitudes are very high.

- These athletes usually allocated a longer time (15+ days) to lose a high percentage (7.6%) of their BW compared to other CS athletes.

- There were significant differences in most WL practices (habitual WL%, highest WL%, and RWLS) among sexes but not age groups, weight categories, and competitive levels.

- Training in plastic suits, increasing exercise, skipping meals, limiting fluid intake, gradually dieting, and Training in a heated room were the most frequently used WL methods.

- Professional nutrition support does not seem to receive due attention in China.

Thanks for your attention!