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# Changes in refereeing regulations versus dynamics of sparring in taekwon-do



## Study aim

The expectations of humans of the 21<sup>st</sup> century directed at fighting sports change, so sport regulations have to change as well. Taekwon-do is relatively young discipline (it was founded in 1955) and since it started to function there have been changes in refereeing regulations (Choi 2000). The last ones, which were made in the year 2006, change the values of points for chosen techniques ([www.tkd-itf.org](http://www.tkd-itf.org)). Taking that into consideration the aim of the study is to assess the dynamics of sparring in taekwon-do comparing to changes in refereeing regulations.

## Material and methods

63 sparrings were assessed (60 competitors) in different weight categories and age categories (juniors, seniors) which took place during World Championships and Poland Championships in the years 2003-2006.

Before changes were introduced 32 sparrings of 30 competitors had been analysed. Other sparrings were analysed after the regulations had been modified.

To assess the dynamics of sparring the method of five indexes was used (Kalina 2000):

- ability to take up offensive and defensive actions (index of activeness AI),
- ability of offensive interaction (index of effective attacks EA),
- ability to counter attack (index of effective counter attacks ECA),
- ability to defensive actions (index of effective defence ED),
- general index of sparring dynamics (SD)

## Results

Taking into consideration the activeness of competitors (it means all actions recorded in 10-second periods) changes in refereeing regulations caused the increase in activeness (AI) of 20 % on average for winners and 26% for losers (Fig.1 and 2). The differences appeared to be statistically significant ( $p < 0.05$ ). Winners presented higher level of activeness before and after changes have been introduced (Fig.3 and 4). EA decreased after the changes had been introduced both for winners (of 13 %) and for losers (of 15%). Offensive actions were more effective both in sparrings according to old and new regulations (of 26%). Changes in regulations caused the decrease in effectiveness (of 20%) for winners and 16% for losers ECA indexes. Defensive actions are not assessed by the referee during sparring, however they have a significant influence on the result of sparring. In the analysed sparrings the changes in regulations concerning the number of points affected defence actions of winners (of 14%) and less of losers (6%). The index of effective defence exceeded 90% for all winners ( $cv=10\%$ ). The dynamics of sparring was affected by changes in regulations as they caused the decrease of it for both winners and losers.

## Conclusions

Above results allow to formulate the following conclusions:

- 1.Changes in refereeing regulations influenced the dynamics of sparring.
- 2.The analysis provided information concerning preparation to taekwon-do sparring according to introduced changes.
- 3.Winners presented higher values of indexes describing the dynamics of sparring.
- 4.The biggest differences were: the increase of 20% in activeness and the fall of 20% effective counter attacks.

## References

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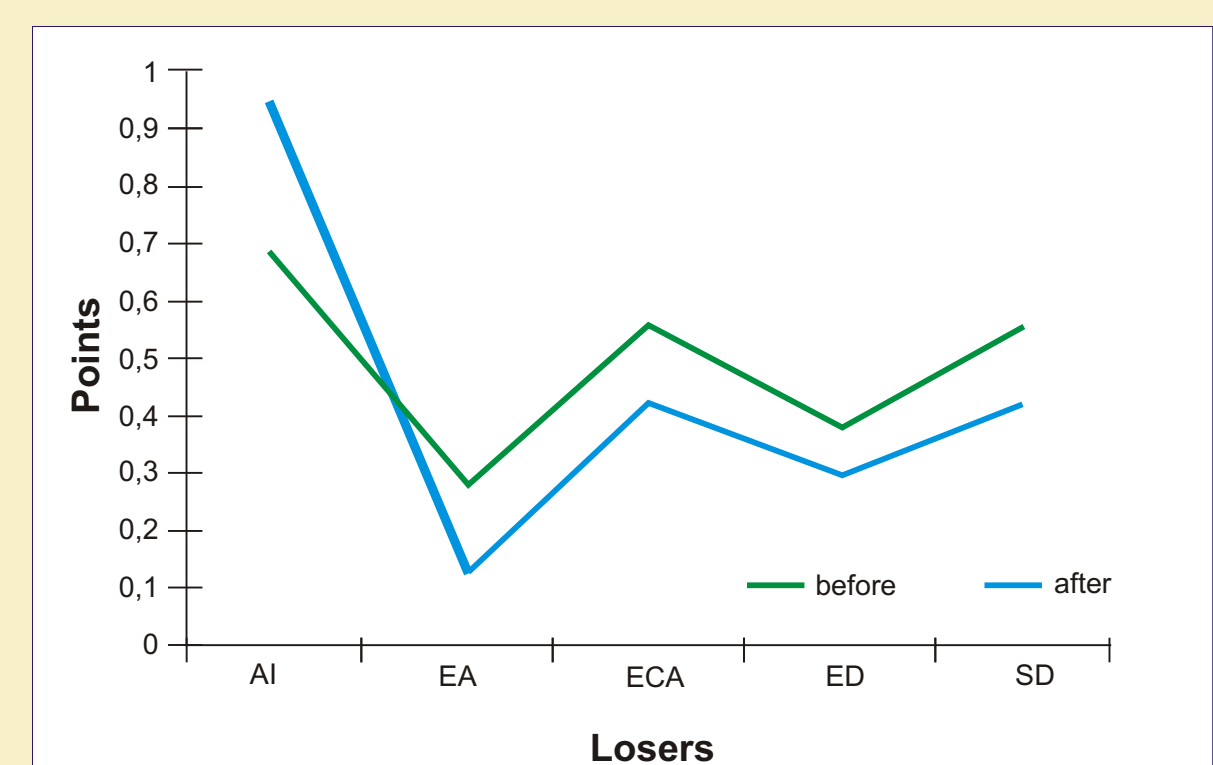


Fig. 1. The differences indexes of sparring for losers

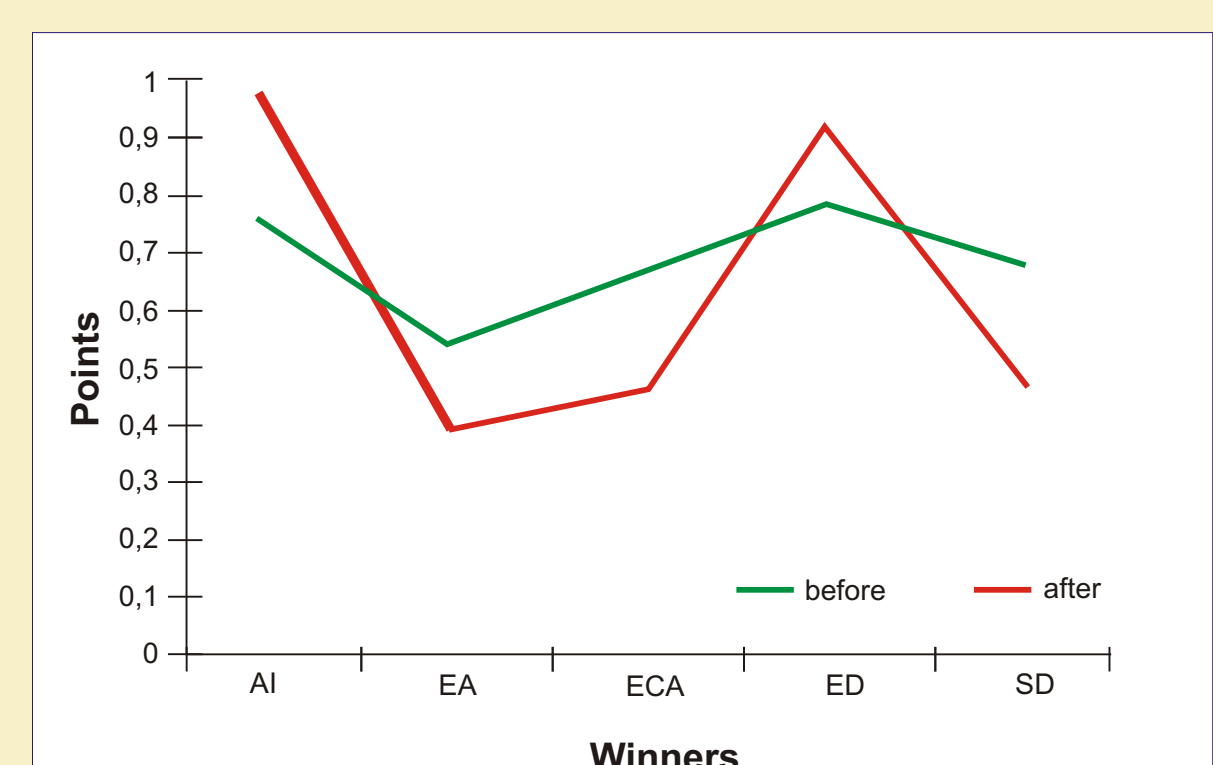


Fig. 2. The differences indexes of sparring for winners

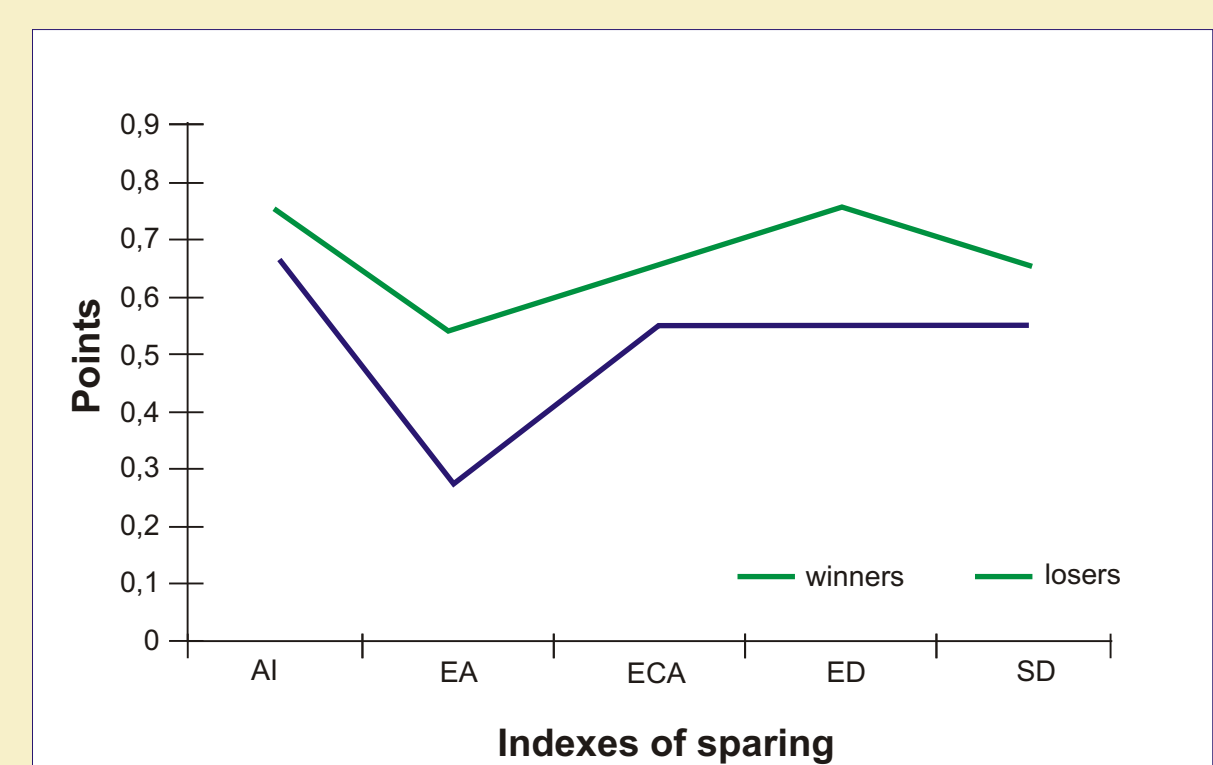


Fig. 3. The differences indexes of sparring for winners and losers before the changes in refereeing regulations

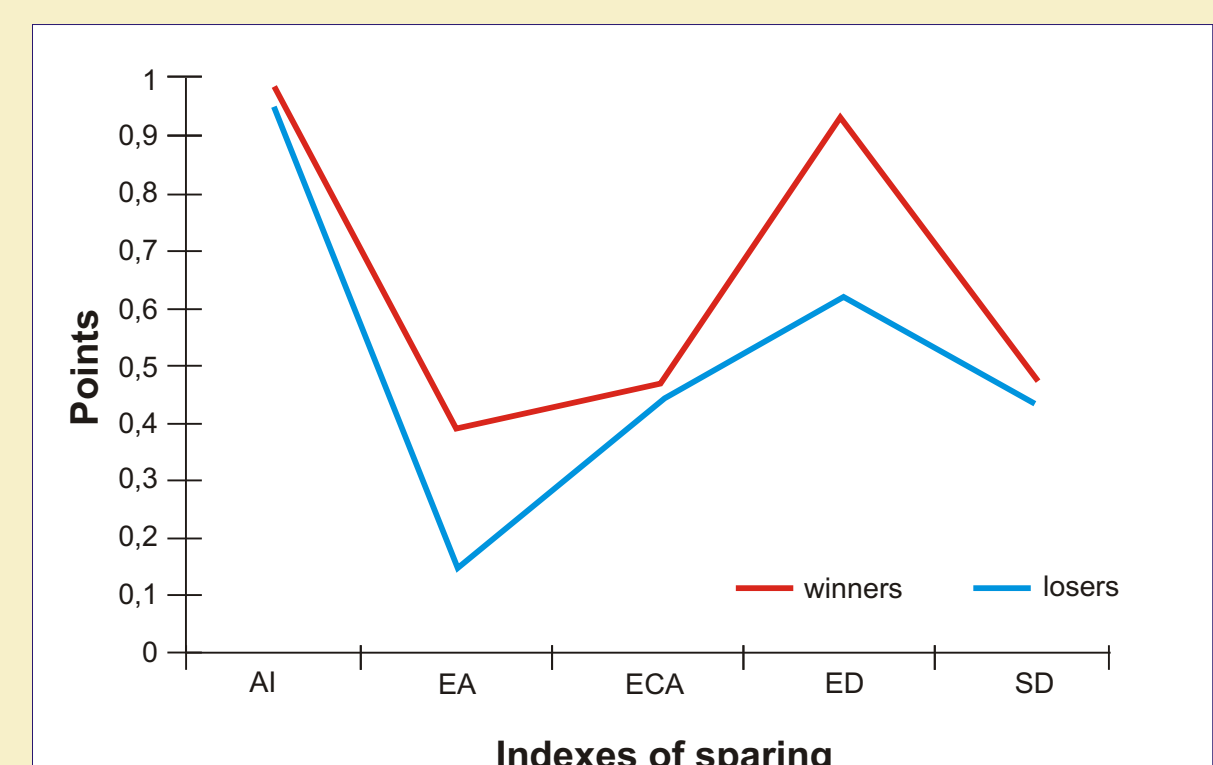


Fig. 4. The differences indexes of sparring for winners and losers after the changes in refereeing regulations