

Summary

POSTURAL STABILITY OF INDIVIDUAL DANCERS AND DANCE COUPLES

The purpose of this study was to determine dancers' postural stability, both individually and pairwise at chosen positions of a standard style carried out with posturography. The registered data came from a processed COP signal received while quiet standing or at dancesport standard style's positions.

Thirty people took part in the study. They were divided into two groups: the study group consisted of dancesport contenders, who had acquired the highest national class (B or A) and international class (S) at standard dance (7 pairs). The control group consisted of AWF Katowice students, whose specialization is dancing (8 pairs). For evaluating stability we used force plates recording the pressure on the ground, allowing us to measure the exact location of foot's pressure centre (COP). The readings were made with AMTI dynamographic platforms : AccuGait (dimensions 50 by 50 cm) and BP600900 (60 by 90 cm), both using AMTI NetForce software. The sampling frequency was 100 Hz. The procedure consisted of posturographic trials evaluating stability in five positions – quiet standing and four standard style poses: standard set up, preparatory position, chasse and contra check. Each trial was carried out with the eyes opened. Each position was taken individually and pairwise. The task was to make a move ending at a certain position, stopping there and holding it for thirty seconds. Each of the trials was taken twice.

The dancesport contestants (both women and men) have shown significant differences in posturographic parameters when compared to the students at all of the five positions mentioned. Male dancers have produced lower results in most of the studied positions, whereas female dancers have had significantly higher scores at COP track's parameters, compared to the control group. Posturographic parameters recorded while quiet standing were significantly different for men and women in the student's group. There were less differences registered in the dancers' group, which may suggest similarities in their posturography, probably caused by long dancing practice. During the measurements some statistically important differences were shown in terms of posturographic parameters between dance couples and student couples while making standard style dancing poses. The profile of these distinctions depended on the poses being made, still, the vast majority of analysed cases have shown much larger sways among dance couples. Dancesport contestants (both women

and men) have shown more automaticity in controlling their poise when compared to the students – shown by statistically relevant higher values of sample entropy rate parameter.