

# Supplementary Materials: ZumBeat: Evaluation of a Zumba Dance Intervention in Postmenopausal Overweight Women

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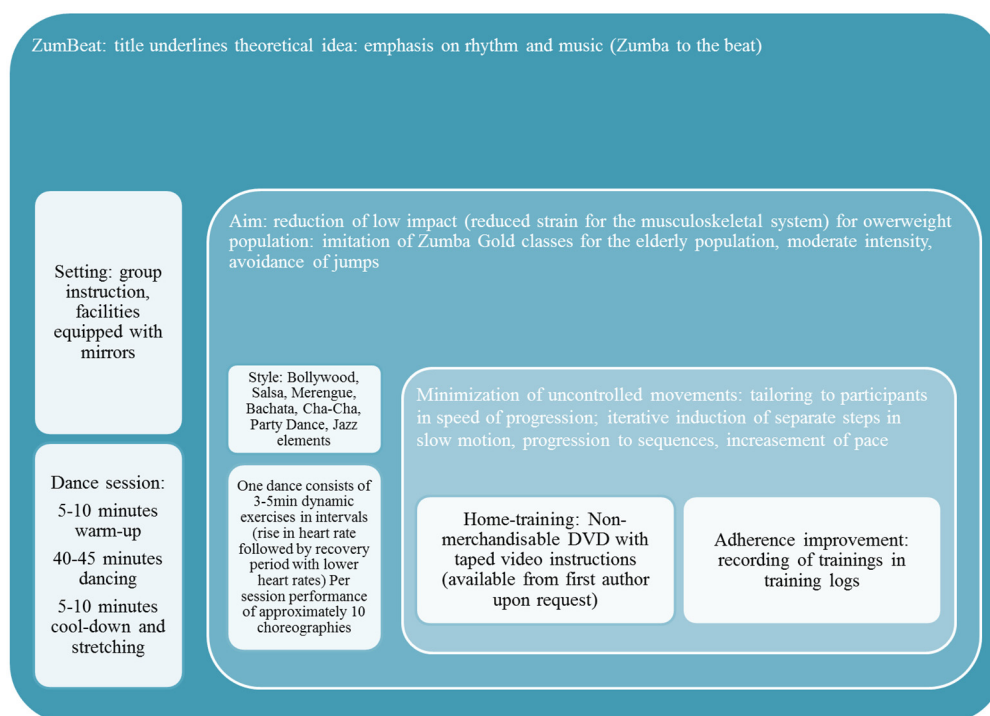
**Table S1.** Brief description of the neuropsychological test battery.

Acronym	Full Test Name	Brief Description of the Test
IWQOL [1]	Impact of Weight on Quality of Life	Assesses quality of life in overweight populations; 31 items in the categories bodily function, self-esteem, sexual life, public stress and work; scoring on a 5-point scale ranging from “never” to “always true”.
MRS [2]	Menopausal Rating Scale	Examines the severity of menopausal symptoms and their influence on quality of life, sensitive to changes over time.
SBB [3]	Sports-Related Situational Barriers	Assesses external and internal situations that dissuade people from the intention to exercise; 13 situations on two subscales (psychological and physical barriers); score ranges between 1 and 4 per item.
BDI-II [4]	Beck Depression Inventory	Assesses severity of perceived symptoms in relation to possible underlying depression with 21 items on a 4-point scale.
ISR [5]	ICD-10-Symptom Rating	Assesses self-rated prevalence and severity of a large spectrum of psychological symptoms with 29 items on a 5-point Likert scale; 5 categories: depression, anxiety, obsessive/compulsive, somatoform, eating disorders, supplementary scale.
I-8 [6]	Impulsivity-8	Assesses the trait “impulsive behavior” on four subscales: urgency, intention, endurance and risk; with 2 items per subscale on a 5-point scale.
FEV [7]	German version of the Dutch Eating Behavior Questionnaire	Fifty-one items assess eating behavior in the subscales dietary restraint (cognitive control), disinhibition and hunger; sum scores are calculated per subscale and compared to norms.

**Table S2.** Effect of the 12-week ZumBeat dance intervention on cardiorespiratory fitness, anthropometry and psychometry after excluding outliers.

Parameter	Baseline (Mean (SD))	Follow-up (Mean (SD))	Change from Baseline (95% CI)	p-Value
VO <sub>2peak</sub> <sup>1</sup> , mL/kg/min	24.7 (3.0)	24.5 (3.0)	−0.2 (−0.8, 0.3)	0.382
HR <sub>max</sub> <sup>2</sup> , bpm	163.6 (16.5)	163.1 (18.4)	−0.5 (−3.7, 2.7)	0.735
<i>Anthropometry</i>				
Percent body fat <sup>3</sup> , %	38.6 (8.2)	38.5 (7.3)	−0.1 (−1.3, 1.2)	0.922
Muscle mass <sup>4</sup> , kg	30.7 (5.3)	31.0 (5.2)	0.3 (−0.4, 1.1)	0.326
<i>Psychometry</i>				
IWQOL (0 to 100)	–	–	–	–
Total score <sup>4</sup>	82.7 (12.7)	88.9 (9.1)	6.2 (1.8, 10.5)	0.009
Physical function <sup>4</sup>	78.7 (14.0)	83.4 (13.8)	4.7 (−1.5, 11.0)	0.126
Self-esteem <sup>4</sup>	72.8 (24.0)	83.2 (20.2)	10.4 (3.5, 17.4)	0.007
Sexual life <sup>4</sup>	89.4 (23.2)	92.3 (18.8)	2.9 (−0.1, 5.8)	0.054
Public distress <sup>5</sup>	98.2 (4.6)	97.3 (4.7)	−0.9 (−2.9, 1.1)	0.341
Work <sup>6</sup>	93.8 (9.2)	97.4 (5.6)	3.6 (0.1, 7.2)	0.046
MRS <sup>3</sup> (0 to 44)	10.2 (6.4)	9.2 (7.2)	−1.1 (−2.4, 0.2)	0.097
BDI <sup>7</sup> (0 to 63)	5.9 (6.4)	4.5 (5.4)	−1.5 (−4.0, 1.1)	0.235
ISR <sup>7</sup> (0 to 4)	0.5 (0.5)	0.5 (0.4)	0.0 (−0.1, 0.1)	0.453
I-8 (0 to 4)	–	–	–	–
Urgency <sup>4</sup>	2.3 (0.6)	2.1 (0.6)	−0.2 (−0.4, 0.0)	0.035
Endurance <sup>7</sup>	4.2 (0.6)	4.1 (0.5)	−0.1 (−0.3, 0.2)	0.549

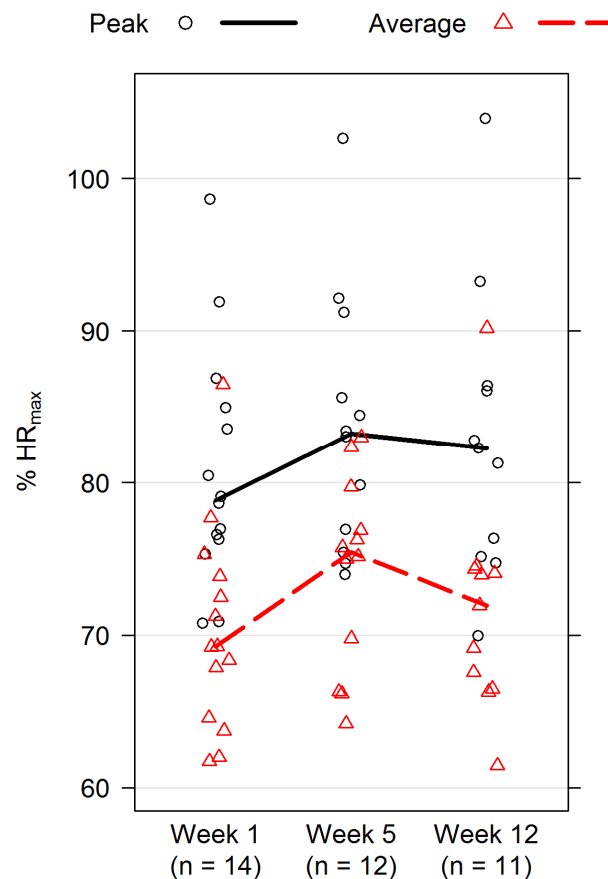
Notes: Abbreviations:  $VO_{2peak}$ , peak oxygen consumption;  $HR_{max}$ , maximum heart rate; IWQOL, Impact of Weight on Quality of Life; MRS, Menopause Rating Scale; BDI, Beck Depression Inventory; I-8, German Version of the UPPS Impulsive Behavior Scale; ISR, ICD-10-Symptom-Rating; SD, standard deviation; CI, confidence interval. <sup>1</sup> After excluding two participants due to failure to reach exertion, available at baseline and follow-up in 11/15 participants; <sup>2</sup> after excluding two participants due to failure to reach exertion, available at baseline and follow-up in 10/15 participants; <sup>3</sup> after excluding two outliers (with an unusually strong decrease in percent body fat and MRS, respectively), available at baseline and follow-up in 12/15 participants; <sup>4</sup> after excluding one outlier (with an unusually strong increase in muscle mass, IWQOL total score, IWQOL physical function, IWQOL self-esteem, IWQOL sexual life and I-8 urgency, respectively), available at baseline and follow-up in 13/16 participants; <sup>5</sup> after excluding three outliers (with an unusually strong increase in IWQOL public distress), available at baseline and follow-up in 11/14 participants; <sup>6</sup> after excluding two outliers (with an unusually strong increase in IWQOL work), available at baseline and follow-up in 12/15 participants; <sup>7</sup> after excluding one outlier (with an unusually strong decrease in BDI, I-8 endurance and ISR, respectively), available at baseline and follow-up in 13/16 participants.



**Figure S1.** Detailed description of the ZumBeat dance intervention according to the TIDieR checklist [8].



**Figure S2.** Exemplary description of dance Number 4 (cha-cha-cha). (A) Steps 1 to 5; (B) Steps 6 to 7.



**Figure S3.** Peak and average heart rate in % of the maximum heart rate ( $HR_{max}$ ) during three (instructed) training sessions in Weeks 1, 5 and 12. The points denote individual measurements, jittered horizontally to avoid over-plotting. The lines join the medians of the points for the peak and average heart rate in % of the  $HR_{max}$ .

## References

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