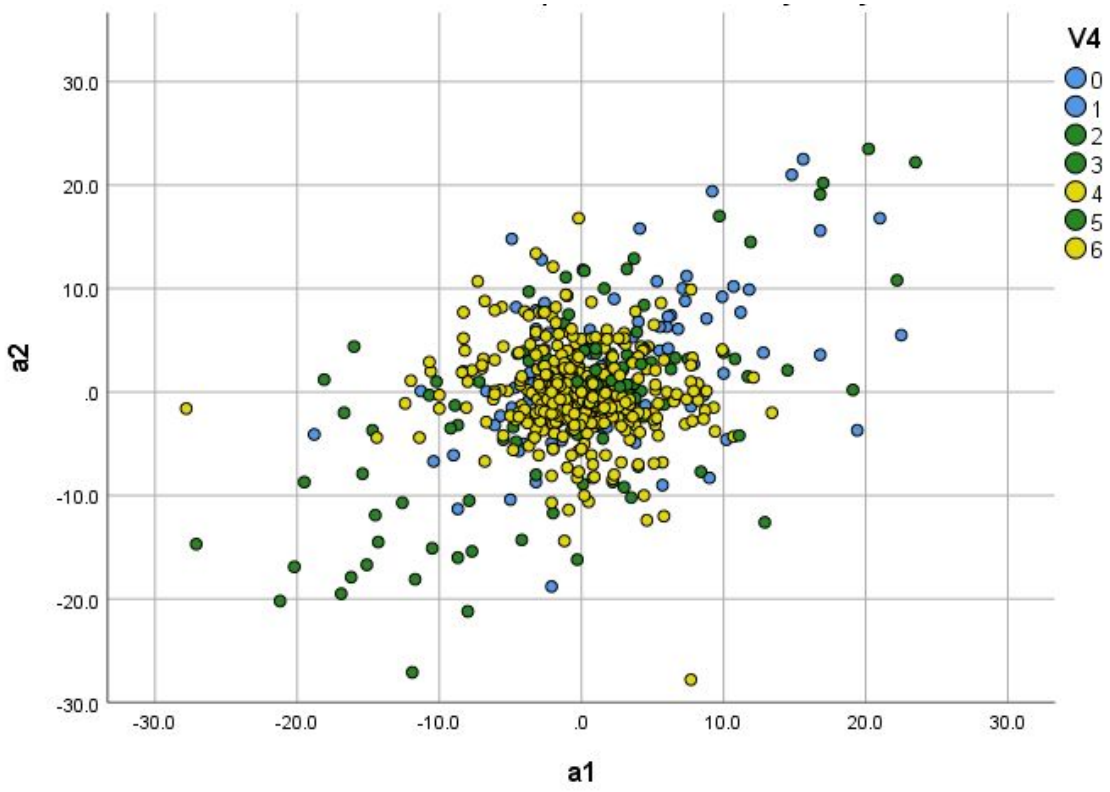


This figure shows the second-order difference(SODP) plot employed in the classification framework using a three-point forward approximation for the HRV series.

Here, x(n) is a point in HRV time series data at any time n(min).
V4 is labels given:

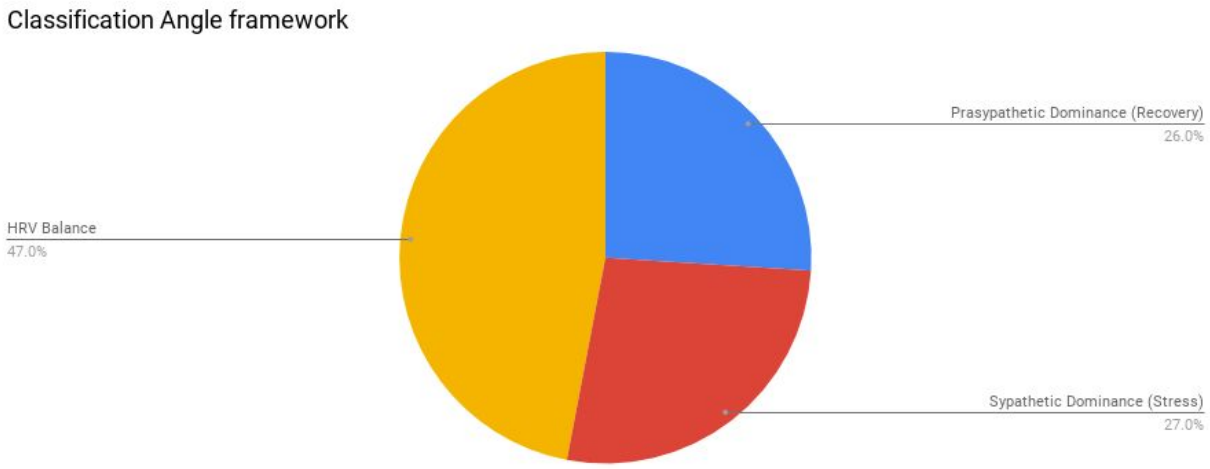
Label	0	1	2	3	4	5	6
Activity	Standing	Sitting	Cycling	Walking	Sleep	Running	Humming

a1 = 4x(n+1) - 3x(n) - x(n+2)
a2 = 4x(n+2) - 3x(n+1) - x(n+3)

Explanation :

Colour	Blue	Green	Yellow
Activity	Static Activities (Standing, Sitting)	Dynamic Activities (Cycling, Walking, Running)	Resting Activities (Sleep, Humming)

Quadrant 1 - Parasympathetic Dominance (Recovery)
Quadrant 2-4- HRV Balance
Quadrant 3 - Sympathetic Dominance (Stress)



This figure represents the percentage of stress and recovery based classification.

Quadrant 1: Represents parasympathetic dominance when HRV is analyzed at low temporal scale.

Quadrant 3: Represents sympathetic dominance when HRV is analyzed at high temporal scale.

Cardiac Deceleration Proportion (P^{Q1} **)** is the proportion of HRV rates of change that fall into the **first quadrant** of a scatter plot of finite-differences.

HRV Balance Proportion ($P^{Q2,4}$ **)** is the proportion of HRV rates of change that fall into the **second and fourth quadrants** of a scatter plot of finite-differences.

Cardiac Acceleration Proportion (P^{Q3} **)** is the proportion of rates of change of coarse-grained HRV which fall into the **third quadrant** of a scatter plot of finite-differences.

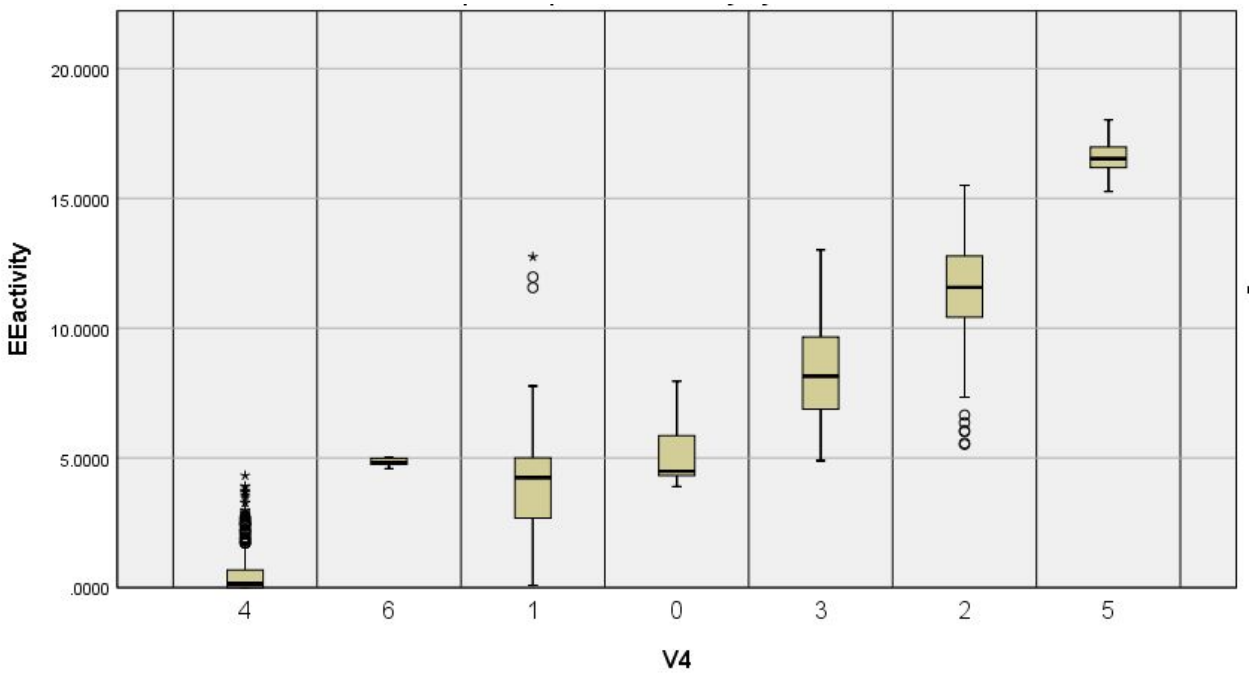


Figure Represents the variation of EE activity upon the classification of PA into various Static and Dynamic Activities.

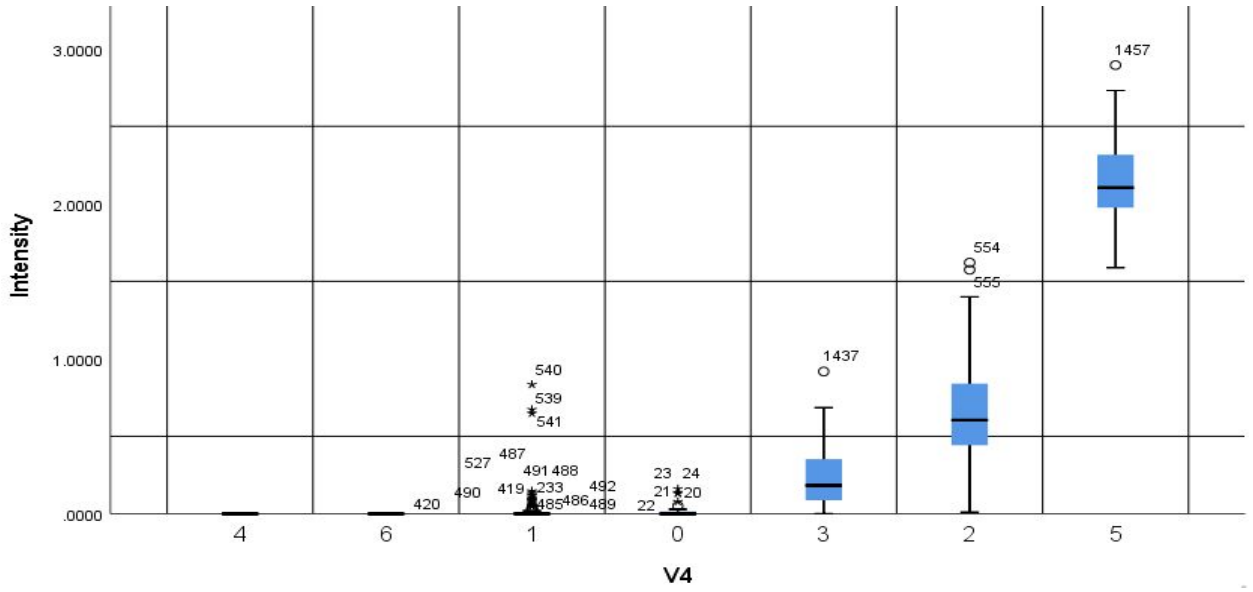


Figure Represents the variation of EE activity upon the classification of PA into various Static and Dynamic Activities.