

**SUPPLEMENTAL MATERIAL:**

**Online Table I. Risk of adverse cardiovascular outcomes in the multivariable Fine and Gray's proportional hazard model. \***

<b>Variables</b>	<b>sHR, 95% C.I.</b>	<b>P-value</b>
sPAT ratio (low vs high)	1.77 (1.12 - 2.80)	<b>0.014</b>
Age, year	1.00 (0.97 - 1.03)	0.91
Male	1.09 (0.67 - 1.78)	0.73
Black race	0.73 (0.44 - 1.22)	0.22
BMI, kg/m <sup>2</sup>	1.01 (0.97 - 1.05)	0.65
Hypertension	1.22 (0.64 - 2.31)	0.55
Hyperlipidemia	0.57 (0.33 - 1.00)	<b>0.049</b>
Diabetes	1.77 (1.14 - 2.77)	<b>0.012</b>
Smoking history	1.08 (0.68 - 1.73)	0.75
Prior MI	0.96 (0.59 - 1.54)	0.85
Beta blocker use	0.94 (0.57 - 1.56)	0.82
ACE inhibitor use	0.71 (0.45 - 1.11)	0.13
Heart failure	2.24 (1.41 - 3.55)	<b>0.0006</b>
RPP change <sup>†</sup> , %	0.99 (0.98 - 1.00)	0.096

\*Adverse cardiovascular outcomes were defined as cardiovascular death, myocardial infarction, revascularization, or hospitalization for heart failure while treating non-cardiovascular death as competing risk.

<sup>†</sup> RPP was defined by systolic blood pressure x heart rate. % change was calculated as the maximum value during the mental stress test in comparison to the minimum value at rest. Abbreviations: sHR = sub-distribution hazard ratio; C.I. = confidence interval; sPAT = stress/rest peripheral arterial tonometry; MI = myocardial infarction; ACE = angiotensin converting enzyme; RPP = rate-pressure product.

**Online Table II. The association between continuous sPAT ratio and the risk of adverse cardiovascular outcomes per 0.1 decrease in sPAT ratio. \***

<b>Model</b>	<b>Covariates</b>	<b>sHR</b>	<b>95% C.I.</b>	<b>P-value</b>
Model 1	Unadjusted	1.06	0.99 – 1.14	0.085
Model 2	Model 1+ Demographic variables <sup>†</sup>	1.06	0.99 – 1.14	0.085
Model 3	Model 2 + Clinical variables <sup>‡</sup>	1.06	0.99 – 1.14	0.102
Model 4	Model 3 + % RPP change <sup>§</sup>	1.06	0.99 – 1.14	0.092

\*Adverse cardiovascular outcomes were defined as cardiovascular death, myocardial infarction, revascularization, or hospitalization for heart failure while treating non-cardiovascular death as competing risk.

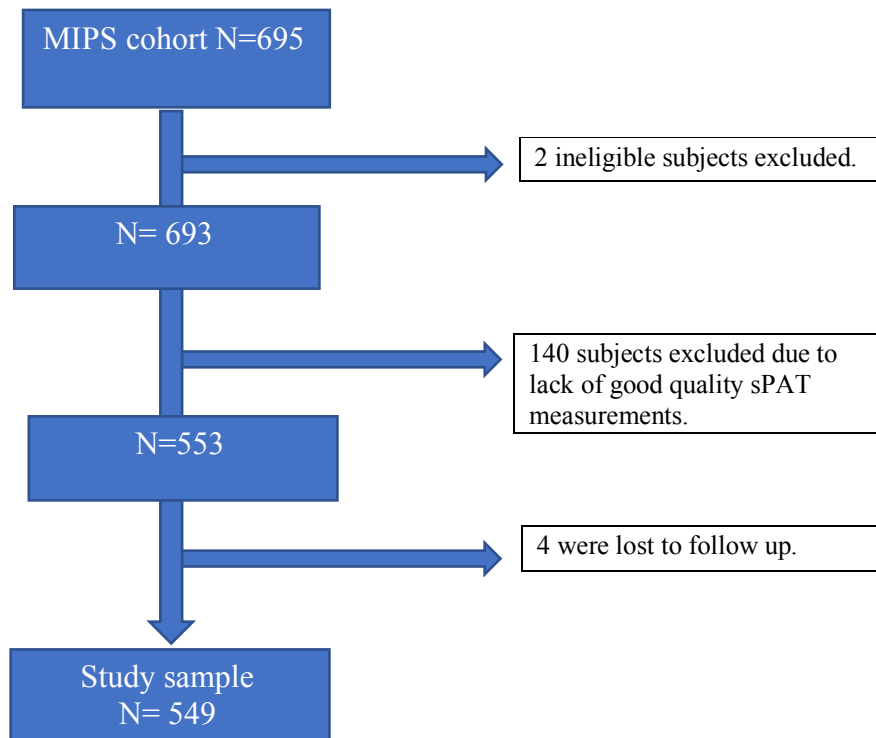
<sup>†</sup> Age, sex, and race.

<sup>‡</sup> Body mass index, hypertension, hyperlipidemia, diabetes mellitus, smoking history, prior myocardial infarction, medication use (beta blocker, angiotensin converting enzyme inhibitor), and heart failure

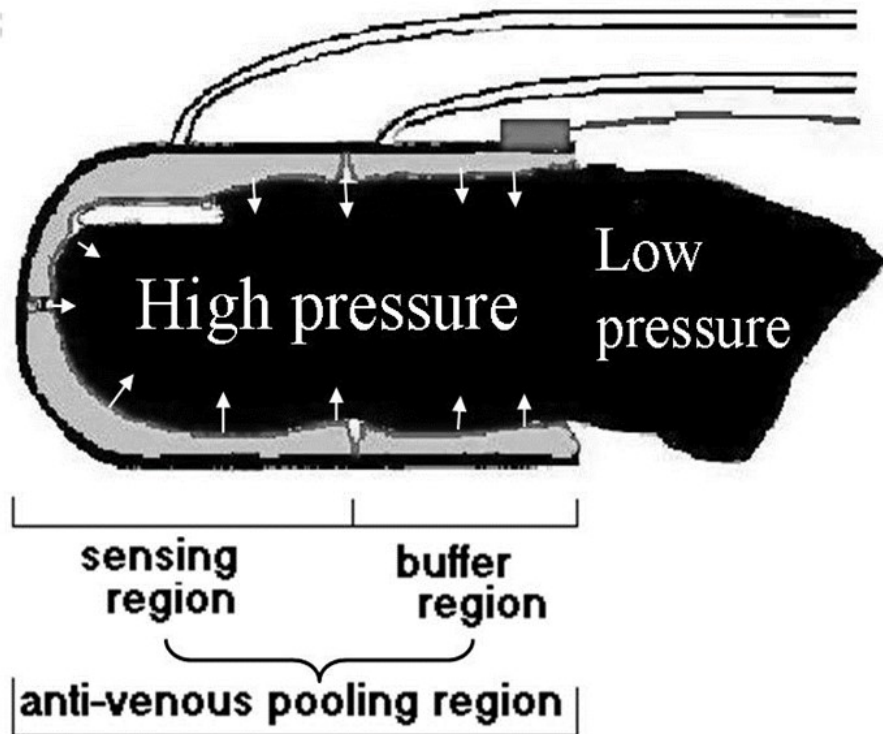
<sup>§</sup> RPP (rate-pressure product) was defined by systolic blood pressure x heart rate. % change was calculated as the maximum value during the mental stress test in comparison to the minimum value at rest.

Abbreviations: sPAT = stress/rest peripheral artery tonometry; sHR = sub-distribution hazard ratio; C.I. = Confidence intervals; RPP = rate-pressure product

**Online Figure I. Study sample inclusion flow chart.**

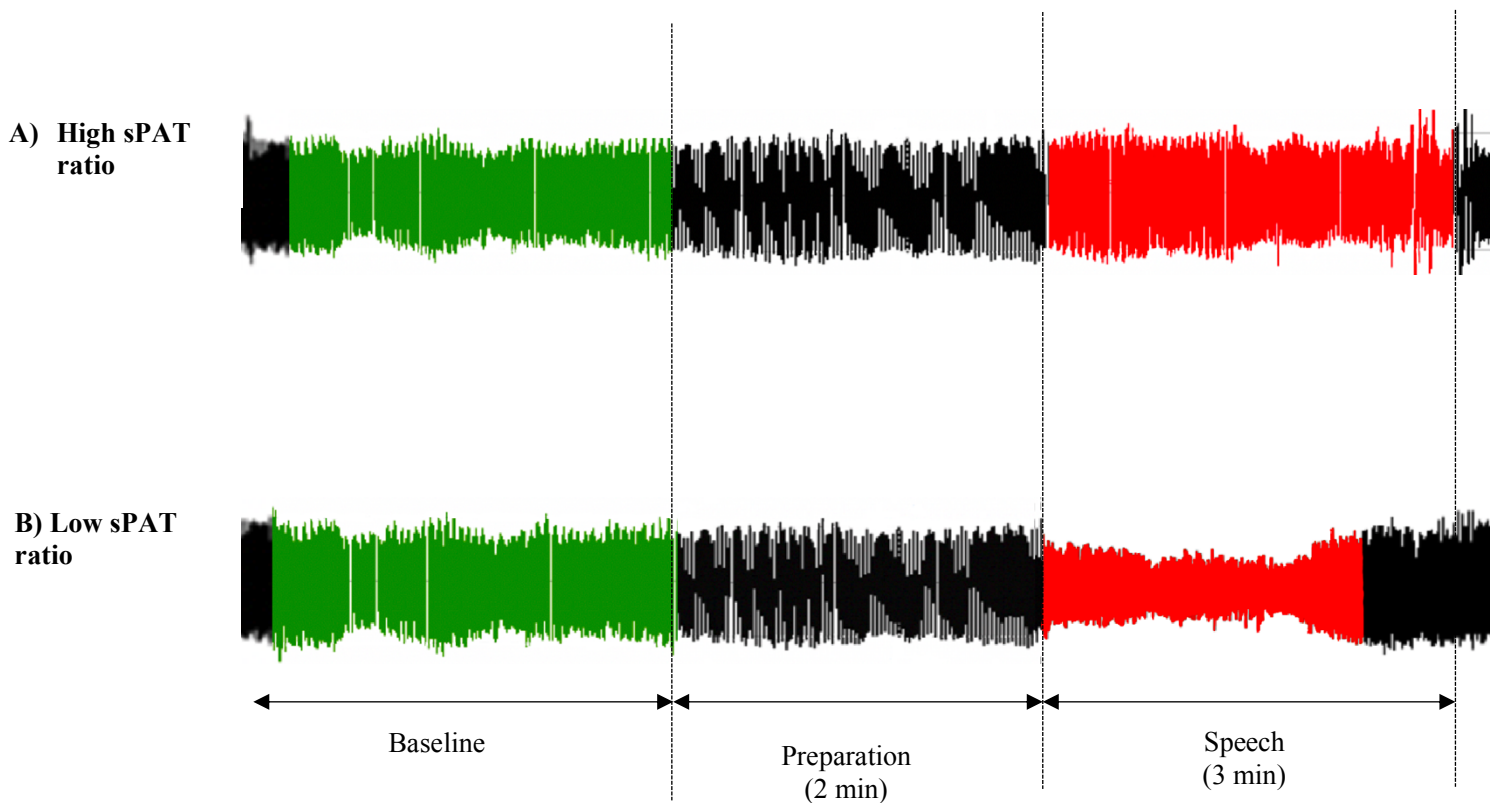


**Online Figure II. Diagram of the PAT device.** The PAT device uses a modified form of plethysmography to measure pulsatile blood volume changes. The probe applies a constant sub-diastolic pressure over the distal two thirds of the finger to prevent distal venous blood stasis, unload arterial wall tension, and stabilize the probe to reduce noise. The device is also connected via thin tubing to an isolated volume reservoir to buffer within the probe itself. Pulsatile pressure changes from the probe are registered from a pressure transducer, and then fed into a specialized software which filters, amplifies, stores, and analyzes the signal in an operator-independent manner.



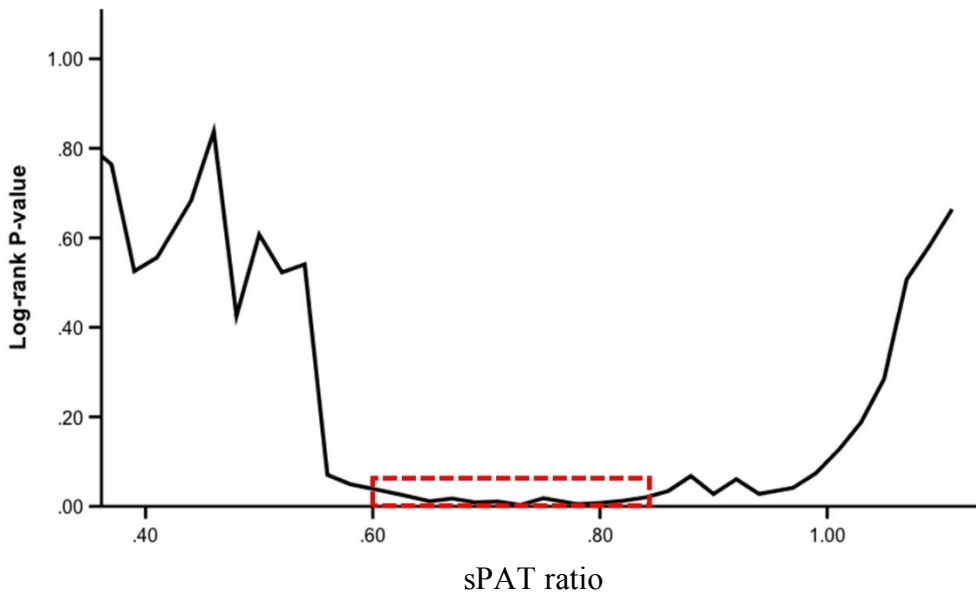
**Online Figure III. Illustrative examples of PAT tracing for subjects with a high sPAT ratio (A) and a low sPAT ratio (B).** Time marks for the stages of mental stress procedure, 2 minutes of preparation and 3 minutes of public speaking are denoted. High sPAT ratio indicates minimal vasoconstrictive response during mental stress with estimated sPAT of 1.07 while low sPAT ratio indicates pronounced digital vasoconstriction recorded in the with estimated sPAT of 0.55. Green and red colors indicate baseline and stress amplitudes used to derive sPAT ratio.

Abbreviation: sPAT = Stress- rest peripheral arterial tonometry ratio.



**Online Figure IV. Exploration of the optimal PAT ratio cutoff with log-rank P-values. A) Log-rank P-values across the entire range of PAT ratio. B) Log-rank P values for the range of PAT ratio within the inset (depicted with red dotted line in Figure A). Black vertical dotted line represents the cutoff of 0.73, with the smallest log-rank P-value of 0.003. Abbreviations: sPAT = stress/rest peripheral arterial tonometry.**

**A)**



**B)**

