APPENDIX

Anthropometric measures and blood pressure measures are described in this Appendix. It also includes a description of the methods used to determine the biological values. A specific set of references is provided for this Appendix.

Body weight and height were measured with participants standing without shoes in light indoor clothing. Weight was measured in kilograms to the nearest 0.1 kg using a Seca™ scale (Seca, Hamburg, Germany). Height was measured to the nearest 5 mm using a Seca™ height gauge (Seca, Hamburg, Germany). Body mass index (BMI) was defined as weight (kg)/height^2 (m^2). Obesity was defined as BMI ≥ 30 kg/m^2, overweight as BMI ≥ 25 and < 30 kg/m^2, normal as BMI ≥ 18.5 and < 25 kg/m^2 and underweight as BMI < 18.5 kg/m^2. Due to the small number of underweight participants (n=55), they were included in the normal category.

Waist circumference was measured mid-way between the lowest rib and the iliac crest and abdominal obesity was defined as waist circumference > 102 cm or > 88 cm for men and women respectively.[1]

Blood pressure (BP) was measured thrice on the left arm after at least 10 minutes rest in the seated position using a clinically validated automated oscillometric device (Omron® HEM-907, Matsusaka, Japan) with a standard cuff, or a large cuff if arm circumference was ≥ 33 cm. The average of the last two measurements was used. Hypertension was defined as mean systolic BP (SBP) ≥ 140 mmHg and/or a mean diastolic BP (DBP) ≥ 90 mmHg and/or use of anti-hypertensive medication.

Venous blood samples (50 mL) were drawn in the fasting state. All biological assays were performed at the clinical laboratory of the Lausanne University Hospital within 2 hours of blood collection on fresh samples. Glycated haemoglobin (HbA1c) was measured by high performance liquid chromatography (Bio-Rad, D-10™). Subjects were considered to have diabetes if they had a serum HbA1c ≥ 6.5% (≥48 nmol/mmol) and/or were taking anti-diabetic treatment.

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Total cholesterol was measured by CHOD-PAP; HDL-cholesterol by CHOD-PAP + PEG + cyclodextrin; triglycerides by GPO-PAP. In our analysis, dyslipidemia was defined as triglycerides ≥ 2 mmol/l and/or LDL ≥ 3 mmol/l and/or lipid lowering treatment.

High sensitivity CRP was assessed by immunoassay (HS latex) and was considered elevated when ≥ 5 mg/l. Serum and urinary creatinine were performed by the Jaffe kinetic compensated method. Renal failure was considered when eGFR was < 60 ml/min/1.73m^2 using CKD-EPI formula. Troponine T hs and NT-proBNP were measured by electrochemiluminescence and considered elevates when ≥ 14 ng/l and 125 ng/l respectively. Biological threshold were defined based on the standard values in our clinical laboratory (Lausanne University Hospital). Since the threshold value for a positive NT-proBNP result usually increased with age, we only considered the lowest threshold value available in our laboratory (i.e. 125 ng/l), as a simple, more sensitive approach to the potential effect of this variable.

The metabolic syndrome was retained in presence of any 3 out of 5 risk factors on the basis of the JIS (Joint Interim Statement) definition. The criteria for clinical diagnosis are: elevated waist circumference (≥ 102 cm for men and ≥ 88 cm for women), elevated triglycerides (≥ 1.7 mmol/l), reduced HDL-C (< 1.0 mmol/l for men and < 1.3 mmol/l for women), elevated BP (systolic BP ≥ 130 mm Hg and/or diastolic BP ≥ 85 mm Hg), elevated fasting glucose (≥ 5.6 mmol/l).(2)

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Supplemental Table 1. Complete baseline characteristics of the study population, CoLaus|PsyColaus study, Lausanne, Switzerland, 2014-2016.

	Included	Excluded	P-value
All	3459	1422	
Age in years (mean; SD)	62 ±10	65 ±11	<0.001
Gender			
Men	1543 (44.6)	649 (45.6)	
Women	1916 (55.4)	773 (54.4)	
Race/ethnicity			
Caucasian	3202 (92.6)	1313 (92.3)	
Other	257 (7.4)	109 (7.7)	
BMI categories			0.005
Normal	1405 (40.6)	452 (44.2)	
Overweight	1415 (40.9)	360 (35.2)	
Obese	639 (18.5)	210 (20.6)	
Abdominal obesity	1298 (37.5)	395 (38.5)	0.562
Smoking			0.952
Never	1455 (42.1)	431 (41.6)	
Former	1349 (39.0)	405 (39.1)	
Current	655 (18.9)	200 (19.3)	
Alcohol use			<0.001
Non drinker	908 (26.3)	267 (34.2)	
Low risk	2076 (60.0)	412 (52.8)	
Medium risk	386 (11.2)	87 (11.1)	
High risk	89 (2.6)	15 (1.9)	
Personal history of CVD	309 (8.9)	209 (14.7)	<0.001
Family history of CVD	1344 (38.9)	421 (29.6)	<0.001
Hypertension	1544 (44.6)	719 (58.6)	<0.001
Dyslipidaemia	2444 (70.7)	1064 (74.8)	0.003
Diabetes	294 (8.5)	188 (17.1)	<0.001
Metabolic syndrome	955 (27.6)	304 (30.6)	0.065
Renal failure	373 (10.8)	163 (15.5)	<0.001
Antidepressant medications	35 (1.0)	15 (1.1)	0.892
Troponin T > 14 ng/l	226 (8.9)	156 (19.3)	<0.001
CRP ≥ 5 mg/L	285 (8.2)	111 (15.0)	<0.001
NT-proBNP > 125 pg/ml	702 (32.6)	365 (51.3)	<0.001

SD, standard deviation; BMI, body mass index; CVD; cardiovascular disease; CRP, C-reactive protein. Please refer to the methods and Appendix for the definition of each characteristic. In column excluded, totals might not add to 1422 due to missing data. Results are expressed as mean ± standard deviation for continuous variables and as number of participants (column percentage) for

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categorical variables. Between-group comparisons performed using t-test for continuous variables and chi-square for categorical variables.

Supplemental material

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Supplemental Table 2. Characteristics of participants with P-wave duration < 120 and ≥ 120 ms, CoLaus|PsyColaus study, Lausanne, Switzerland, 2014-2016.

	PWD < 120 ms	PWD ≥ 120 ms	P-value
All	2718	741	
Age in years (mean; SD)	61 ± 9.6	65.5 ± 10.2	<0.001
Gender			<0.001
Men	1110 (40.8)	433 (58.4)	
Women	1608 (59.2)	308 (41.6)	
Race/ethnicity			0.017
Caucasian	2501 (92.0)	701 (94.6)	
Other	217 (8.0)	40 (5.4)	
BMI categories			<0.001
Normal	1157 (42.6)	248 (33.5)	
Overweight	1106 (40.7)	309 (41.7)	
Obese	455 (16.7)	184 (24.8)	
Abdominal obesity	960 (35.3)	338 (45.6)	<0.001
Smoking			0.005
Never	1159 (42.6)	296 (40)	
Former	1024 (37.7)	325 (43.9)	
Current	535 (19.7)	120 (16.2)	
Alcohol use			0.146
Non drinker	719 (26.5)	189 (25.5)	
Low risk	1645 (60.5)	431 (58.2)	
Medium risk	288 (10.6)	98 (13.2)	
High risk	66 (2.4)	23 (3.1)	
Personal history of CVD	210 (7.7)	99 (13.4)	<0.001
Family history of CVD	1061 (39.0)	283 (38.2)	0.676
Hypertension	1121 (41.2)	423 (57.1)	<0.001
Dyslipidaemia	1899 (69.9)	545 (73.6)	0.051
Diabetes	213 (7.9)	81 (11.0)	0.007
Metabolic syndrome	691 (25.4)	264 (35.6)	<0.001
Renal failure	267 (9.8)	106 (14.3)	<0.001
Antidepressant medications	27 (1.0)	8 (1.1)	0.835
Troponin T > 14 ng/l	140 (7.4)	86 (13.3)	<0.001
CRP ≥ 5 mg/L	219 (8.1)	66 (8.9)	0.456
NT-proBNP > 125 pg/ml	493 (29.4)	209 (44.0)	<0.001

PWD, P-wave duration; ms, milliseconds; SD, standard deviation; BMI, body mass index; CVD; cardiovascular disease; CRP, C-reactive protein. Please refer to the methods and Appendix for the definition of each characteristic. Results are expressed as mean ± standard deviation or as number of participants (column percentage). Between-group comparisons performed using student t-test or chi-square.

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Supplemental Table 3. Multivariable associations between P-wave duration and different demographic, clinical and biological markers, CoLaus|PsyColaus study, Lausanne, Switzerland, 2014-2016. Only computer-evaluated ECGs.

Characteristics	Model 1	P-value	Model 2A	P-value	Model 2B	P-value
Age (continuous)	-		0.29 (0.25 - 0.34)	<0.001	0.28 (0.24 - 0.33)	<0.001
Height (continuous)	-		0.27 (0.20 - 0.33)	<0.001	0.24 (0.18 - 0.30)	<0.001
Gender				<0.001		<0.001
Woman	-		110.6 ± 0.3		110.3 ± 0.3	
Man	-		112.5 ± 0.4		112.9 ± 0.4	
BMI categories		<0.001		<0.001		
Normal	110.3 ± 0.3		110.5 ± 0.3			
Overweight	111.7 ± 0.3		111.7 ± 0.3			
Obese	113.2 ± 0.5		113.0 ± 0.5			
Abdominal obesity		<0.001				<0.001
No	110.8 ± 0.3				110.9 ± 0.3	
Yes	112.6 ± 0.3				112.4 ± 0.4	
Smoking		0.716				
Never	111.6 ± 0.3		-		-	
Former	111.5 ± 0.3		-		-	
Current	111.1 ± 0.5		-		-	
Alcohol use		0.875				
Non drinker	111.3 ± 0.4		-		-	
Low risk	111.4 ± 0.3		-		-	
Medium risk	111.9 ± 0.6		-		-	
High risk	111.4 ± 1.3		-		-	
Personal history of CVD		0.632				
No	111.5 ± 0.2		-		-	

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Characteristic	Model 1	p	Model 2A	p	Model 2B	p
Yes	111.1 ± 0.7		-		-	
Hypertension		<0.001		0.011		0.004
No	110.7 ± 0.3		110.9 ± 0.3		110.8 ± 0.3	
Yes	112.4 ± 0.3		112.1 ± 0.3		112.2 ± 0.3	
Dyslipidaemia		0.243				
No	111.1 ± 0.4		-		-	
Yes	111.6 ± 0.2		-		-	
Diabetes		0.146				
No	111.5 ± 0.2		-		-	
Yes	110.4 ± 0.7		-		-	
Metabolic syndrome		0.064				
No	111.2 ± 0.2		-		-	
Yes	112.1 ± 0.4		-		-	
Renal failure		0.732				
No	111.5 ± 0.2		-		-	
Yes	111.2 ± 0.7		-		-	
Troponin ≥14 ng/L		0.707				
No	112.8 ± 0.3		-		-	
Yes	112.5 ± 0.9		-		-	
NT-proBNP ≥125 ng/L		0.933				
No	111.2 ± 0.3		-		-	
Yes	111.3 ± 0.5		-		-	

-, not included in the model. BMI, Body Mass Index; CVD, cardiovascular disease. Please refer to the methods and Appendix for the definition of each characteristic. Results are expressed as adjusted coefficient (95% confidence interval) for continuous variables and as mean ± standard error for categorical variables. Model 1: adjusted for age (continuous), height (continuous) and gender. Full model (2A and 2B): including all variables indicated.

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