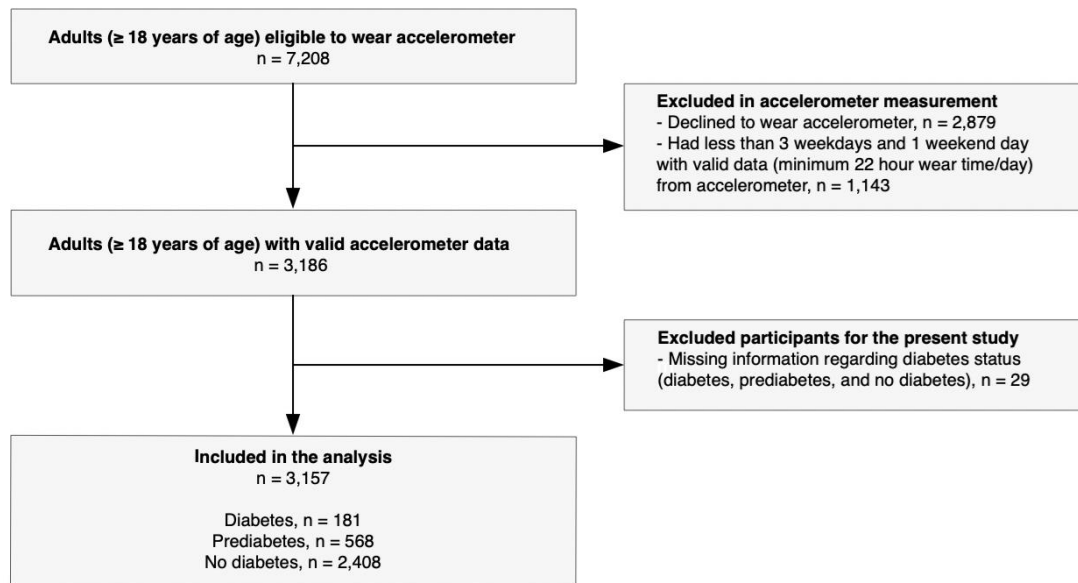


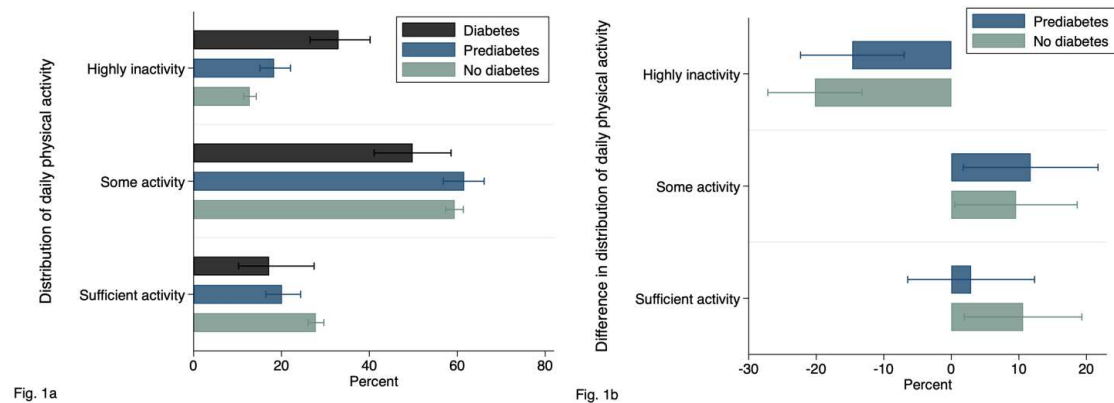
## Supplement 1

## Flowchart of included participants



Supplement 1. Flowchart of included participants in the present study.

## Supplement 2



**Supplement 2 - Fig. 1a.** Distribution of proportion (%) of daily physical activity according to the recommendations by diabetes status.

**Supplement 2 - Fig. 1b.** Percentage point difference in daily physical activity according to the recommendations in percent by diabetes status with diabetes as reference.

Definitions: Highly inactivity: <5 min/day of MVPA, Some activity:  $\geq 5$  min/day and <30 min/day MVPA, Sufficient activity:  $\geq 30$  min/day MVPA.

Both figures are standardized on age and sex (entropy balancing with the distribution of age- and sex in the total sample as the reference). Error bars are 95% CI.

### Supplement 3

**Supplement 3.** Daily MVPA percentile difference between groups of diabetes status.

	p25		p50		p75	
	$\beta$ [95 % CI]	<i>p</i> -value	$\beta$ [95 % CI]	<i>p</i> -value	$\beta$ [95 % CI]	<i>p</i> -value
<i>Total MVPA (min/day)</i>						
Diabetes	(reference)		(reference)		(reference)	
Prediabetes	3.2 [1.9; 4.6]	<0.001*	6.6 [4.2; 9.0]	<0.001*	5.1 [-1.1; 11.3]	0.108
No diabetes	6.1 [4.9; 7.3]	<0.001*	11.9 [9.9; 14.0]	<0.001*	10.0 [4.2; 15.9]	0.001*

$\beta$  coefficients and 95 % confidence intervals (95 % CI) represent estimated difference in daily MVPA (min/day) (25<sup>th</sup> percentile, 50<sup>th</sup> percentile and 75<sup>th</sup> percentile) within each percentile of MVPA by diabetes status with diabetes as the reference. Data are standardized on age and sex. Significant results ( $p < 0.05$ ) are marked with \*.

### Supplement 4

**Supplement 4.** Daily MVPA median (p50) difference between weekdays and weekends by diabetes status.

	Diabetes		Prediabetes		No diabetes	
	$\beta$ [95 % CI]	<i>p</i> -value	$\beta$ [95 % CI]	<i>p</i> -value	$\beta$ [95 % CI]	<i>p</i> -value
<i>Total MVPA (min/day)</i>						
Weekdays	(reference)		(reference)		(reference)	
Weekends	-1.2 [-2.1; -0.3]	0.012*	-2.2 [-3.3; -1.1]	<0.001*	-2.3 [-3.1; -1.6]	<0.001*

$\beta$  coefficients and 95 % confidence intervals (95 % CI) represent estimated difference in daily MVPA (min/day) (50<sup>th</sup> percentile) between weekdays and weekends by diabetes status with diabetes as the reference. Data are standardized on age and sex. Significant results ( $p < 0.05$ ) are marked with \*.

### Supplement 5

**Supplement 5.** Estimated distribution of daily MVPA (p25, p50, and p75) by diabetes status and season.

	<i>MVPA (min/day)</i>		
	p25 $\beta$ [95 % CI]	p50 $\beta$ [95 % CI]	p75 $\beta$ [95 % CI]
<i>Diabetes</i>			
Winter	1.3 [-0.2; 2.7]	5.2 [2.9; 7.6]	16.5 [9.9; 23.0]
Spring	2.4 [0.5; 4.4]	5.7 [3.1; 8.5]	17.1 [7.7; 26.4]
Summer	1.8 [0.7; 3.6]	4.3 [1.9; 6.8]	12.9 [4.2; 21.7]
Autumn	2.2 [-0.1; 4.5]	5.9 [2.9; 8.8]	12.5 [7.5; 17.6]
<i>Prediabetes</i>			
Winter	5.7 [3.9; 7.6]	14.1 [11.1; 17.1]	27.8 [23.7; 31.9]
Spring	6.2 [4.4; 8.1]	13.3 [9.8; 16.7]	27.1 [21.4; 32.8]
Summer	3.8 [2.2; 5.4]	10.1 [7.4; 12.8]	24.2 [18.5; 29.9]
Autumn	4.6 [2.6; 6.7]	11.9 [8.8; 15.1]	26.5 [19.5; 33.5]
<i>No diabetes</i>			
Winter	9.8 [8.5; 11.1]	19.7 [17.9; 21.4]	33.4 [30.8; 36.0]
Spring	9.6 [8.1; 11.1]	19.8 [17.8; 21.9]	33.7 [30.7; 36.8]
Summer	9.4 [7.9; 10.9]	17.4 [15.2; 19.5]	30.6 [27.4; 33.8]
Autumn	9.3 [7.9; 10.7]	17.8 [15.9; 19.6]	31.2 [28.0; 34.4]

$\beta$  coefficients and 95 % confidence intervals (95 % CI) represent estimated daily MVPA (min/day) (25<sup>th</sup> percentile, 50<sup>th</sup> percentile and 75<sup>th</sup> percentile) by diabetes status and season. Data are standardized on age and sex.

## Supplement 6

**Supplement 6.** Predicted MVPA (min/day) between diabetes status and age groups.

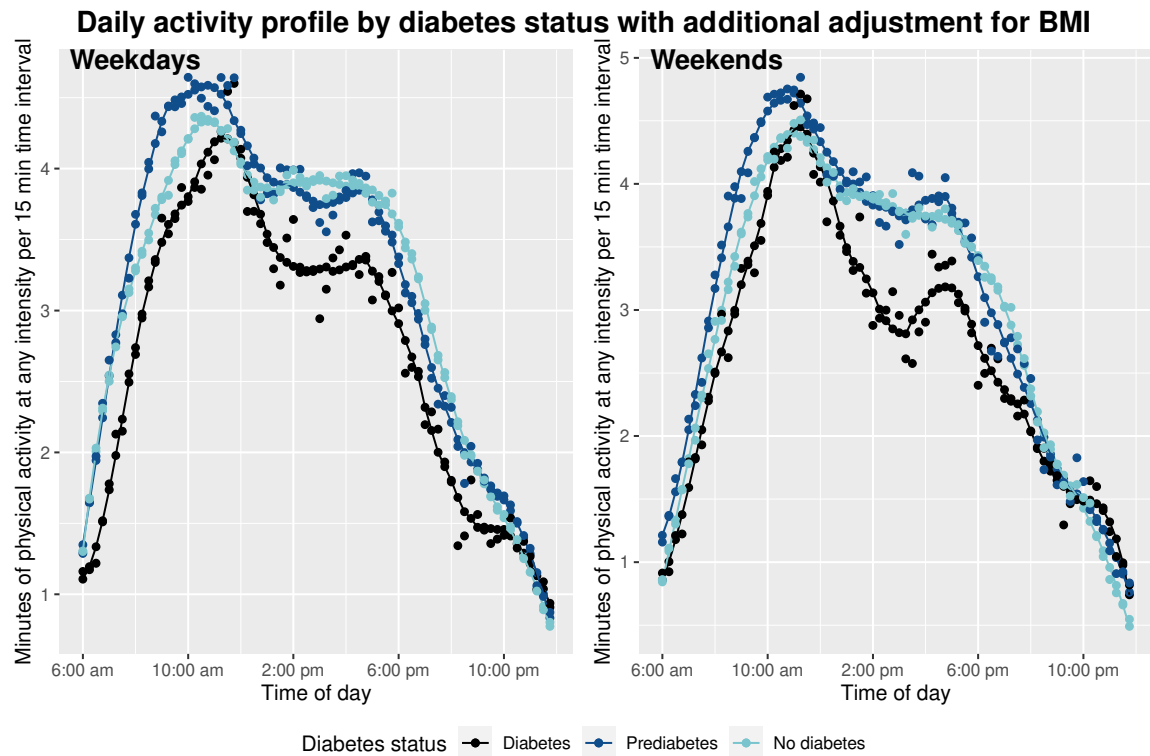
	p25		p50		p75	
	Margin [95 % CI]	<i>p</i> -value	Margin [95 % CI]	<i>p</i> -value	Margin [95 % CI]	<i>p</i> -value
<i>&lt;65 years</i>						
Diabetes	4.2 [0.8; 7.6]	(reference)	8.3 [3.2; 13.3]	(reference)	20.7 [13.6; 27.8]	(reference)
Prediabetes	7.3 [5.6; 9.0]	0.107	14.8 [12.3; 17.4]	0.023*	27.3 [23.7; 30.8]	0.103
No diabetes	12.1 [11.4; 12.7]	<0.001*	21.7 [20.7; 22.7]	<0.001*	34.8 [33.4; 36.2]	<0.001*
<i>≥65 years</i>						
Diabetes	1.0 [-1.9; 3.8]	(reference)	3.4 [-0.8; 7.7]	(reference)	9.9 [3.9; 15.9]	(reference)
Prediabetes	4.0 [2.2; 5.7]	0.076	10.5 [7.9; 13.1]	0.007*	25.1 [21.4; 28.7]	<0.001*
No diabetes	5.2 [4.0; 6.4]	0.007*	13.5 [11.8; 15.3]	<0.001*	26.1 [23.7; 28.5]	<0.001*

n = 2,746

Margins and CI 95 % represent predicted average values of MVPA (min/day) in p25, p50, and p75 between diabetes status and age groups (<65 years and ≥65 years) based on fitted quantile regression models adjusted for sex.

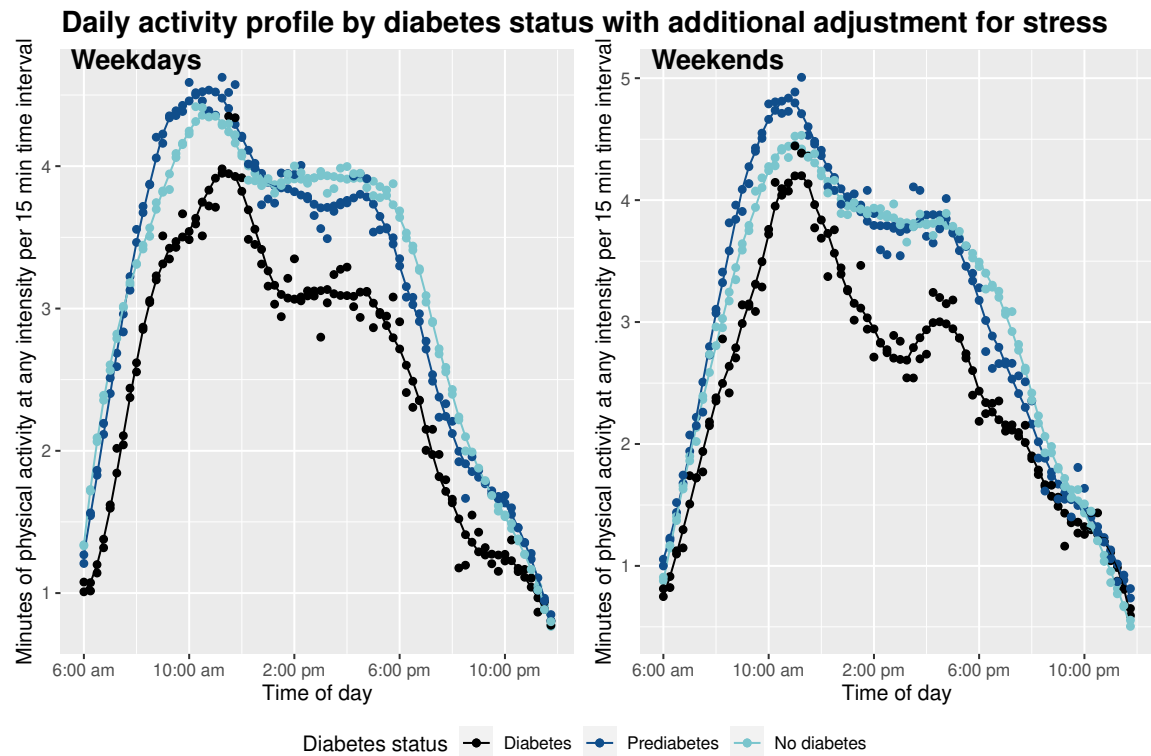
*p*-values represent differences in MVPA (min/day) in each age group between diabetes and prediabetes, and diabetes and no diabetes. Significant results (*p*<0.05) are marked with \*.

## Supplement 7



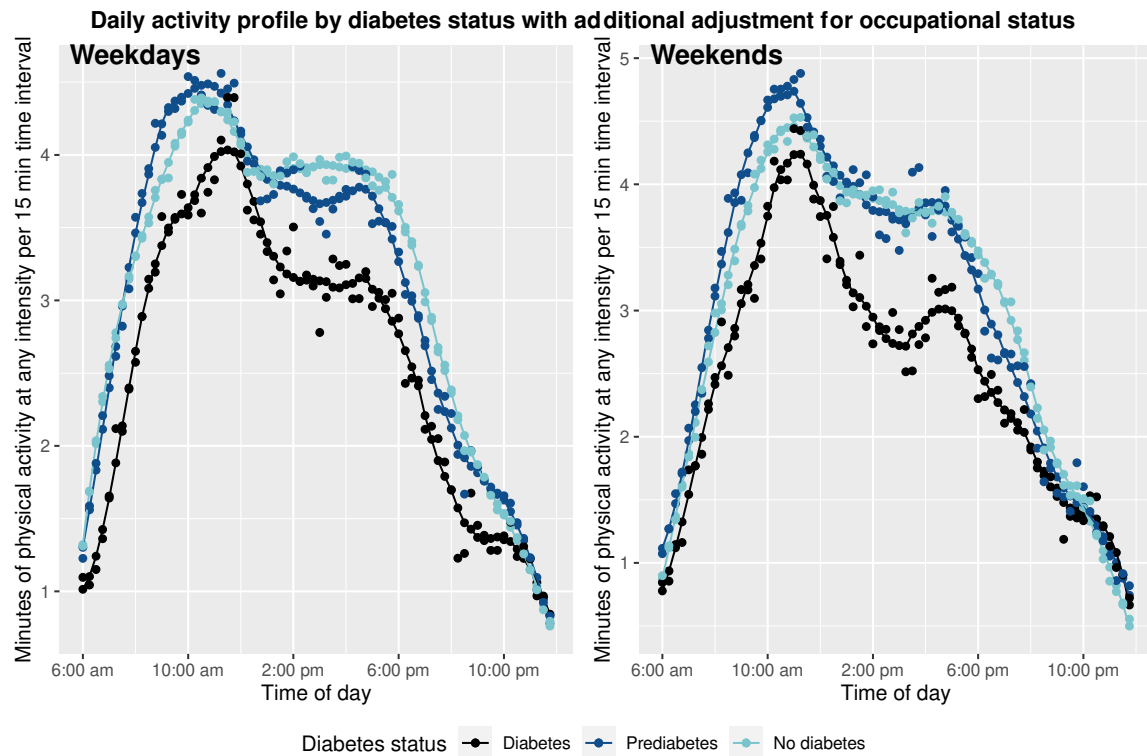
**Supplement 7.** Daily activity profiles by diabetes status are presented as mean time (minutes per 15 minutes interval) spent being physically active at any intensity (LPA was the threshold for detection of physical activity at any intensity) during a weekday and weekend day adjusted for age, sex, and BMI. The points represent the raw estimates, and the fitted line represents a smoothing trend based on the point estimates. The smoothed trend was generated using a sgolay filtering with an order of 3 and length 15.

## Supplement 8



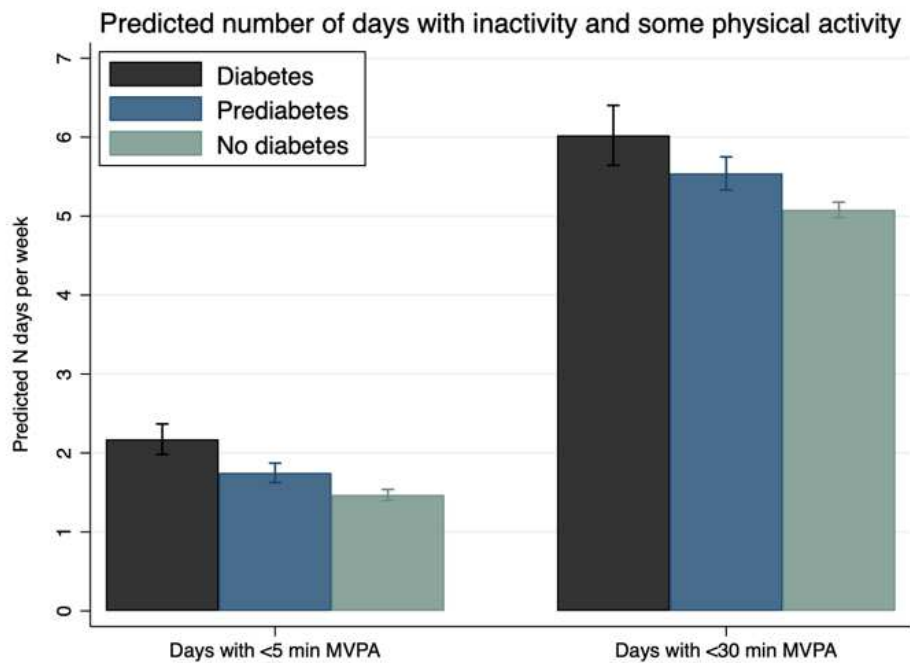
**Supplement 8.** Daily activity profiles by diabetes status are presented as mean time (minutes per 15 minutes interval) spent being physically active at any intensity (LPA was the threshold for detection of physical activity at any intensity) during a weekday and weekend day adjusted for age, sex, and stress. The points represent the raw estimates, and the fitted line represents a smoothing trend based on the point estimates. The smoothed trend was generated using a sgolay filtering with an order of 3 and length 15.

## Supplement 9



**Supplement 9.** Daily activity profiles by diabetes status are presented as mean time (minutes per 15 minutes interval) spent being physically active at any intensity (LPA was the threshold for detection of physical activity at any intensity) during a weekday and weekend day adjusted for age, sex, and occupational status. The points represent the raw estimates, and the fitted line represents a smoothing trend based on the point estimates. The smoothed trend was generated using a sgolay filtering with an order of 3 and length 15.

## Supplement 10



**Supplement 10.** Predicted number of days (95 % CI) with highly inactivity (<5 min MVPA/day) and some physical activity (<30 min MVPA/day) during the median of 7-days period with adjustments for age and sex.



## Supplement 11

**Supplement 11.** Quantile regression models on daily LPA, MPA, VPA, MVPA and SB between participants with diabetes and participants with prediabetes with additional adjustment for other major determinants of physical activity

	Model 1 <sup>a</sup> n = 630		Model 2 <sup>b</sup> n = 630		Model 3 <sup>c</sup> n = 630	
	$\beta$ [95 % CI]	<i>p</i> -value	$\beta$ [95 % CI]	<i>p</i> -value	$\beta$ [95 % CI]	<i>p</i> -value
<i>Total LPA (min/day)</i>						
Diabetes	(reference)		(reference)		(reference)	
Prediabetes	44.1 [31.9; 56.4]	<0.001*	32.9 [19.7; 46.2]	<0.001*	31.2 [19.1; 43.3]	<0.001*
<i>Total MPA (min/day)</i>						
Diabetes	(reference)		(reference)		(reference)	
Prediabetes	6.1 [3.4; 8.8]	<0.001*	3.7 [0.7; 6.6]	0.015*	2.8 [-0.4; 6.0]	0.091
<i>Total VPA (min/day)</i>						
Diabetes	(reference)		(reference)		(reference)	
Prediabetes	0.4 [0.1; 0.7]	0.012*	0.2 [-0.1; 0.5]	0.242	0.2 [-0.1; 0.5]	0.245
<i>Total MVPA (min/day)</i>						
Diabetes	(reference)		(reference)		(reference)	
Prediabetes	6.5 [3.3; 9.7]	<0.001*	4.2 [0.7; 7.6]	0.018*	3.3 [-0.1; 6.7]	0.057
<i>Total SB (hour/day)</i>						
Diabetes	(reference)		(reference)		(reference)	
Prediabetes	-0.6 [-1.0; -0.3]	0.001*	-0.3 [-0.7; 0.01]	0.056	-0.4 [-0.8; -0.1]	0.021*

$\beta$  coefficients and 95 % confidence intervals (95 % CI) represent median difference in LPA, MPA, VPA, MVPA (min/day) and SB (hour/day) compared with participants with diabetes as the reference. Significant results ( $p < 0.05$ ) are marked with \*.

<sup>a</sup>Model 1: Multivariable regression model adjusted for age and sex

<sup>b</sup>Model 2: Multivariable regression model adjusted for age, sex, and BMI

<sup>c</sup>Model 3: Multivariable regression model adjusted for age, sex, BMI, comorbidities, stress, mental well-being, and chronic pain