

# **Influence of weather and atmospheric pollution on physical activity in patients with COPD.**

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**Online Data Supplement**

Table S1. Relationship between pollutants ( $PM_{10}$  and  $O_3$ ) and Daily steps count, hours spent outdoors, health status (CAT score), PEFR, dyspnoea, **over weekdays (Monday-Friday)**; with allowance for season, linear trend, day-length, temperature, sunshine, rain and wind.

	Effect of $1 \mu\text{g}/\text{m}^3$ $PM_{10}$ (Weekdays)			Effect of $1 \mu\text{g}/\text{m}^3$ $O_3$ (weekdays)		
	Regression Coefficient	95% CI	p-value	Regression Coefficient	95% CI	p-value
<b>Step count</b>	-7.8	-14.2 to -1.3	0.018	-3.5	-9.44 to 2.35	0.239
<b>Hours outdoors</b>	$-2.5 \times 10^{-3}$	$-6.5 \times 10^{-3}$ to $1.4 \times 10^{-3}$	0.217	$-7.2 \times 10^{-3}$	$-11.6 \times 10^{-3}$ to $-2.9 \times 10^{-3}$	0.001
<b>CAT score</b>	0.005	-0.02 to 0.03	0.749	0.02	-0.015 to 0.053	0.267
<b>PEFR</b>	-0.09	-0.18 to 0.002	0.056	-0.11	-0.23 to -0.005	0.040
<b>Dyspnoea</b>	$0.3 \times 10^{-3}$	$-8.0 \times 10^{-3}$ to $8.7 \times 10^{-3}$	0.941	$7.1 \times 10^{-3}$	$-1.3 \times 10^{-3}$ to $13.0 \times 10^{-3}$	0.017

Table S2. Relationship between pollutants ( $PM_{10}$  and  $O_3$ ) and Daily steps count, hours spent outdoors, health status (CAT score), PEFR, dyspnoea, **over the weekend only (Saturday and Sunday)**; with allowance for season, linear trend, day-length, temperature, sunshine, rain and wind.

	Effect of $1 \mu\text{g}/\text{m}^3$ $PM_{10}$ (Weekend )			Effect of $1 \mu\text{g}/\text{m}^3$ $O_3$ (Weekend)		
	Regression Coefficient	95% CI	p-value	Regression Coefficient	95% CI	p-value
<b>Step count</b>	-2.58	-15.97 to 10.8	0.705	-10.7	-20.4 to -0.89	0.032
<b>Hours outdoors</b>	$-2.6 \times 10^{-3}$	$-10.2 \times 10^{-3}$ to $-5.0 \times 10^{-3}$	0.502	$-13.1 \times 10^{-3}$	$-19.7 \times 10^{-3}$ to $-6.5 \times 10^{-3}$	<0.001
<b>CAT score</b>	0.027	.011 to 0.065	0.157	-0.006	-0.030 to 0.043	0.717
<b>PEF</b>	-0.047	-0.20 to 0.11	0.554	0.04	-0.13 to 0.056	0.441
<b>Dyspnoea</b>	$3.81 \times 10^{-3}$	$-16.1 \times 10^{-3}$ to $8.45 \times 10^{-3}$	0.542	$-4.27 \times 10^{-3}$	$5.32 \times 10^{-3}$ to 1.38 $\times 10^{-3}$	0.383

Figure S1. Daily Step count and Time outside during the week in COPD patients; data are means  $\pm$  standard errors for daily step count; median  $\pm$  inter-quartile range for hours outside; p-values from a post-hoc analysis of variance and wilcoxon rank-sum test respectively.

