

Supplementary file

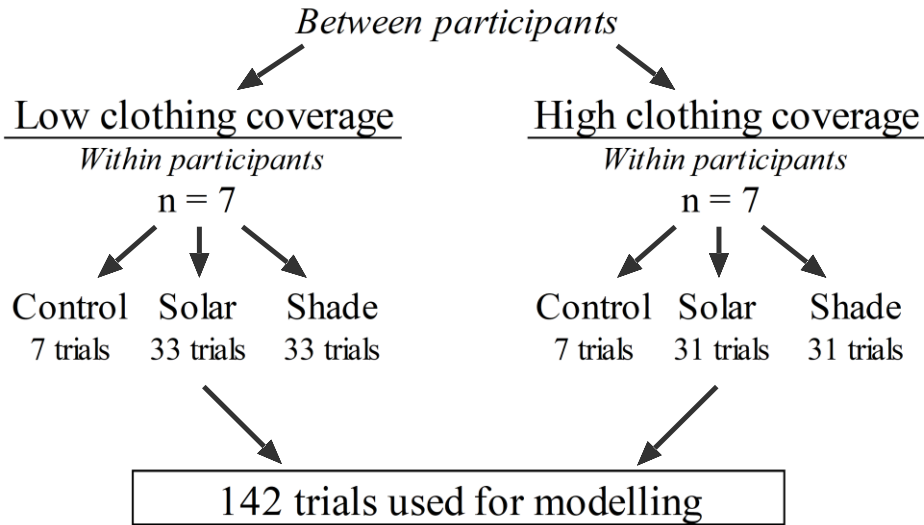
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3 This supplementary file contains:

- 4 1. A study design schematic with accompanying description.
- 5 2. The trials completed for each individual participant.
- 6 3. Individual responses for high and low clothing coverage.
- 7 4. Temporal core and skin temperature responses to each condition.

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10 Study schematic



Effect of solar on PWC tested in 7 climates	
T_a	Rh
25	20
25	80
30	80
35	20
35	80
40	20
45	20

11

12 **Figure S1.** Study schematic. Fourteen participants were enrolled, with 7 completing SOLAR vs
 13 SHADE trials in low clothing coverage (0.3 Clo), and 7 in high clothing coverage (0.9 Clo).
 14 After completing a trial in a reference (control) environment of 15°C, 50% Rh, SOLAR vs
 15 SHADE comparisons were conducted. Experimental trials were always completed on separate
 16 days, at the same time of day within subjects. A SOLAR vs SHADE trial was always completed
 17 in the same environment sequentially (one followed the other). For example, if a SOLAR trial
 18 was conducted at 25°C, 80% Rh, the next trial would be in the same environment, but in
 19 SHADE. All data collected in this study was used for modelling purposes (see Figure 3 main
 20 text).

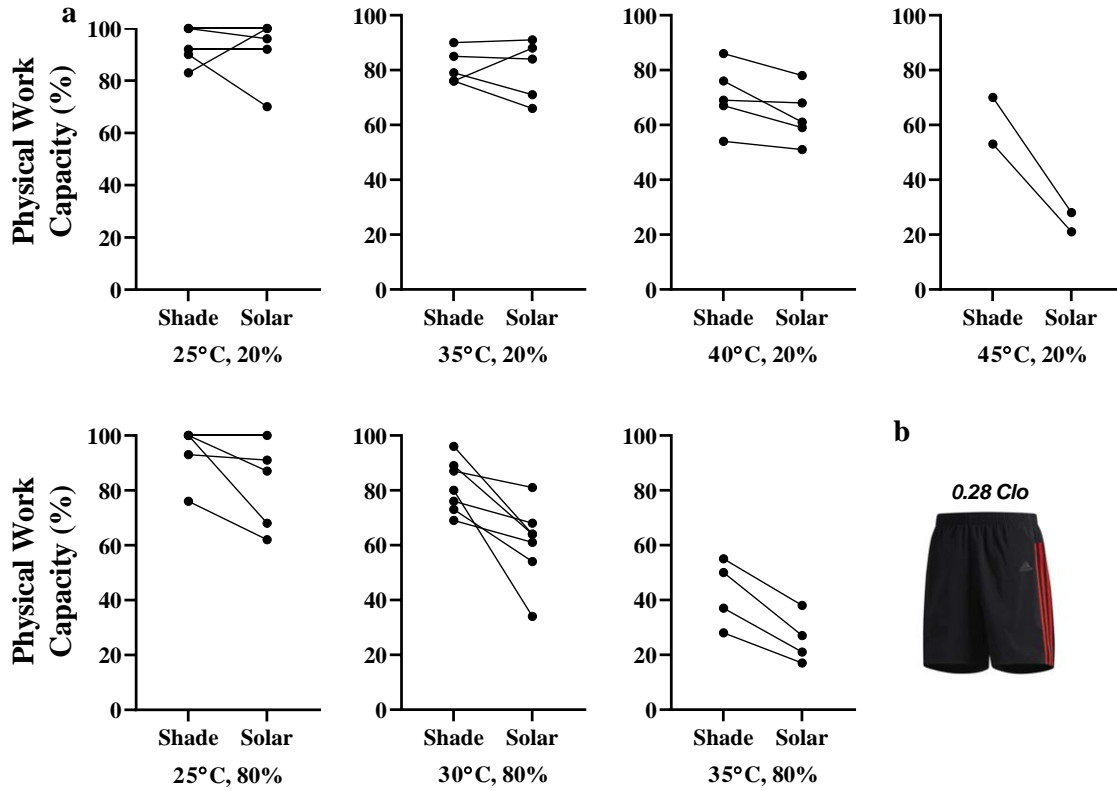
21 Individual trials completed by each participant.

Table S1. Trials performed by each participant. Apart from the reference/control condition, which was completed once, a cross denotes that a participant has completed both a shaded and solar trial within the specified environment.

<i>Low clothing coverage</i>		Participant ID							
T_a	Rh	1	3	5	7	8	10	11	
15	50	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	7
25	20	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>			10
	80	<i>x</i>	<i>x</i>		<i>x</i>	<i>x</i>		<i>x</i>	10
30	80	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	14
35	20	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>			10
	80		<i>x</i>		<i>x</i>		<i>x</i>	<i>x</i>	8
40	20	<i>x</i>	<i>x</i>		<i>x</i>	<i>x</i>		<i>x</i>	10
45	20		<i>x</i>					<i>x</i>	4
Total trials		11	15	7	13	11	5	11	$\Sigma = 73$

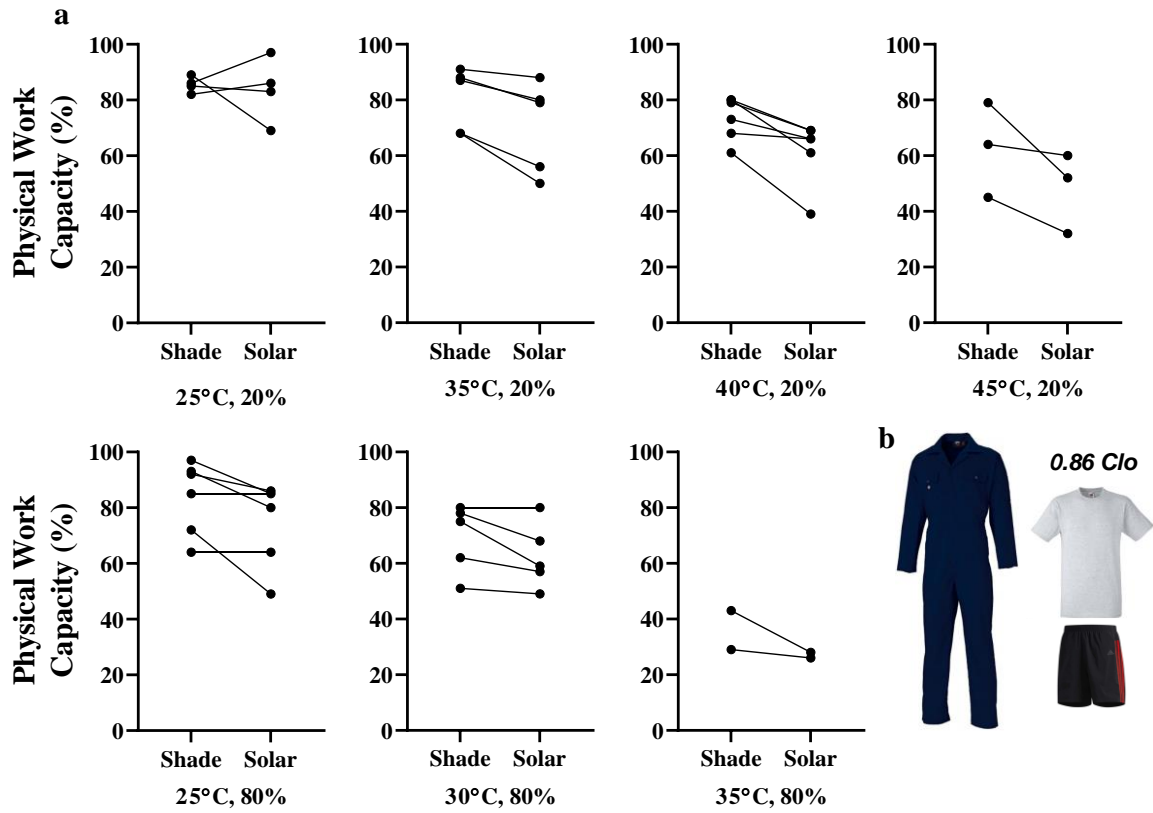
<i>High clothing coverage</i>		Participant ID							
T_a	Rh	2	3	4	6	9	12	13	
15	50	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	7
25	20	<i>x</i>	<i>x</i>			<i>x</i>	<i>x</i>		8
	80		<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	12
30	80		<i>x</i>		<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	10
35	20		<i>x</i>	<i>x</i>		<i>x</i>	<i>x</i>	<i>x</i>	10
	80		<i>x</i>			<i>x</i>			4
40	20	<i>x</i>	<i>x</i>	<i>x</i>		<i>x</i>	<i>x</i>	<i>x</i>	12
45	20		<i>x</i>			<i>x</i>		<i>x</i>	6
Total trials		5	15	7	5	15	11	11	$\Sigma = 69$

23 Individual physical work capacity responses



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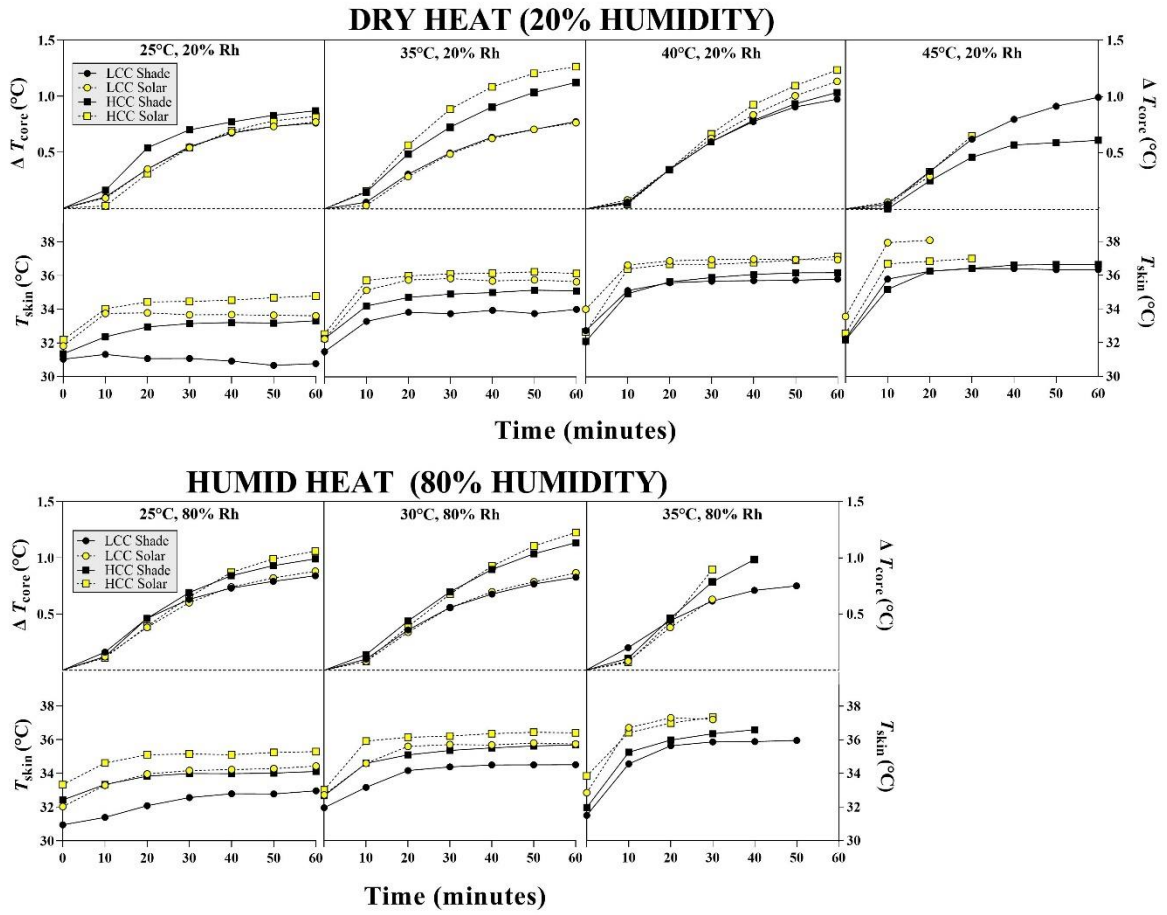
25 **Figure S2.** Individual physical work capacity responses in each condition, with and without
 26 solar, in low clothing coverage (shown in panel b).



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28 **Figure S3.** Individual physical work capacity responses in each condition, with and without
 29 solar, in high clothing coverage (shown in panel b).

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32 **Figure S4. Temporal rectal (core) and mean skin temperature responses.** Data are presented
 33 as the average score at each time point. Error bars were omitted to increase clarity in data
 34 presentation.