

# Supplementary analyses for: Moments, not minutes: The nature-wellbeing relationship

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**Supplemental Table 1. Regression analyses predicting happiness from SA, IND, KS items to determine item significance**

Factors, Potential Items, Regression Statistics	Response Scale	$\beta$ , $p$
<i>Factor 3. Engagement with Nature Through Simple Activities (SA)</i>		
$F(7, 1942) = 24.10, R = .30, R^2 = .09, \text{Adj. } R^2 = .09, p < .001, D-W = 2.02, \text{VIFs} < 2.01, \text{Tolerance} > .495, B-P = 35.61, p < .001, \text{Koenker} = 2657, p < .001$		
*SA1. Sit or relax in a garden.	1 = 'Never' to 4 = 'Often'	$\beta = .202, p < .001$
<sup>N</sup> SA2. Watch wildlife (e.g., bird watching etc.)	1 = 'Never' to 4 = 'Often'	$\beta = -.053, p = .074$
<sup>N</sup> SA3. Listen to bird song.	1 = 'Never' to 4 = 'Often'	$\beta = -.020, p = .494$
*SA4. Smelt wild flowers.	1 = 'Never' to 4 = 'Often'	$\beta = .131, p < .001$
<sup>N</sup> SA5. Taken a photo / drawn or painted a picture of a natural views, plant, flower or animal.	1 = 'Never' to 4 = 'Often'	$\beta = -.031, p = .222$
<sup>N</sup> SA6. Collected shells or pebbles on the beach.	1 = 'Never' to 4 = 'Often'	$\beta = .044, p = .075$
<sup>N</sup> SA7. Take time to notice butterflies and/or bees.	1 = 'Never' to 4 = 'Often'	$\beta = .055, p = .074$
<i>Factor 4. Indirect Engagement with Nature (IND)</i>		
$F(3, 1992) = 14.34, R = .15, R^2 = .02, \text{Adj. } R^2 = .02, p < .001, D-W = 1.99, \text{VIFs} < 1.79, \text{Tolerance} > .563, B-P = 8.43, p = .038, \text{Koenker} = 6.59, p = .086$		
*IND1. Watch or listen to nature programmes on the TV or radio.	1 = 'Never' to 4 = 'Often'	$\beta = .131, p < .001$
<sup>N</sup> IND2. Look at books, photos, or websites about the natural world.	1 = 'Never' to 4 = 'Often'	$\beta = .022, p = .481$
<sup>N</sup> IND3. Talk about nature or wildlife with family or friends (online or face-to-face).	1 = 'Never' to 4 = 'Often'	$\beta = .018, p = .548$
<i>Factor 5. Knowledge and Study of Nature</i>		
$F(2, 1999) = 25.62, R = .15, R^2 = .02, \text{Adj. } R^2 = .02, p < .001, D-W = 2.02, \text{VIFs} < 1.16, \text{Tolerance} > .866, B-P = 9.07, p = .011, \text{Koenker} = 702, p = .030$		
<sup>N</sup> KS1. I know a lot about nature and wildlife (such as birds, animals, insects, etc.)	1 = 'Strongly disagree' to 5 = 'Strongly agree'	$\beta = .005, p = .838$
*KS2. Studied nature with a microscope or binoculars.	1 = 'Never' to 4 = 'Often'	$\beta = .148, p < .001$

*Note.* \*Item significant: included in subsequent analyses; <sup>N</sup>Item not significant: Not Included in subsequent analyses.  $\beta$  are standardized.  $ps$  = HC3 estimates. D-W = Durbin-Watson. B-P = Breusch-Pagan.

**Supplemental Table 2: Regression analyses predicting life worthwhile from SA, IND, KS items to determine item significance**

Factors, Potential Items, Regression Statistics	Response Scale	$\beta$ , $p$
<i>Factor 3. Engagement with Nature Through Simple Activities</i>		
$F(7, 1931) = 26.65, R = .32, R^2 = .10, \text{Adj. } R^2 = .10, p < .001, D-W = 2.05, VIF < 2.01, \text{Tolerance} > .497, B-P = 32.21, p < .001, \text{Koenker} = 23.92, p = .001$		
*SA1. Sit or relax in a garden.	1 = 'Never' to 4 = 'Often'	$\beta = .197, p < .001$
<sup>N</sup> SA2. Watch wildlife (e.g., bird watching etc.)	1 = 'Never' to 4 = 'Often'	$\beta = -.038, p = .208$
<sup>N</sup> SA3. Listen to bird song.	1 = 'Never' to 4 = 'Often'	$\beta = .016, p = .581$
*SA4. Smelt wild flowers.	1 = 'Never' to 4 = 'Often'	$\beta = .147, p < .001$
<sup>N</sup> SA5. Taken a photo / drawn or painted a picture of a natural views, plant, flower or animal.	1 = 'Never' to 4 = 'Often'	$\beta = -.027, p = .265$
<sup>N</sup> SA6. Collected shells or pebbles on the beach.	1 = 'Never' to 4 = 'Often'	$\beta = .027, p = .275$
<sup>N</sup> SA7. Take time to notice butterflies and/or bees.	1 = 'Never' to 4 = 'Often'	$\beta = .048, p = .140$
<i>Factor 4. Indirect Engagement with Nature</i>		
$F(3, 1981) = 18.53, R = .18, R^2 = .03, \text{Adj. } R^2 = .03, p < .001, D-W = 2.04, VIFs < 1.78, \text{Tolerance} > .559, B-P = 20.85, p < .001, \text{Koenker} = 16.50, p = .001$		
*ICN1. Watch or listen to nature programmes on the TV or radio.	1 = 'Never' to 4 = 'Often'	$\beta = .134, p < .001$
<sup>N</sup> ICN2. Look at books, photos, or websites about the natural world.	1 = 'Never' to 4 = 'Often'	$\beta = .042, p = .173$
<sup>N</sup> ICN3. Talk about nature or wildlife with family or friends (online or face-to-face).	1 = 'Never' to 4 = 'Often'	$\beta = .026, p = .388$
<i>Factor 5. Knowledge and Study of Nature</i>		
$F(2, 1985) = 45.05, R = .19, R^2 = .04, \text{Adj. } R^2 = .04, p < .001, D-W = 2.05, VIFs < 1.15, \text{Tolerance} > .866, B-P = 17.20, p < .001, \text{Koenker} = 13.52, p = .001$		
<sup>N</sup> KSN1. I know a lot about nature and wildlife (such as birds, animals, insects, etc.)	1 = 'Strongly disagree' to 5 = 'Strongly agree'	$\beta = .028, p = .247$
*KSN2. Studied nature with a microscope or binoculars.	1 = 'Never' to 4 = 'Often'	$\beta = .177, p < .001$

Note. \*Item significant: included in subsequent analyses; <sup>N</sup>Item not significant: Not Included in subsequent analyses.  $\beta$  are standardized.  $ps$  = HC3 estimates. D-W = Durbin-Watson. B-P = Breusch-Pagan.

**Supplemental Table 3: Regression analyses predicting ill-being from SA, IND, KS items to determine item significance**

Factors, Potential Items, Regression Statistics	Response Scale	$\beta$ , $p$
<i>Factor 3. Engagement with Nature Through Simple Activities</i>		
$F(7, 1909) = 4.60, R = .14, R^2 = .02, \text{Adj. } R^2 = .02, p < .001, D-W = 2.03, \text{VIFs} < 2.03, \text{Tolerance} > .489, B-P = 54.76, p < .001, \text{Koenker} = 32.33, p < .001$		
*SA1. Sit or relax in a garden.	1 = 'Never' to 4 = 'Often'	$\beta = -.141, p < .001$
<sup>NI</sup> SA2. Watch wildlife (e.g., bird watching etc.)	1 = 'Never' to 4 = 'Often'	$\beta = -.002, p = .952$
<sup>NI</sup> SA3. Listen to bird song.	1 = 'Never' to 4 = 'Often'	$\beta = -.011, p = .752$
<sup>NI</sup> SA4. Smelt wild flowers.	1 = 'Never' to 4 = 'Often'	$\beta = -.028, p = .379$
<sup>NI</sup> SA5. Taken a photo / drawn or painted a picture of a natural views, plant, flower or animal.	1 = 'Never' to 4 = 'Often'	$\beta = .035, p = .187$
<sup>NI</sup> SA6. Collected shells or pebbles on the beach.	1 = 'Never' to 4 = 'Often'	$\beta = .023, p = .365$
<sup>NI</sup> SA7. Take time to notice butterflies and/or bees.	1 = 'Never' to 4 = 'Often'	$\beta = .036, p = .286$
<i>Factor 4. Indirect Engagement with Nature</i>		
$F(3, 1958) = 4.49, R = .09, R^2 = .01, \text{Adj. } R^2 = .01, p = .002, D-W = 2.02, \text{VIFs} < 1.77, \text{Tolerance} > .589, B-P = 1827, p < .001, \text{Koenker} = 10.41, p = .015$		
*ICN1. Watch or listen to nature programmes on the TV or radio.	1 = 'Never' to 4 = 'Often'	$\beta = -.101, p < .001$
<sup>NI</sup> ICN2. Look at books, photos, or websites about the natural world.	1 = 'Never' to 4 = 'Often'	$\beta = .015, p = .631$
<sup>NI</sup> ICN3. Talk about nature or wildlife with family or friends (online or face-to-face).	1 = 'Never' to 4 = 'Often'	$\beta = .027, p = .357$
<i>Factor 5. Knowledge and Study of Nature</i>		
$F(2, 1962) = 7.37, R = .08, R^2 = .01, \text{Adj. } R^2 = .01, p = .002, D-W = 2.02, \text{VIFs} < 1.16, \text{Tolerance} > .868, B-P = 19.48, p < .001, \text{Koenker} = 10.95, p = .004$		
<sup>NI</sup> KSN1. I know a lot about nature and wildlife (such as birds, animals, insects, etc.)	1 = 'Strongly disagree' to 5 = 'Strongly agree'	$\beta = .023, p = .359$
*KSN2. Studied nature with a microscope or binoculars.	1 = 'Never' to 4 = 'Often'	$\beta = -.086, p < .001$

Note. \*Item significant: included in subsequent analyses; <sup>NI</sup>Item not significant: Not Included in subsequent analyses.  $\beta$  are standardized.  $ps$  = HC3 estimates. D-W = Durbin-Watson. B-P = Breusch-Pagan.

**Supplemental Table 4: Regression analyses predicting general physical health from SA, IND, KS items to determine item significance**

Factor Blocks, Potential Items, Regression Statistics	Response Scale	$\beta$ , $p$
<i>Factor 3. Engagement with Nature Through Simple Activities</i>		
$F(7, 1963) = 8.70$ , $R = .18$ , $R^2 = .03$ , $\text{Adj. } R^2 = .03$ , $p < .001$ , $D-W = 1.94$ , $VIFs < 2.02$ , $\text{Tolerance} > .495$ , $B-P = 2.28$ , $p = .943$ , $\text{Koenker} = 2.91$ , $p = .893$		
*SA1. Sit or relax in a garden.	1 = 'Never' to 4 = 'Often'	$\beta = .125$ , $p < .001$
<sup>NI</sup> SA2. Watch wildlife (e.g., bird watching etc.)	1 = 'Never' to 4 = 'Often'	$\beta = -.055$ , $p = .067$
<sup>NI</sup> SA3. Listen to bird song.	1 = 'Never' to 4 = 'Often'	$\beta = -.055$ , $p = .080$
<sup>NI</sup> SA4. Smelt wild flowers.	1 = 'Never' to 4 = 'Often'	$\beta = .036$ , $p = .263$
<sup>NI</sup> SA5. Taken a photo / drawn or painted a picture of a natural views, plant, flower or animal.	1 = 'Never' to 4 = 'Often'	$\beta = .040$ , $p = .125$
<sup>NI</sup> SA6. Collected shells or pebbles on the beach.	1 = 'Never' to 4 = 'Often'	$\beta = .044$ , $p = .096$
<sup>NI</sup> SA7. Take time to notice butterflies and/or bees.	1 = 'Never' to 4 = 'Often'	$\beta = .052$ , $p = .109$
<i>Factor 4. Indirect Engagement with Nature</i>		
$F(3, 1212) = 5.62$ , $R = .09$ , $R^2 = .01$ , $\text{Adj. } R^2 = .01$ , $p < .001$ , $D-W = 1.94$ , $VIFs < 1.77$ , $\text{Tolerance} > .562$ , $B-P = 0.37$ , $p = .947$ , $\text{Koenker} = 0.49$ , $p = .920$		
<sup>NI</sup> ICN1. Watch or listen to nature programmes on the TV or radio.	1 = 'Never' to 4 = 'Often'	$\beta = -.017$ , $p = .527$
<sup>NI</sup> ICN2. Look at books, photos, or websites about the natural world.	1 = 'Never' to 4 = 'Often'	$\beta = -.004$ , $p = .905$
*ICN3. Talk about nature or wildlife with family or friends (online or face-to-face).	1 = 'Never' to 4 = 'Often'	$\beta = .102$ , $p < .001$
<i>Factor 5. Knowledge and Study of Nature</i>		
$F(2, 2019) = 10.44$ , $R = .10$ , $R^2 = .01$ , $\text{Adj. } R^2 = .01$ , $p < .001$ , $D-W = 1.94$ , $VIFs < 1.15$ , $\text{Tolerance} > .868$ , $B-P = 5.43$ , $p = .066$ , $\text{Koenker} = 7.34$ , $p = .026$		
<sup>NI</sup> KSN1. I know a lot about nature and wildlife (such as birds, animals, insects, etc.)	1 = 'Strongly disagree' to 5 = 'Strongly agree'	$\beta = .006$ , $p = .797$
*KSN2. Studied nature with a microscope or binoculars.	1 = 'Never' to 4 = 'Often'	$\beta = .097$ , $p < .001$

Note. \*Item significant: included in subsequent analyses; <sup>NI</sup>Item not significant: Not Included in subsequent analyses.  $\beta$  are standardized.  $ps$  = HC3 estimates.  $D-W$  = Durbin-Watson.  $B-P$  = Breusch-Pagan.

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