



**Results of the David Suzuki Foundation
30x30 Nature Challenge English Survey
May 1-31, 2013**

**Prepared by Elizabeth K. Nisbet
Assistant Professor, Department of Psychology, Trent University**

June 26, 2013



Background and Survey Objectives

The 30x30 Nature Challenge is an annual intervention sponsored by the David Suzuki Foundation (DSF), aiming to increase Canadians' contact with the natural environment. Participants voluntarily sign up for the challenge on the DSF website before May 1st and pledge to spend a minimum of 30 minutes outdoors, in contact with nature, for 30 days during the month of May. A number of workplaces publicize the challenge and the DSF provides toolkits, designed specifically for employers, containing tips that encourage employees to spend time outdoors and in nature. Individual participants receive email updates and are able to visit the DSF 30x30 challenge website throughout the month of May for further suggestions on how to incorporate more nature contact into their daily life.

In 2013, a research survey (see Appendix) was designed by Senior Public Engagement Specialist, Aryne Sheppard, at the DSF, and Dr. Elizabeth Nisbet, a psychologist at Trent University, to assess the effects of the 30x30 challenge on participants. The goal was to measure changes in well-being and subjective connection with nature ('nature relatedness') over the month-long challenge. When people visited the DSF 30x30 challenge website, they were invited to participate in the challenge survey, and were directed to the Trent University online survey program (Qualtrics) to complete questionnaires about their nature relatedness, time use, and well-being. At the end of May, participants were emailed an invitation for a follow-up survey, with the same questions that had been administered a month earlier.

The data was analyzed by Dr. Nisbet, at Trent University, and overall findings were provided to the DSF and interested participants during a webinar event June 10, 2013. The detailed findings and more complete methodology are described in this report. Overall, the 30x30 challenge was successful in encouraging participants to increase their nature contact. Participants also reported increased nature relatedness and well-being at the end of the challenge. The 30x30 nature challenge is a voluntary commitment and the respondents are self-selected, but the results suggest that increased nature contact has benefits for increasing happiness. The results highlight the importance of further research to refine and test interventions that strengthen connectedness with nature, to promote regular nature contact, and to explore this potential 'happy path to sustainability'.

Sample Characteristics

Data for the initial (Time 1) survey included participants who completed the questionnaire up to and including May 6, 2013. After removing surveys with empty data, and those with unreliable data (weekly time use that was unrealistic, e.g., total of > 168 hours), the final Time 1 sample consisted of 6,483 people. Participants were mostly women (82.9%, $n = 5,373$; men: $n = 1,027$; other: $n = 12$; 59 people did not indicate their gender). The average age of participants was 43.55 ($SD = 13.29$, range: 16 to 110; 81 people did not provide a response).

A subsample of 2,225 people (after removing missing/unreliable data) responded to the email invitation at the end of May (Time 2) and completed the follow-up survey. This group of participants had similar characteristics to the larger Time 1 sample. Average age was 45.76 ($SD = 13.28$; range: 17 to 83; 16 participants did not indicate age) and most were women (83.8%, $n = 1,864$, men: $n = 337$; other: $n = 5$; 19 people did not indicate their gender).

Results

Effects of the 30x30 Nature Challenge: Assessing Nature Contact Over Time

One goal of the study was to assess the effects of participating in the 30x30 challenge. To test whether participants were successful in their efforts to get outdoors, in nature, during the month of May, a number of time use questions were included in both the Time 1 and Time 2 surveys. Participants reported on the number of weekly hours spent engaged in various activities, including time spent "on a walk, hike, or activity in nature". Activities such as email, surfing the internet, and watching television were included to explore how these behaviours might change if participants spent more time in nature. Other activities, such as eating and sleeping, were indicators of the reliability of responses (e.g., data with unrealistic hours in these activities was excluded). Paired samples t-tests were conducted to assess changes in nature contact over time (Table 1). Participants were successful in getting outdoors, in nature. The average weekly hours spent outdoors almost doubled, to approximately 8.5 hours, by the end of the survey (Figure 1). Nature contact was the activity that changed most; participants also reduced their television time by approximately 2 hours per week and spent about 2.5 fewer hours per week surfing the internet or emailing (Figure 2).

Table 1

Average Weekly Time Use: Change in Nature Contact and Daily Activities from the Beginning to End of May

Activity	Time 1, <i>M</i> (<i>SD</i>) Hours/Week	Time 2, <i>M</i> (<i>SD</i>) Hours/Week	<i>t</i> (<i>d</i>)
On a walk, hike, or activity in nature	4.51 (5.10)	8.58 (7.73)	25.11** (0.56)
Shopping	2.30 (2.04)	2.26 (2.47)	-0.58 (0.01)
At a gym or fitness facility	1.38 (2.75)	1.15 (2.57)	-4.47** (0.10)
Visiting friends	4.29 (4.89)	4.88 (5.46)	4.51** (0.10)
Watching television	8.26 (7.64)	5.73 (5.75)	-20.32** (0.45)
In a vehicle	5.63 (5.14)	5.41 (4.84)	-1.96 (0.04)
Talking on the phone/texting	2.98 (3.96)	2.55 (3.42)	-5.60** (0.12)
Email/surfing the internet	11.09 (10.31)	8.39 (8.47)	-13.97** (0.30)
Eating	10.01 (5.39)	9.80 (5.26)	-1.74 (0.04)
Sleeping	49.76 (8.46)	49.02 (8.49)	-3.83** (0.08)
Relaxing	10.12 (8.88)	10.36 (9.02)	1.21 (0.03)

Note: For each time point, table presents mean scores, with standard deviations in parentheses and results of paired-samples t-tests, comparing means, with effect sizes (Cohen's *d*) in parentheses. ** $p < .01$.

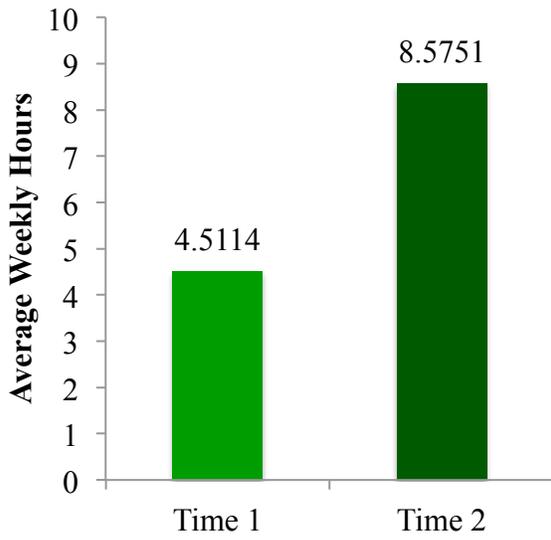


Figure 1. Change in Weekly Nature Contact

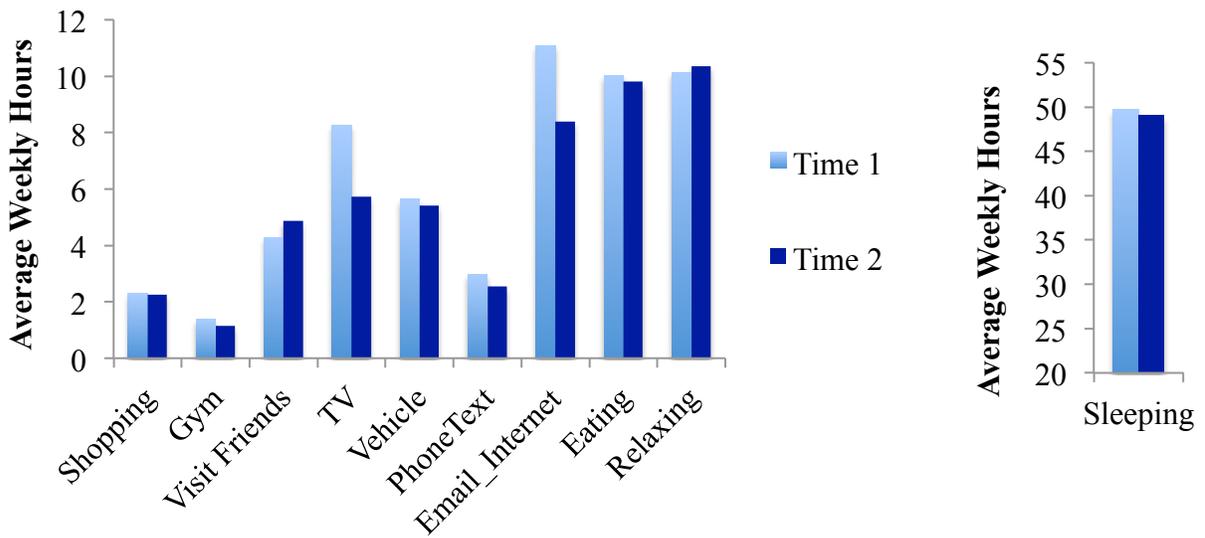


Figure 2. Change in Weekly Activities

Note: Sleeping is presented separately due to differences in scale.

Effects of the 30x30 Nature Challenge on Connectedness with Nature

Nature relatedness was measured using the 21-item self-report "Nature Relatedness Scale" (Nisbet, Zelenski, & Murphy, 2009). The scale assesses internalized identification with nature as well as nature-related worldviews, people's familiarity, comfort with, and desire to be in nature. Participants respond to 21 statements using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Nature relatedness is comprised of three sub-dimensions, which contribute to one's relationship with the natural environment. The first dimension, nature related-self, represents an internalized identification with nature, reflecting feelings and thoughts about one's personal connection to nature. A person scoring high on this dimension would consider herself to be a part of nature and live life in ways that reflect this. The second dimension, nature related-perspective, represents an external, nature-related world view about how humans interact with other living things. This component of nature relatedness would be reflected in a person's views about the treatment of animals and use of natural resources, for example, and may be apparent in pro-environmental attitudes. This aspect of nature relatedness would also be demonstrated by a sense of agency concerning individual actions and their impact on all living things. The third dimension, nature related-experience, reflects a physical familiarity with the natural world, a level of comfort with and desire for nature contact. This aspect of nature relatedness would be most evident in someone who seeks out nature, is drawn to the wilderness, and who is aware of and fascinated with nature everywhere in daily life. Reverse scored items were recoded and items were averaged to compute an overall score as well as scores on each subscale. A higher score indicates stronger connectedness with the natural environment.

Challenge participants had high nature relatedness scores at the beginning of May (Table 2; in prior research, mean scores on the 21-item scale ranged from approximately 3.2-3.7; environmental educators averaged 4.5). Participants had small but significant increases in their nature relatedness during the challenge. Overall nature relatedness increased, and particularly the dimensions of nature related-self and nature related-experience. In other words, participants had a slightly stronger subjective connection with the natural environment - mainly an increased sense of identification with the natural world, and a greater desire to spend time in nature.

Table 2

Change in Nature Relatedness and Nature Relatedness Dimensions from the Beginning to End of May

	Time 1 <i>M (SD)</i>	Time 2 <i>M (SD)</i>	<i>t (d)</i>
Nature Relatedness	4.29 (0.44)	4.40 (0.42)	18.60** (0.40)
nature related-self	4.36 (0.54)	4.50 (0.49)	17.79** (0.38)
nature related-perspective	4.38 (0.49)	4.43 (0.48)	5.53** (0.12)
nature related-experience	4.09 (0.66)	4.24 (0.60)	15.60** (0.33)

Note: For each time point, table presents mean scores, with standard deviations in parentheses, and results of paired-samples t-tests, comparing means, with effect sizes (Cohen's *d*) in parentheses. ** $p < .01$.

Effects of the 30x30 Nature Challenge on Well-Being

To assess the well-being benefits of the challenge, participants were asked general questions about their perceived vitality, stress levels, sleep quality, negative and positive mood.

Participants rated five well-being statements using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Indicators of ill-being (stress, problems sleeping, negativity) were reverse scored in order to compute a composite measure of general well-being (averaging all 5 items). Higher scores indicate more positive functioning.

The challenge was a positive experience for participants. Scores at the start of May reflected generally positive moods and relatively moderate levels of stress and negativity. There were significant increases on all indicators of well-being at the end of May. Participants reported feeling more vitality and energy, and a greater sense of calm and peacefulness. Feelings of stress, negativity, and sleep disturbances were lower at the end of the month (Table 3, Figure 3).

Table 3

Change in Well-Being from the Beginning to End of May

	Time 1 <i>M (SD)</i>	Time 2 <i>M (SD)</i>	<i>t (d)</i>
vitality, energy, enthusiasm	3.39 (1.20)	3.99 (0.94)	24.34** (0.53)
feeling less stressed	2.48 (1.18)	3.04 (1.22)	22.42** (0.48)
sleep quality	3.07 (1.46)	3.51 (1.37)	15.84** (0.33)
(lack of) negativity	2.80 (1.23)	3.47 (1.18)	26.00** (0.55)
mental calm, contentment, peacefulness	3.24 (1.15)	3.82 (0.96)	24.26** (0.52)
General Well-being (composite of all items)	4.00 (0.74)	4.14 (0.66)	35.27** (0.87)

Note: For each time point, table presents mean scores (on 1-5 scale), with standard deviations in parentheses. Results of paired-samples t-tests, comparing means, with effect sizes (Cohen's *d*) in parentheses. Indicators of ill-being (stress, problems sleeping, negativity) were reverse coded in order to compute the composite measure (averaging all 5 items); for all items higher scores indicate better well-being. ** $p < .01$.

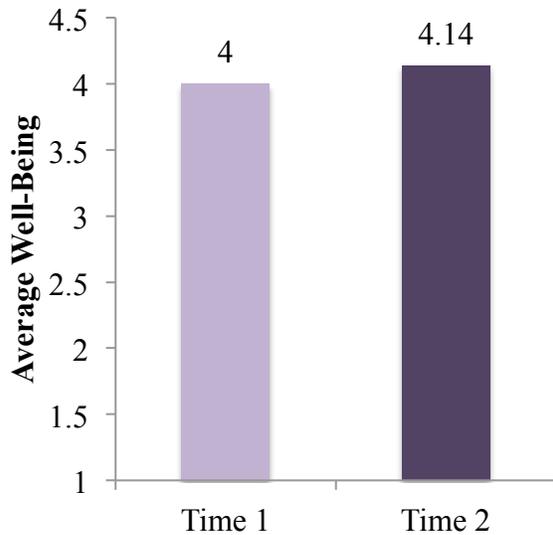


Figure 3. Change in General Well-Being

The more time participants spent in nature, the greater well-being they reported. More nature contact was also weakly associated with stronger nature relatedness, both in terms of reports at the end of May, and for relative changes over the month. Participants varied in terms of how much they were able to spend time in nature, but the more nature contact people had, the more they reported being happier and connected with nature. In terms of relative changes during the challenge, the more people increased their nature contact and nature relatedness, the more their well-being improved (Table 4).

Table 4

Correlations Between Nature Contact, Nature Relatedness, and Well-Being Changes

	1.	2.	3.
1. Nature contact change	1.00	-	-
2. Nature Relatedness change	.10**	1.00	-
3. General Well-Being change	.16**	.24**	1.00

Note: change scores for nature contact, nature relatedness, and general well-being were calculated by regressing the Time 2 variable on the corresponding Time 1 variable, with the standardized residuals becoming the new variable reflecting change over the month-long challenge. ** $p < .01$.

To determine whether improvements in well-being were due to increases in nature relatedness, mediation analyses were conducted using both Baron and Kenny's technique (1986) and a bootstrapping method (Preacher & Hayes, 2008). Both approaches revealed significant partial

mediation (see Table 5 and Fig. 4; Sobel $Z = 4.53$, $p < .001$; bootstrapping path = 0.22, 95% confidence interval, or $CI = [0.59, 1.61]$). The well-being benefits associated with greater nature contact were partly due to increases in nature relatedness. In other words, people who spent more time in nature during the month of May showed improvements in well-being, and this was partly due to (mediated by) a strengthened sense of connectedness with the natural environment.

Table 5

Regression Analysis for Variables Predicting Well-Being Change

Variable	β	$SE \beta$	t	R^2
Step 1				
Nature Contact	.16	.02	7.48**	.03
Step 2				
Nature Contact	.14	.02	6.52**	
Nature Relatedness Change	.22	.02	10.72**	.05

Note: change scores for nature relatedness and the composite well-being variable were calculated to capture variation from Time 1 to 2. Each variable at Time 2 was regressed on the corresponding Time 1 variable, with the standardized residuals becoming the new variable reflecting change over the month-long challenge. ** $p < .01$.

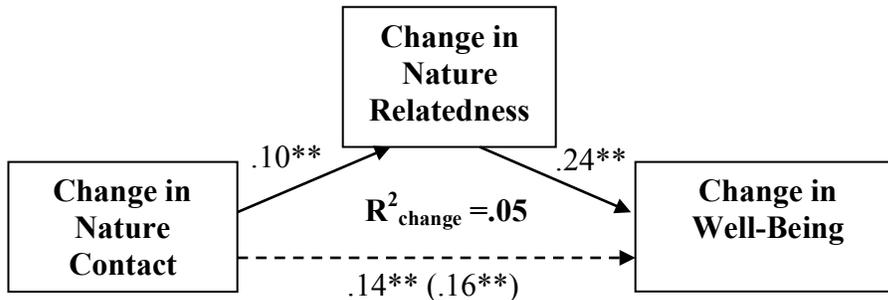


Figure 4. Mediation model for nature contact, nature relatedness change, and change in well-being.

Note: mediation model for the effect of change in nature contact on change in well-being via change in nature relatedness. Values outside parentheses are standardized regression coefficients derived from multiple regression analyses, following Baron and Kenny’s (1986) procedure. Along the lower path, the number inside parentheses is the standardized regression coefficient for the relationship between nature contact and well-being before the mediator was added to the model. Asterisks indicate significant coefficients (** $p < .01$).

Effects of the 30x30 Nature Challenge on Work Functioning

A number of workplaces across Canada publicized the challenge to their employees. At the beginning of the survey, respondents were asked if they had learned about the 30x30 challenge at work. Participants who indicated 'yes' ($n = 332$) were directed to three additional questions about job functioning (those who answered 'no' to this item skipped these questions): how satisfied they were with their job in the previous month, how well they were getting along with colleagues, and how productive they felt they were in their work role.

Participants reported no changes in either job satisfaction or interactions with co-workers. People did feel they were being slightly more productive in their work roles at the end of the challenge, however (Table 6).

Table 6

Change in Job Functioning from the Beginning to End of May

	Time 1 <i>M (SD)</i>	Time 2 <i>M (SD)</i>	<i>t (d)</i>	
job satisfaction	3.82 (1.01)	3.92 (0.94)	1.62	(0.10)
getting along with colleagues	4.26 (0.78)	4.34 (0.73)	1.82	(0.10)
productive in work role	3.93 (0.86)	4.17 (0.76)	4.68**	(0.25)

Note: For each time point, table presents mean scores (on 1-5 scale), with standard deviations in parentheses. Results of paired-samples t-tests, comparing means, with effect sizes (Cohen's d) in parentheses. Due to non-significant differences on 2 of 3 items, no composite variable was computed. ** $p < .01$.

Discussion

The purpose of surveying participants was to assess whether the 30x30 nature challenge was effective in promoting nature contact. The survey was designed to measure changes in well-being and subjective connectedness with nature. Overall, participants reported that the 30x30 challenge was a positive experience. Not only did people almost double their weekly nature contact, but participants also had better moods and less stress at the end of the challenge. Despite the fact that challenge participants were highly nature related at the beginning of the study, there were still increases in connectedness. The largest effects were for the nature related-self and nature related-experience dimensions, reflecting enhanced self-identification with the natural environment and a greater desire for nature contact. The perspective dimension of nature relatedness reflects a pro-environmental attitude. The high scores on this aspect of connectedness at the beginning of the study suggest challenge participants were already conscious of ecological issues. The purpose of the nature challenge is to reconnect Canadians with nature, as opposed to a direct environmental attitude intervention. Although repeated and increased nature contact may promote pro-environmental attitudes, educational information is likely an important component in fostering more environmental concern. In a less nature related

or less ecologically minded group of people, combining natural history education with nature contact may be effective in cultivating connectedness and motivating environmental behaviour.

The well-being benefits people experience when spending time in nature are also likely to foster greater environmental awareness and concern. The more contact people have with the natural environment, the more they are likely to feel connected with nature and want to protect it. When nature contact results in more positive feelings and reduced stress, these experiences are likely to be self-rewarding, motivating people to maintain regular nature contact. Modern lifestyles often make this challenging and can disconnect people from the natural environment. The results of the nature challenge suggest that, with commitment and effort, it is possible to find time to reconnect and experience the mental health benefits that come from regular nature contact. Regular nature contact is possible, even the city. In the responses to open-ended survey questions, many challenge participants reported feeling happier, just by having lunch outside or walking through a park. For some people, nature contact was already a regular part of their daily routine, but others noted that making the effort each day eventually became an enjoyable new habit. Not everyone was successful in meeting their goals for nature time, but for those who did, the result was greater happiness and connection with the natural environment. For the workplace participants, there was an added benefit of feeling more productive on the job. Time spent in nature seems to have positive spillover effects in that daily doses of nature are beneficial for well-being, beyond the positive momentary experiences of nature contact.

Limitations and Future Directions

Despite the encouraging results of the challenge, there are a number of limitations to consider with this research. First, there are several other potential factors that could account for why participants experienced greater well-being at the end of May. Weather usually improves and temperatures increase at this time of year in Canada. Although this can coincide with the unpleasant onset of biting insects (indeed several participants mentioned this in the open-ended questions), warmer and sunnier weather is likely to enhance well-being. Nonetheless, relative increases (although small) in nature contact were associated with improvements in well-being, suggesting there are good reasons to encourage regular nature contact. It is also possible that increases in well-being and nature contact are the result of changes in workload or vacation time. Assessing these, and other factors such as weather, will be important in future work testing nature's causal effects on well-being.

The research design was correlational in nature, and participants were self-selected. Challenge participants are familiar with the DSF, so are likely not representative of all Canadians; they were also more nature related, potentially creating a ceiling effect in terms of measuring change. It is also possible that challenge participants were above average in their daily nature contact at the beginning of the study, although reports varied considerably (10% of participants reported no nature contact at all at the beginning of the challenge; this percentage dropped to 2.2% by the end of May). Further work, examining weekly nature exposure in a more diverse sample of Canadians would be a useful goal in future studies.

Due to the high face validity of the survey questions and the explicit goals of the study, it is possible that the results are due to demand characteristics - that participants were reporting what

they believed the researchers expected. There were no reported changes over time for some activities, however (e.g. time sleeping, eating, and relaxing). Thus, the surveys may have captured genuine shifts in how people spent their time during the challenge. Future research would benefit from the inclusion of a control group, and assessment of potential confounding factors such as weather, socio-economic status, and geography.

Finally, an important consideration in any interpretation of these results is the large sample size; the magnitude of the correlations and effect sizes should be considered even where findings reach statistical significance. The changes in nature relatedness are relatively small and the contribution of nature relatedness to the nature contact-well-being relationship is also small. It is encouraging, however, that even a few additional hours in nature each week has an effect on well-being. Participants reported improved mood and mental calm, but also decreased stress and negativity. This is consistent with the research evidence that brief nature contact enhances positive mood and reduces stress responses (see Selhub & Logan, 2012, for a review of the physical and psychological effects of nature). Nature contact may be a relatively easy, low-cost intervention to promote physical and mental health. Indeed, promoting nature contact as a way to enhance personal well-being may be a way to increase both human and environmental health simultaneously.

Conclusion

In sum, the 30x30 challenge was successful in encouraging participants to increase their regular nature contact. The commitment to spending more time in nature had benefits for participants' nature relatedness and well-being. The 30x30 nature challenge is a voluntary commitment with self-selected participants, however the results suggest that increased nature time can promote happiness and strengthen human-nature bonds. Our natural environment is an important mental health resource. Human well-being and ecological sustainability are complementary, not competing goals and our connection with nature offers a potential 'happy path to sustainability'.

References

- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.
- Nisbet, E. K. L., Zelenski, J. M., & Murphy, S. A. (2009). The Nature Relatedness Scale: Linking individuals' connection with nature to environmental concern and behavior. *Environment and Behavior*, *41*, 715-740.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*, 879–891.
- Selhub, E. M., & Logan, A. C. (2102). *Your brain on nature*. Mississauga, ON: John Wiley & Sons Canada, Ltd.

Appendix: Nature Challenge 30x30-English Survey:

Welcome to Canada's 30x30 Nature Challenge!

We know that you care how information about you is used and safeguarded. The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study.

Informed Consent

Present study. Canada's 30x30 Nature Challenge

Research Personnel. The following people are involved in this research project and may be contacted at any time if you have questions or concerns:

Dr. Elizabeth Nisbet (email: elizabethnisbet@trentu.ca, 705-748-1011 ext 7855)

Should you have ethical concerns about this research, please contact:

Karen Mauro, Certifications and Regulatory Compliance Officer, Office of Research at Trent University, phone: 705-748-1011 ext. 7896, email: kmauro@trentu.ca

the Research Ethics Board, Office of Research at Trent University, Suite 344, Gzowski College, Symons Campus, Peterborough, Ontario, Canada K9J 7B8).

Purpose. The purpose of this research is to advance our understanding of how time in nature is related to well-being. Additionally, we are investigating the effects of people's connection with nature. You will receive feedback about the general result of the study following the challenge.

Task Requirements. We will ask you to fill out two online surveys, at the beginning and end of the month-long challenge.

Potential Risk/Discomfort. Although we do not expect there to be discomfort associated with this study, in the event that you do feel uncomfortable, you may choose to not answer any questions. You may also withdraw from the study at anytime with absolutely no adverse consequences.

Confidentiality. The data collected in this study will be kept confidential. The data is being collected through the secure servers with Trent University's Qualtrics survey tool. The researcher's data files will be encrypted and stored in a locked laboratory. Only the Trent University researchers will see your responses. Any identifying information, such as your email address, will be stored separately from your responses once the study is finished. The email address you enter here will only be used to invite you to complete the May 1st follow-up survey. Only aggregated scores from these questionnaires will be provided to the David Suzuki Foundation and only aggregated results will be used in presentations or publications of this research.

Right to Withdraw. At any point during the study, you have the right to not complete certain questions, or to withdraw from the study completely without penalty, in which case your data will not be used. You may withdraw from the survey at any time by emailing the researcher (elizabethnisbet@trentu.ca).

I have read the above description of the 30x30 Nature Challenge study. The data collected may be used in research publications and/or for teaching purposes. My endorsement indicates that I agree to participate in the study, and this in no way constitutes a waiver of my rights. I am at least 16 years of age.

ACKNOWLEDGEMENT

By entering my email address and clicking "next", I acknowledge that I have read and understood this agreement, that I have executed this agreement voluntarily. Please print out a copy of this consent form for your own records. This study has received clearance by the Trent University Research Ethics Board (2013-22884).

Please enter your email below:

Is your organization officially participating in Canada's 30x30 Nature Challenge?

- Yes (1)
- No (2)

If No was Selected, Then Participants Skipped To End of Page

Which organization do you work for? (if your workplace is not shown, please select "other" and then just type in the name of your workplace when prompted)

In the past month, how satisfied were you with your job?

- Very Unsatisfied (1)
- (2)
- (3)
- (4)
- Very Satisfied (5)

In the past month, how well have you been getting along with your colleagues?

- Very poorly (1)
- (2)
- (3)
- (4)
- Very well (5)

In the last month, how productive have you been in your work role?

- Not at all productive (1)
- (2)
- (3)
- (4)
- Very productive (5)

Please enter a number in each box, below, which best represents your time use in the last week. In the last week, how many hours did you spend . . .

- Shopping
- At a gym or fitness facility
- On a walk, hike, or activity in nature
- Visiting friends
- Watching television
- In a vehicle
- Talking on the phone/texting
- Email/surfing the internet
- Eating
- Sleeping
- Relaxing

For each of the following, please rate the extent to which you agree with each statement, using the scale from 1 to 5 as shown below. Please respond as you really feel, rather than how you think “most people” feel.

	Disagree strongly (1)	Disagree a little (2)	Neither agree or disagree (3)	Agree a little (4)	Agree strongly (5)
I feel vital, energetic and enthusiastic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often feel stressed during the day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have difficulty getting to sleep or staying asleep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often experience feelings of negativity (irritability, anger, frustration)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often experience feelings of mental calm, contentment and peacefulness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For each of the following, please rate the extent to which you agree with each statement, using the scale from 1 to 5 as shown below. Please respond as you really feel, rather than how you think “most people” feel.

	Disagree strongly (1)	Disagree a little (2)	Neither agree or disagree (3)	Agree a little (4)	Agree strongly (5)
I enjoy being outdoors, even in unpleasant weather.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some species are just meant to die out or become extinct.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Humans have the right to use natural resources any way we want	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My ideal vacation spot would be a remote, wilderness area.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always think about how my actions affect the environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy digging in the earth and getting dirt on my hands.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My connection to nature and the environment is a part of my spirituality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am very aware of environmental issues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take notice of wildlife wherever I am.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't often go out in nature.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nothing I do will change problems in other places on the planet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Disagree strongly (1)	Disagree a little (2)	Neither agree or disagree (3)	Agree a little (4)	Agree strongly (5)
I am not separate from nature, but a part of nature.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The thought of being deep in the woods, away from civilization, is frightening.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My feelings about nature do not affect how I live my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Animals, birds and plants should have fewer rights than humans.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even in the middle of the city, I notice nature around me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My relationship to nature is an important part of who I am.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservation is unnecessary because nature is strong enough to recover from any human impact.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The state of non-human species is an indicator of the future for humans.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think a lot about the suffering of animals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel very connected to all living things and the earth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much do you expect to enjoy participating in the 30x30 Nature Challenge?

- Not at all (1)
- (2)
- (3)
- (4)
- Very much (5)

What is your gender?

- Female (1)
- Male (2)
- Other (3)
- Prefer not to answer (4)

Your birth year:

(response options ranged from 1997 to 1898)

You have now completed the first step in the Nature Challenge. Thank you!

At the end of the Challenge, on May 31st, we will contact you by email with a follow up survey. By filling out the surveys before and after taking the 30x30 Nature Challenge, you will be helping us document the benefits of getting outside. Over the next 30 days, David Suzuki Foundation staff will be supporting you in getting outside with regular tips and stories. And don't forget to check out www.davidsuzuki.org/30x30challenge to join our national photo contest!

The follow-up survey administered at the end of the May contained the same questions (demographic information was omitted). Items that asked about the prior month on the May 1st survey were worded to inquire about the prior week on the May 31st survey. The final question about anticipated enjoyment of the challenge was reworded to ask about actual enjoyment. Two additional open-ended questions were added.

Please describe any changes in your mood or quality of life over the past month (max. 150 words):

How has the 30x30 Challenge impacted your day-to-day life? (max. 150 words):

Thank you for participating in the Nature Challenge and for your help with this study! This completes the official nature challenge research. You have helped us to better understand how nature influences our well-being. Look for more information on the science of connecting with nature and results of the study on the David Suzuki Foundation website and Facebook page in June.