UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Napping Position Preferences and Perceived Nap Outcomes of the UBC Population

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Executive Summary

The present study investigated nap position preferences within the UBC student population and how nap sleep posture can affect perceived mood and alertness-sleepiness outcomes. It was hypothesized that horizontal sleep positions would be the most commonly endorsed preferred napping positions, with improved perceived mood and alertness-sleepiness outcomes. A second hypothesis predicted that lying on one's back would be the most commonly endorsed napping position, with the best perceived mood and alertness-sleepiness outcomes. Survey data was gathered in-person and online through active recruitment of UBC students. Primary measures included preferred napping position and self-report Likert style questions assessing perceived mood and alertness-sleepiness following less than 30-minute naps. Mood variables consisted of happy-sad, energetic-sluggish, relaxed-tense, and calm-irritable. The outcome measure of alertness-sleepiness was incorporated to reflect the individual's perceived physiological state post-nap. Descriptive statistics show 'laying on your back', 'laying on your side', and 'sitting with your back reclined' are the most commonly endorsed preferred nap positions for less than 30-minute naps. Results demonstrate no statistically significant difference between preferred napping positions and mood and alertness-sleepiness outcomes. However, a statistically significant difference in mood outcomes between 30-minute or less naps in one's preferred versus non-preferred position was observed.

Keywords: *nap-position, nap-outcomes, mood, sleepiness, nap-preferences*

Introduction

Although past research has demonstrated naps can reduce subjective and objective sleepiness, improve cognitive functioning, improve psychomotor performance, and enhance short-term memory and mood, there has been little investigation into the ways in which sleep posture or preferred sleep posture influence nap outcomes (Lovato & Lack 2010). Zhao et al. (2009) compared subjective and objective measures of 20-minute nap outcomes between a 'nap in a seat' condition, a 'nap in a bed' condition, and a 'no nap' condition. Results show improved subjective measures of sleepiness, fatigue, and mood, in both the 'nap in a bed' and 'nap in a seat' conditions, while, objective measures of alertness (based on EEG activity) improved in the 'nap in a bed' condition (Zhao et al., 2009). Another study conducted by Hayashi & Abe (2008) employed a within-subjects design to compare reaction time and vigilance task performance, subjective measures of sleepiness and fatigue, and physiological measures of slow eye movement after participants had not napped, or napped in a car seat reclined at either 130°or 150°. Improved subjective and physiological measures, as well as task performance were observed in both nap conditions (Hayashi & Abe, 2008).

Still, nap outcomes resulting from sleep posture are a salient research topic given the growing trend of 30-minute or less "power naps", per James B. Maas, in workplace and institutional settings to increase alertness, productivity, and creativity (Autumn et al., 2016; Lovato & Lack, 2010). One *New York Times* article describes the phenomena as a cultural shift whereby sleep is increasingly considered an aspect of a healthy and productive lifestyle; nap pods are increasingly common in offices, while some wellness centres now offer sleep treatments (Dollinger, 2018). Correspondingly, products like MetroNaps' Sleeping Station—which facilitates naps in a reclined position with the knees bent and the feet raised—can be found at the likes of Google and the Super Bowl ("Energy at work", n.d.). Based on the popularization of napping and increased prevalence of nap pods, research into napping preferences and outcomes is vital to gain a better understanding of the factors that inform optimal napping behaviour.

Research Question: What is the preferred sleep posture amongst the UBC population when napping for a period of 30-minutes or less? How can sleep posture during a nap of 30-minutes or less affect perceived nap outcomes in terms of mood and alertness/sleepiness?

Hypothesis: Horizontal sleep postures were hypothesized to be the most commonly endorsed nap posture across the study sample, with improved perceived mood and alertness-sleepiness outcomes. Additionally, napping on one's back was hypothesized be the most commonly endorsed preferred nap posture, with the highest perceived mood and alertness-sleepiness outcomes.

Methods

Participants

The participant sample consisted of the UBC student population (n = 164). From a total of 197 respondents, 33 participants were excluded from data analysis due to their failure to correctly respond to attentional checks or because they had failed to complete the survey. The final participant sample (n = 164) was comprised of 101 female, 60 male, 2 non-binary and 1 undisclosed-gender respondents. Respondents' ages ranged from 18-41 with a mean age of 21.5 years (SD = 3.10). Respondents averaged 3.5 naps per week (SD = 1.98) and were enrolled in an average of 4.23 courses (SD = 1.05) (Appendix A, Table 1). Because of the project's qualitative, correlational, and exploratory nature, there were no assigned conditions.

Procedure

Data collection consisted of the random selection of students around the UBC campus area; respondents were first informed of the nature of the study and then asked to take part in a survey after giving their consent. Data collection was administered through a digital questionnaire via Qualtrics. Participants primarily completed the self-report survey on site via the provided website link, using either the researchers' device or on their own. Some participants were provided with an information sheet for later survey access (Appendix C, Materials 2).

Measures

Primary measures included preferred nap position for naps 30-minutes or less, and subjective self-report measures of perceived post nap alertness-sleepiness and mood variables measured on a 5-point Likert scale. Participants selected their preferred nap position from the following list, as sourced from Haex (2005): laying on your stomach, laying on your side, laying on your back, the fetal position, sitting with your back reclined, or sitting upright. Mood variables were sourced from Zhao et al. (2009) and operationalized according to four scales: (1) calm-irritable, (2) happy-sad, (3) energetic-sluggish, (4) relaxed-tense. The alertness-sleepiness scale was included to attempt to capture a post-nap physiological measure, consistent with the research design of Zhao et al. (2009) and Hayashi & Abe (2008), given each of the two studies included a form of physiological measurement. Naps were emphasized as less than 30-minutes because the duration is consistent with the definition of a power nap; naps greater than 30-minutes in length can result in sleep inertia, a sense of disorientation, and grogginess that follows awakening from deep sleep (Autumn et al., 2016).

A number of secondary measures were also recorded, including participant demographics, preferred nap position for naps greater than 30-minutes, and preferred napping surface firmness (Appendix C, Materials 3). These measures were excluded from data analysis because they were outside the scope of the research question. However select secondary measure data may provide valuable insights for recommendations pertaining to client activities, namely UBC nap pod design.

Results

It was predicted that horizontal napping positions would be the most frequently endorsed preferred nap positions, with improved mood and alertness/sleepiness outcomes. Furthermore, it was predicted that lying on one's back would be the most commonly endorsed napping position with the best perceived mood and alertness/sleepiness outcomes. Descriptive statistics show 'laying on your back', 'laying on your side', and 'sitting with your back reclined' were the most frequently endorsed preferred nap positions for naps less than 30-minutes in length. There was little variance between the three preferences: 47 respondents (29%) endorsed 'laying on your back', 44 respondents (27%) endorsed 'laying on your side', and 43 respondents (26%) endorsed 'sitting with your back reclined' as their preferred position (Appendix B, Figure 2). In addition, 'laying on your back' was the most commonly endorsed napping position for naps greater than 30-minutes in length, being endorsed by 70 respondents (43%) (Appendix B, Figure 3).

A set of one way ANOVA analyses were employed to analyze differences in perceived mood variables and alertness-sleepiness outcomes between preferred nap positions. Individual tests assessed differences for each of the four mood variable scales (calm-irritable, happy-sad, energetic-sluggish, relaxed-tensed) as well as the alertness-sleepiness scale. No statistically significant differences were observed in any mood variable or alertness-sleepiness outcome measures for calm-irritable, $F(5, 156) = 0.88$, $p = .50$, happy-sad, $F(5, 157) = 1.62$, $p = .16$, energetic-sluggish, $F(5,157) = 0.25$, $p = .94$, relaxed-tense, $F(5,157) = 0.24$, $p = .95$, and alert-sleepy, $F(5,157) = 0.26$, $p = .93$ (Appendix A, Table 2).

A Paired Samples T-Test comparing mood variable and alertness-sleepiness outcomes demonstrated statistically significant differences among all outcome measures between less than 30-minute naps taken in one's preferred nap position compared to non-preferred position. There were significant results for happy-sad, $t(159) = -14.93$, $p < .001$, energetic-sluggish, $t(159) = -12.47$, $p < .001$, relaxed-tense, $t(160) = -15.27$, $p < .001$, alert-sleepy, $t(159) = -6.44$, $p < .001$, and calm-irritable, $t(159) = -13.20$, $p < .001$ (Appendix A, Table 3).

Descriptive statistics of select secondary measures show that the most preferred sleeping surface firmnesses were medium-soft, endorsed by 62 respondents (38%), and medium, endorsed by 63 respondents (39%). A set of one-way ANOVA tests was run to analyze the differences in any perceived mood variable and alertness-sleepiness outcomes between different preferred surface firmnesses. No statistically significant differences between preferred surface firmness were observed for any of calm-irritable, $F(3,158) = 2.50$, $p = .06$, happy-sad, $F(3,159) = .65$, $p = .58$, energetic-sluggish, $F(3,159) = 1.17$, $p = .32$, relaxed-tense, $F(3,159) = 0.25$, $p = .86$, and alert-sleepy, $F(3,159) = 0.23$, $p = .88$ (Appendix A, Table 4).

Discussion

The findings of the present study suggest that the opportunity to nap in one's preferred position is a salient aspect of post-nap mood and sleepiness outcomes. Correspondingly, perceived happiness, energy, relaxation, calmness and alertness ratings were all significantly improved following hypothetical naps in participants' preferred position compared to an unspecified non-preferred position. Given the growth in popularity of nap pods at institutional and workplace settings and the increased normalization of sleep as an aspect of a healthy and productive lifestyle, the study's findings represent one aspect of ideal napping habits and behaviours. Hence, an individual's preferred napping position should be considered in the pursuit of an optimal nap, particularly if for that person this means a maximization of happiness, energy, relaxation, calmness, and alertness levels post-nap. These implications are consistent with the findings of Zhao et al. (2008) and Hayashi & Abe (2009) given both studies observed significantly improved subjective mood and physiological nap outcomes based on nap position.

Furthermore, the study's results have implications for the design of nap pods on the UBC campus and so will have direct consequences for many current and future UBC students. Given the Okanagan Charter that guides UBC well-being initiatives mandates that higher education institutions lead health promotion action and collaboration locally and globally, it is possible the UBC nap pod design may influence the adoption and development of nap pods in environments outside of UBC **(**Okanagan Charter, 2015). In other words, the study's results may contribute to nap-pod design in various contexts.

Despite the study's insights, certain methodological limitations should be addressed, including possible confounds that may have influenced results. First, experimenter effects based on the positive attitude of data collectors while convincing students to participate may have elicited positive associations to napping during survey completion. Second, individual differences in the fatigue level of respondents may have resulted in response biases in the form of differing attitudes toward napping based on fatigue level. Last, because data was collected over a period of three weeks, differences in work-load levels (e.g. workload before, during, and after midterm season) may have influenced individual responses—participants with greater work loads may have been more sleep deprived, influencing perceptions of nap outcomes.

Given the self-report style of the study, results were particularly susceptible to the subject-expectancy effect. Participants were asked to report their *anticipated* outcomes of napping and not *actual* outcomes. The concept of psychological distance, whereby the further a psychological representation is from one's immediate reality the more it is evaluated according to preconceived notions, may have influenced perceived nap outcomes (Trope & Liberman, 2010). Likewise, results may have been influenced by errors of affective forecasting, in which people may overestimate or underestimate future affective states (Wilson & Gilbert, 2005).

In light of the study's limitations, future studies should be conducted to verify its findings. In particular, future research concerning the influence of napping on mood and alertness-sleepiness outcomes would benefit from investigation via an ecologically valid

experimental design. Given that nap posture is certainly not the only aspect of the nap environment to influence outcomes, other future studies that investigate factors such lighting, sound, and surface, etc., would be worthwhile; in the same vein, studies that investigate the interaction of nap environment factors would be insightful. For example, nap position may be a more salient influence on nap outcomes under certain lighting conditions, or with certain surfaces, and so on.

Recommendations for UBC client

Because lying on one's back is the most commonly endorsed napping position for both naps longer and shorter than 30-minutes in duration, the sleeping pod size and shape should facilitate napping on one's back in order to meet the greatest number of student preferences. For naps shorter than 30-minutes in duration, lying on one's back, lying on one's side, and sitting with one's back reclined were the most endorsed preferred sleeping positions. Thus, it would be beneficial to have adjustable nap pods, or nap pods of different shapes and sizes, to cater to individual preferences for napping positions depending on the duration of the naps. Likewise, it is recommended that nap pods are made adjustable in degrees of reclination in order to fit with student preferences. Finally, the size and shape of the nap pods should be able to comfortably accommodate all positional preferences, regardless of size or body mass index.

Beyond napping positions, there were differences regarding the preference of napping surfaces. The most endorsed napping surfaces were 'medium soft' and 'medium' firmness. Consequently, nap pod napping surface should be of a medium firmness to best compliment napping preferences. As an alternative, the firmness of the surface may be designed to be adjustable to allow for every individual to cater to their specific preferences.

References

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Appendix A

Table 1. Participant descriptives table showing the mean, standard deviation for age and average courses taken.

Descriptives

Descriptive Statistics

	GENDER	COURSES	HABITUAL NAPPER	AGE
Valid	164	164	164	164
Missing	0	0	0	0
Mean	1.659	4.232	3.055	21.52
Std. Deviation	0.5363	1.049	1.307	3.051
Minimum	1.000	1.000	1.000	17.00
Maximum	4.000	6.000	5.000	41.00

Table 2. Multiple One way ANOVA analyses between participants' preferred position when napping for 30-minutes or less and mood and sleepiness/alertness outcomes.

ANOVA

ANOVA - CALM/IRRITABLE

Cases	Sum of Squares	df	Mean Square	F	p
PREFERRED POSITION (30 MIN LESS)	4.242	5	0.848	0.881	0.495
Residual	150.258	156	0.963		

Note. Type III Sum of Squares

ANOVA

ANOVA - HAPPY/SAD

Cases	Sum of Squares	df	Mean Square	F	p
PREFERRED POSITION (30 MIN LESS)	5.575	5	1.115	1.616	0.159
Residual	108.326	157	0.690		

Note. Type III Sum of Squares

ANOVA ▼

ANOVA - ENERGETIC/SLUGGISH ▼

Cases	Sum of Squares	df	Mean Square	F	p
PREFERRED POSITION (30 MIN LESS)	1.504	5	0.301	0.253	0.938
Residual	186.901	157	1.190		

Note. Type III Sum of Squares

ANOVA ▼

ANOVA - RELAXED/TENSE

Cases	Sum of Squares	df	Mean Square	F	p
PREFERRED POSITION (30 MIN LESS)	0.841	5	0.168	0.239	0.945
Residual	110.325	157	0.703		

Note. Type III Sum of Squares

ANOVA ▼

ANOVA - ALERT/SLEEPY ▼

Cases	Sum of Squares	df	Mean Square	F	p
PREFERRED POSITION (30 MIN LESS)	1.657	5	0.331	0.260	0.934
Residual	200.000	157	1.274		

Note. Type III Sum of Squares

Table 3. Paired samples T-Test between less than 30 minute naps in preferred versus non-preferred position mood and alertness/sleepiness outcomes.

Paired Samples T-Test

Paired Samples T-Test

			t	df	p
HAPPY/SAD	-	HAPPY/SAD (X)	-14.832	159	< .001
ENERGETIC/SLUGGISH	-	ENERGETIC/SLUGGISH (X)	-12.469	159	< .001
RELAXED/TENSE	-	RELAXED/TENSE (X)	-15.274	160	< .001
ALERT/SLEEPY	-	ALERT/SLEEPY (X)	-6.444	157	< .001
CALM/IRRITABLE	-	CALM/IRRITABLE_20	-13.200	159	< .001

Note. Student's t-test.

Table 4. Multiple One way ANOVA analyses between participants' preferred surface and mood and sleepiness/alertness outcomes.

ANOVA

ANOVA - CALM/IRRITABLE

Cases	Sum of Squares	df	Mean Square	F	p
PREFERRED SURFACE	6.987	3	2.329	2.495	0.062
Residual	147.513	158	0.934		

Note. Type III Sum of Squares

ANOVA

ANOVA - HAPPY/SAD

Cases	Sum of Squares	df	Mean Square	F	p
PREFERRED SURFACE	1.386	3	0.462	0.653	0.582
Residual	112.516	159	0.708		

Note. Type III Sum of Squares

ANOVA

ANOVA - ENERGETIC/SLUGGISH

Cases	Sum of Squares	df	Mean Square	F	p
PREFERRED SURFACE	4.063	3	1.354	1.168	0.324
Residual	184.342	159	1.159		

Note. Type III Sum of Squares

ANOVA ▼

ANOVA - RELAXED/TENSE

Cases	Sum of Squares	df	Mean Square	F	p
PREFERRED SURFACE	0.530	3	0.177	0.254	0.859
Residual	110.636	159	0.696		

Note. Type III Sum of Squares

ANOVA ▼

ANOVA - ALERT/SLEEPY ▼

Cases	Sum of Squares	df	Mean Square	F	p
PREFERRED SURFACE	0.867	3	0.289	0.229	0.876
Residual	200.789	159	1.263		

Note. Type III Sum of Squares

Appendix B

Figure 1. Pie chart displaying participant demographics that show the makeup of respondents' genders. Green indicated participants who selected 'prefer not to answer.'

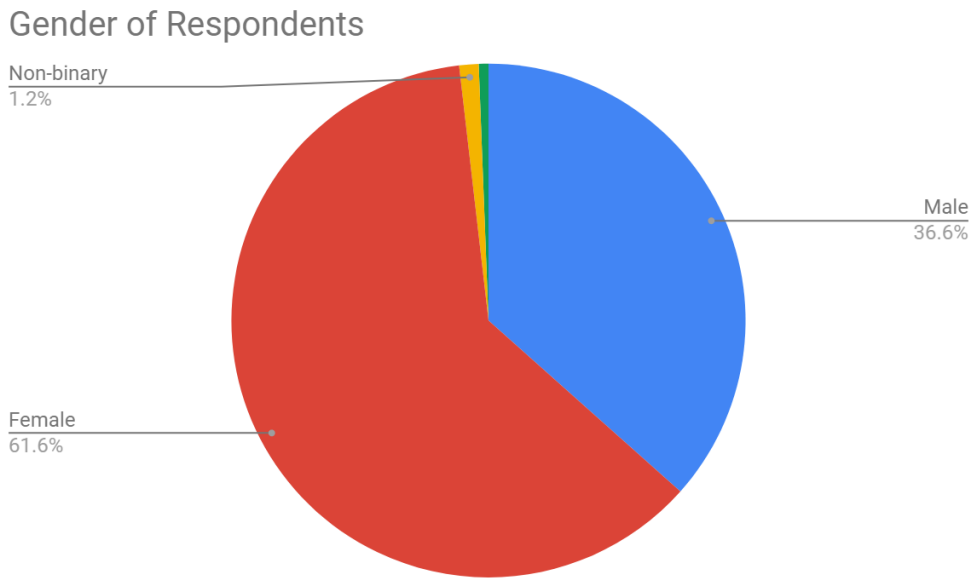


Figure 2. Preferred napping positions for naps less than 30-minutes in duration.

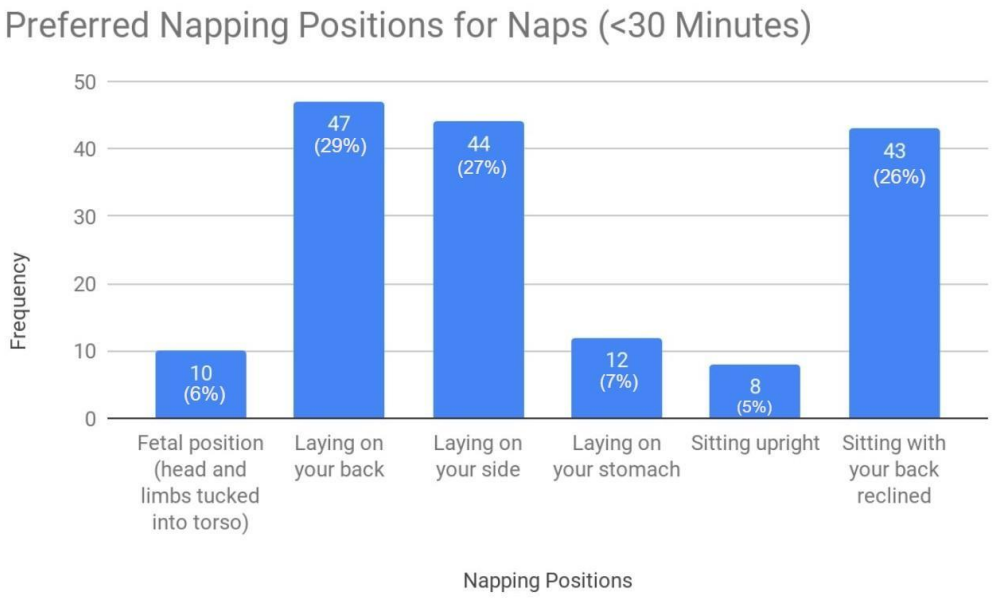


Figure 3. Preferred napping positions for naps greater than 30-minutes in duration.

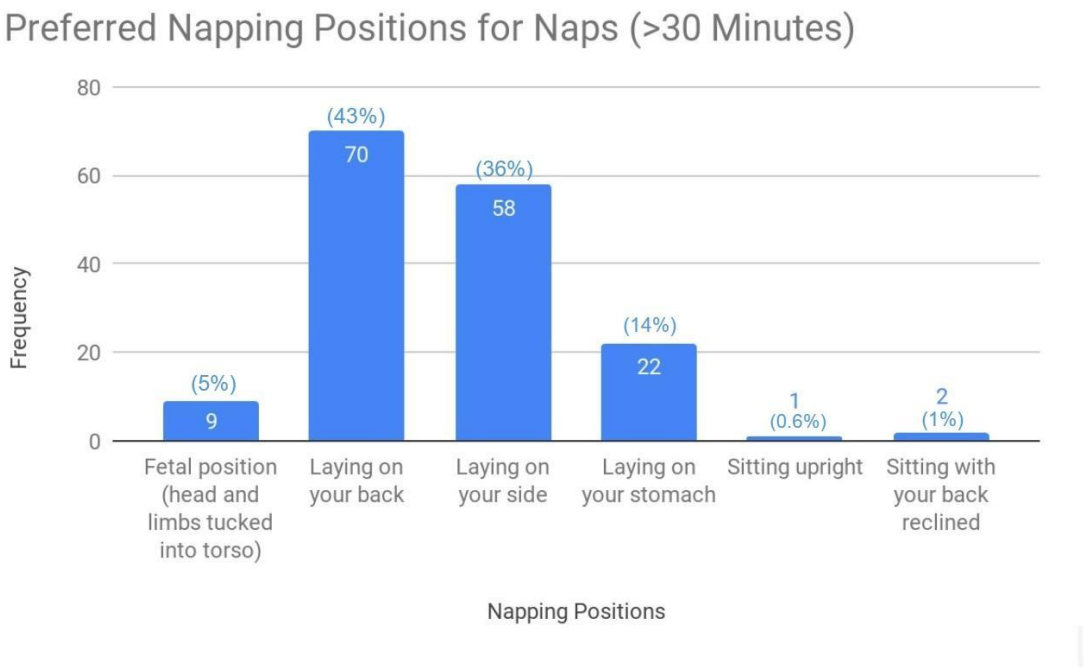
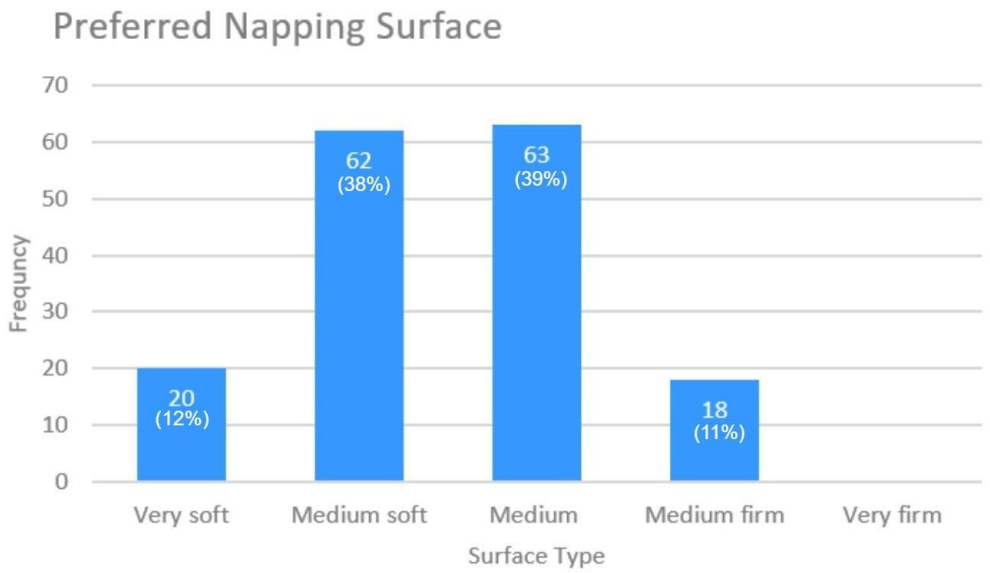


Figure 4. Preferred napping surface firmness among respondents.



Appendix C

Materials 1. Script used for approaching participants at random on UBC campus.

> *(Introduction)*
> Hello. We are doing a research on napping pods for the UBC SEEDS Program. The purpose of the survey is to find out people's preferred napping positions and help designing the future nap pods in UBC campus. Would you mind taking couple minutes of your time to complete the survey?

Materials 2. Informational sheet given to some participants with the QR code as well as a shortened link for later access to the survey.

STUDY OF NAPPING BEHAVIOURS
Have an influence in the design of future napping pods at UBC (2021)

For more information about the new Arts Student Centre: http://www.ubcasc.com/about

Link to survey: https://bit.ly/2NIKCqc

Materials 3. Copy of consent form and survey used in study attached below.

Block 1

Consent Form

Principal Investigator:
Dr. Jiaying Zhao
Course Instructor
Department of Psychology
Institute for Resources, Environment and Sustainability
Email: jiayingz@psych.ubc.ca

Introduction and Purpose
Students in the PSYC 321 - Environment Psychology class are required to complete a research project on the UBC campus as part of their course credit. In this class, students are required to write up a research proposal, conduct a research project, analyze data, present their findings in class, and submit a final report. Their projects can include surveys, observations, and simple experiments on waste sorting on campus, student health and wellbeing, food consumption and diet, biodiversity perception, and exercise habits. The goal of the project is to train students to learn research techniques, how to work in teams and work with UBC clients selected by the UBC SEEDS (Social Ecological Economic Development Studies) program.

Study Procedures
If you agree to participate, the study will take about 10 to 15 minutes of your time. You will answer a few questionsin the study. The data will be strictly anonymous. Your participation is entirely voluntary, and you can withdraw at any point without any penalty. Your data in the study will be recorded (e.g., any answer you give) for data analysis purposes. If you are not sure about any instructions, please do not hesitate to ask. Your data will only be used for student projects in the class. There are no risks associated with participating in this experiment.

Confidentiality
Your identity will be kept strictly confidential. All documents will be identified only by code number and kept in a locked filing cabinet. You will not be identified by name in any reports of the completed study. Data that will be kept on a computer hard disk will also be identified only by code number and will be password protected so that only the principle investigator and course instructor, Dr. Jiaying Zhao and the teaching assistant will have access to it. Following the completion of the study, the data will be transferred to a password protected hard drive and stored in a locked filing cabinet. Please note that the results of this study will be used to write a report which is published on the SEEDS library.

Remuneration
There is no remuneration for your participation.

Contact for information about the study
This study is being conducted by Dr. Jiaying Zhao, the principal investigator. Please contact her if you have any questions about this study. Dr. Zhao may be reached at (604) 827-2203 or jiayingz@psych.ubc.ca.

Contact for concerns about the rights of research subjects
If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598.

Consent
Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time without jeopardy to your class standing. You may also withdrawal from the experiment at any time during or after your participation and request that your data be deleted.
Please feel free to ask the experimenter any additional questions you may have about the study. Your signature below indicates that you have received a copy of this consent form for your own records.

- ○ I consent to participate in the study
- ○ I do not consent to participate in the study

Default Question Block

What faculty are you in?

- ○ Faculty of Applied Science
- ○ Faculty of Arts
- ○ School of Architecture and Landscape Architecture
- ○ Sauder School of Business
- ○ School of Community and Regional Planning
- ○ Faculty of Dentistry
- ○ Faculty of Education
- ○ Faculty of Forestry
- ○ School of Journalism
- ○ School of Kinesiology
- ○ Faculty of Land and Food Systems
- ○ Peter A. Allard School of Law
- ○ Faculty of Medicine
- ○ School of Nursing
- ○ School of Music
- ○ Faculty of Pharmaceutical Sciences
- ○ Faculty of Science
- ○ School of Social Work

What faculty are you in?

- ○ Faculty of Applied Science
- ○ Faculty of Arts
- ○ School of Architecture and Landscape Architecture
- ○ Sauder School of Business
- ○ School of Community and Regional Planning
- ○ Faculty of Dentistry
- ○ Faculty of Education
- ○ Faculty of Forestry
- ○ School of Journalism
- ○ School of Kiniseology
- ○ Faculty of Land and Food Systems
- ○ Peter A. Allard School of Law
- ○ Faculty of Medicine
- ○ School of Nursing
- ○ School of Music
- ○ Faculty of Pharmaceutical Sciences
- ○ Faculty of Science
- ○ School of Social Work

What year are you in?

- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5 +

How many courses are you currently enrolled in?

- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6 +

What is your gender?

- ○ Male

- ○ Female
- ○ Non-binary
- ○ Prefer not to answer

What is your age?

- ○ Please indicate your age

On average, how fatigued do you feel between 1:00 p.m. and 4:00 p.m.?

1 - Not fatigued at all	2	3	4	5 - Extremely fatigued
○	○	○	○	○

Do you consider yourself to be a habitual napper?

- ○ Definitely yes
- ○ Probably yes
- ○ Might or might not
- ○ Probably not
- ○ Definitely not

How many naps do you take per week?

- ○ I don't take naps
- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7
- ○ More than 7 times per week

In the past 3 months, I have napped (check all that apply):

- ☐ Sitting upright
- ☐ Reclined
- ☐ Laying on my back

- [ ] Laying on my stomach
- [ ] Laying on my side
- [ ] Fetal position (head and limbs tucked into torso)
- [ ] Other

Please indicate the most frequent position you have napped in during the past 3 months:

- ○ Sitting upright
- ○ Reclined
- ○ Laying on my back
- ○ Laying on my stomach
- ○ Laying on my side
- ○ Fetal postion
- ○ Other

Please indicate the average length of nap you have taken in the past 3 months

- ○ Less than 30 minutes
- ○ Between 30 and 60 minutes
- ○ Between 60 and 90 minutes
- ○ Greater than 90 minutes

When I nap I prefer a surface that is:

1 - Very Soft	2 - Medium soft	3 - Medium	4 - Medium firm	5 - Very firm
○	○	○	○	○

If you were to take a nap 30 minutes or less in length, which of the following positions would you prefer?

- ○ Sitting upright
- ○ Sitting with your back reclined
- ○ Laying on your back
- ○ Laying on your stomach
- ○ Laying on your side
- ○ Fetal position (head and limbs tucked into torso)

If you were to take a nap greater than 30 minutes in length, which of the following positions would you prefer?

- ○ Sitting upright
- ○ Sitting with your back reclined
- ○ Laying on your back
- ○ Laying on your stomach
- ○ Laying on your side
- ○ Fetal position (head and limbs tucked into torso)
- ○ Other

In the previous question if you selected 'sitting with your back reclined' as your preferred position, what angle do you prefer (choose the best that applies):

- ○ 1 - Extremely reclined (~1°)
- ○ 2 - Slightly reclined (~22.5°)
- ○ 3 - Medium reclined/upright (~45°)
- ○ 4 - Slightly upright (~67.5°)
- ○ 5 - Extremely upright (~90°)
- ○ 'sitting with my back reclined' is not my preferred napping position

After having napped for 30 minutes or less **in your preferred position**, please rate the the degree to which you would feel the following:

1 - Calm	2	3 - Neutral	4	5 - Irritable
○	○	○	○	○

After having napped for 30 minutes **in your preferred position**, please rate the the degree to which you would feel the following:

1 - Happy	2	3 - Neutral	4	5 - Sad
○	○	○	○	○

After having napped for 30 minutes or less **in your preferred position**, please rate the the degree to which you would feel the following:

1 - Energetic	2	3 - Neutral	4	5 - Sluggish
○	○	○	○	○

After having napped for 30 minutes or less **in your preferred position**, please rate the the degree to which you would feel the following:

1 - Relaxed	2	3 - Neutral	4	5 - Tense
○	○	○	○	○

After having napped for 30 minutes or less **in your preferred position**, please rate the degree to which you would feel the following:

1 - Alert	2	3 - Neutral	4	5 - Sleepy
○	○	○	○	○

Please respond "3" to this question.

1	2	3	4	5
○	○	○	○	○

After having napped for 30 minutes or less **in a position you do not prefer**, please rate the degree to which you would feel the following:

1 - Calm	2	3 - Neutral	4	5 - Irritable
○	○	○	○	○

After having napped for 30 minutes or less **in a position you do not prefer**, please rate the degree to which you would feel the following:

1 - Happy	2	3 - Neutral	4	5 - Sad
○	○	○	○	○

After having napped for 30 minutes or less **in a position you do not prefer**, please rate the degree to which you would feel the following:

1 - Energetic	2	3 - Neutral	4	5 - Sluggish
○	○	○	○	○

After having napped for 30 minutes or less **in a position you do not prefer**, please rate the degree to which you would feel the following:

1 - Relaxed	2	3 - Neutral	4	5 - Tense
○	○	○	○	○

After having napped for 30 minutes or less **in a position you do not prefer**, please rate the degree to which you would feel the following:

1 - Alert	2	3 - Neutral	4	5 - Sleepy
○	○	○	○	○

When I nap for 30 minutes or less I am:

- ○ More productive
- ○ Less productive
- ○ No difference
- ○ I'm not sure

I am most productive when I am:

1- Calm	2	3 - Neutral	4	5 - Irritable
○	○	○	○	○

I am most productive when I am:

1 - Happy	2	3 - Neutral	4	5 - Sad
○	○	○	○	○

I am most productive when I am:

1 - Energetic	2	3 - Neutral	4	5 - Sluggish
○	○	○	○	○

I am most productive when I am:

1 - Relaxed	2	3 - Neutral	4	5 - Tense
○	○	○	○	○

I am most productive when I am:

1 - Alert	2	3 - Neutral	4	5 - Sleepy
○	○	○	○	○

Please respond "5" to this question.

1	2	3	4	5
○	○	○	○	○

Would you use nap pods at UBC?

- Yes
- No
- Not sure

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