

Variables and definitions:

Self-efficacy

1. Please tell us how confident you feel practicing the following behaviors in order to get better sleep: **I can maintain healthy sleep habits.**

Not at all confident, somewhat confident, extremely confident

2. Please tell us how confident you feel practicing the following behaviors in order to get better sleep: **I can cut out screen use 1 hour before bed.**

Not at all confident, somewhat confident, extremely confident

3. Please tell us how confident you feel practicing the following behaviors in order to get better sleep: **I can exercise for 30 minutes total each day.**

Not at all confident, somewhat confident, extremely confident

4. Please tell us how confident you feel practicing the following behaviors in order to get better sleep: **I can participate in a breathing exercise during the day or before bed.**

Not at all confident, somewhat confident, extremely confident

Coding for self-efficacy

```

sleephygiene <- sleephygiene %>% mutate(
  SELF_EFFICACY = case_when(
    Q59_canmaintainhealthysleephabits == "Extremely confident" ~ 1,
    Q59_canparticipateinbreathing == "Extremely confident" ~ 1,
    Q59_cancutoutscreens == "Extremely confident" ~ 1,
    Q59_canexercise == "Extremely confident" ~ 1,
    is.na(Q59_canmaintainhealthysleephabits) ~ NA_real_,
    is.na(Q59_canparticipateinbreathing) ~ NA_real_,
    is.na(Q59_cancutoutscreens) ~ NA_real_,
    is.na(Q59_canexercise) ~ NA_real_,
    TRUE ~ 0
  )
)

```

Attitude

1. **Please rate your agreement with the following statements: Getting a good night's sleep is important to me.**

Strongly disagree, somewhat disagree, neither agree nor disagree somewhat agree, strongly agree

2. **Please rate your agreement with the following statements: Having a regular sleep routine improves mental clarity/sharpness.**

Strongly disagree, somewhat disagree, neither agree nor disagree somewhat agree, strongly agree

Coding for attitude

```
sleephygiene <- sleephygiene %>% mutate(  
  ATTITUDE = case_when(  
    Q44_goodnightsleepisimportant == "Strongly agree" ~ 1,  
    is.na(Q44_goodnightsleepisimportant) ~ NA_real_,  
    Q44_mentalclarity == "Strongly agree" ~ 1,  
    is.na(Q44_mentalclarity) ~ NA_real_,  
    TRUE ~ 0  
  )  
)
```

Emotions

1. Please rate your agreement with the following statements: I feel positive about the quality of my sleep.

Strongly disagree, somewhat disagree, neither agree nor disagree somewhat agree, strongly agree

Coding for emotions

```
sleephygiene <- sleephygiene %>% mutate(  
  EMOTIONS = case_when(  
    Q44_feelpositive == "Strongly agree" ~ 1,  
    is.na(Q44_feelpositive) ~ NA_real_,  
    TRUE ~ 0  
  )  
)
```

Cue to action – no good question to evaluate

Motivation

1. Please rate your agreement with the following statements: I think cutting out screen use 1 hour before bed leads to better sleep.

Strongly disagree, somewhat disagree, neither agree nor disagree somewhat agree, strongly agree

2. Please rate your agreement with the following statements: I think exercising regularly leads to better sleep.

Strongly disagree, somewhat disagree, neither agree nor disagree somewhat agree, strongly agree

3. Please rate your agreement with the following statements: I think participating in breathing exercises during the day or before bed leads to better sleep.

Strongly disagree, somewhat disagree, neither agree nor disagree somewhat agree, strongly agree

Coding for motivation

```
mutate(MOTIVATION = case_when(  
  Q44_cuttingoutscreenleadstobeterssleep == "Strongly agree" ~ 1,  
  Q44_exercisingleadstobeterssleep == "Strongly agree" ~ 1,  
  Q44_breathingexercisesleadstobeterssleep == "Strongly agree" ~ 1,  
  is.na(Q44_cuttingoutscreenleadstobeterssleep) ~ NA_real_,  
  is.na(Q44_exercisingleadstobeterssleep) ~ NA_real_,  
  is.na(Q44_breathingexercisesleadstobeterssleep) ~ NA_real_,  
  TRUE ~ 0  
))
```

Intention to perform

- 1. Please rate your agreement with the following statements: In the next two weeks, I will stop using screens 1 hour before bed for better sleep.**

Strongly disagree, somewhat disagree, neither agree nor disagree somewhat agree, strongly agree

- 2. Please rate your agreement with the following statements: In the next two weeks, I will exercise for at least 30 minutes total each day for better sleep.**

Strongly disagree, somewhat disagree, neither agree nor disagree somewhat agree, strongly agree

- 3. Please rate your agreement with the following statements: In the next two weeks, I will do a daily breathing exercise for better sleep.**

Strongly disagree, somewhat disagree, neither agree nor disagree somewhat agree, strongly agree

Coding for intention

```
sleephygiene <- sleephygiene %>% mutate(  
  INTENTION = case_when(  
    Q44_iwillstopscreens == "Strongly agree" ~ 1,  
    is.na(Q44_iwillstopscreens) ~ NA_real_,  
    Q44_iwillbreathe == "Strongly agree" ~ 1,  
    is.na(Q44_iwillbreathe) ~ NA_real_,  
    Q44_iwillexercise == "Strongly agree" ~ 1,  
    is.na(Q44_iwillexercise) ~ NA_real_,  
    TRUE ~ 0  
  )  
)
```

Behaviors

1. Please rate your agreement with the following statements: In the next two weeks, I will do a daily breathing exercise for better sleep.

Does response (days of doing activities)

UPPER 75%ile exposure

```
sleephygiene <- sleephygiene %>% mutate(
  UPPERPERCENTILEexposure = case_when(
    pointscombinedperdays >= 15 ~ 1,
    is.na(pointscombinedperdays) ~ NA_real_,
    TRUE ~ 0
  )
)
```

Two categories (low to mid exposure vs. high exposure) – to evaluate dose response

```
mutate(
  UPPERPERCENTILEexposure_categories = case_when(
    pointscombinedperdays >= 15 ~ 2,
    pointscombinedperdays < 15 ~ 1,
    is.na(pointscombinedperdays) ~ NA_real_,
    TRUE ~ 0
  )
)
```

Overall health outcomes: improved sleep

1. Are you happy with your sleep quality overall currently?
Yes or no
2. Please rate your sleep quality from the following options: In the last two weeks? (on average)
Poor, fair, good, excellent

Coding for outcome

```
mutate(happywithsleepqualitycombined = case_when(
  Q90_areyouhappywithyoursleepquality_awareofcampaign == "Yes" ~ 1,
  Q90_areyouhappywithyoursleepquality_awareofcampaign == "No" ~ 0,
  Q91_areyouhappywithyoursleepquality_notawareofcampaign == "Yes" ~ 1,
  Q91_areyouhappywithyoursleepquality_notawareofcampaign == "No" ~ 0,
  Q89_ratesleepquality_notawareofcampaign == "Good" ~ 1,
  Q89_ratesleepquality_notawareofcampaign == "Excellent" ~ 1,
  Q89_ratesleepquality_notawareofcampaign == "Poor" ~ 0,
  Q89_ratesleepquality_notawareofcampaign == "Fair" ~ 0,
))
```

Exposure to the campaign

Exposure definitions:

Correctly identifying each picture belonging to the campaign correctly identified
(maximum 4 points)

Engagement with the campaign

(maximum 1 point)

Points for each day that participants reported moving at least 30 minutes in the last 14 days
(maximum 14 points)

Points for each day that participants reported using a breathing exercise in the last 14 days
(maximum 14 points)

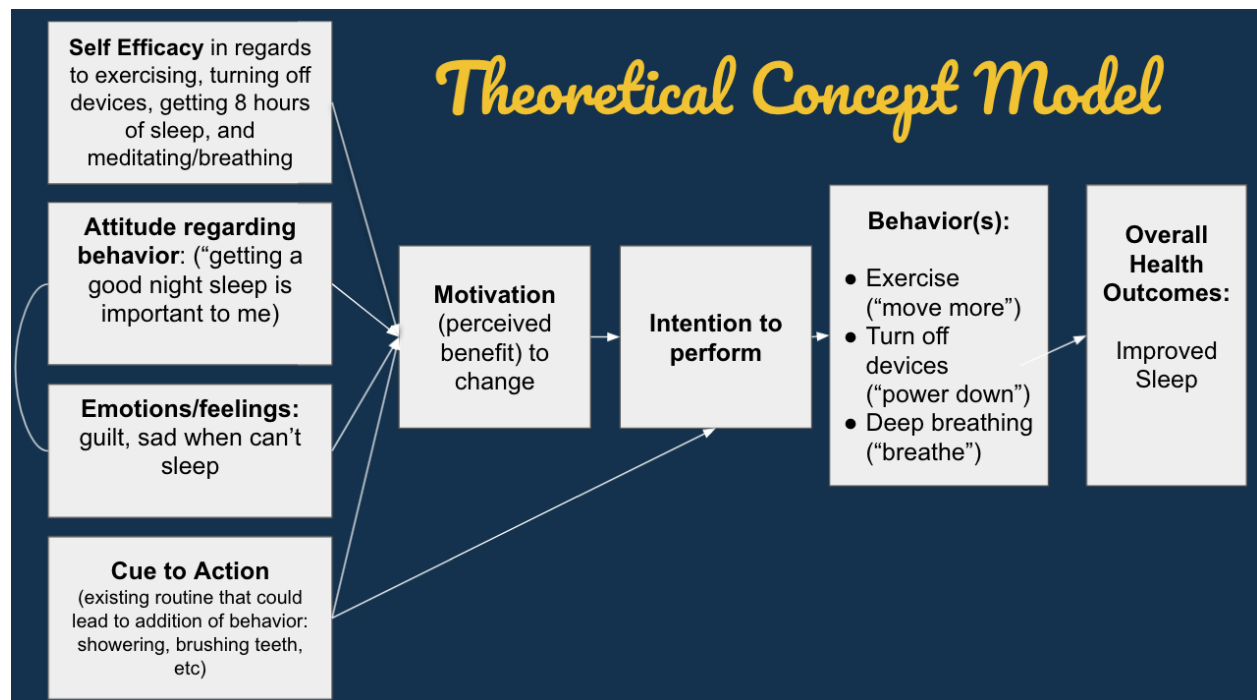
Points for each day that participants reported powering down devices at least 1 hour before bedtime in the last 14 days (maximum 14 points)

Coding

```
mutate(Q67_1 = case_when(
  is.na(Q67_1) ~ 0,
  TRUE ~ as.numeric(Q67_1)
)) %>%
mutate(Q67_2 = case_when(
  is.na(Q67_2) ~ 0,
  TRUE ~ as.numeric(Q67_2)
)) %>%
mutate(Q67_3 = case_when(
  is.na(Q67_3) ~ 0,
  TRUE ~ as.numeric(Q67_3)
)) %>%
mutate(pointscombinedperdays = Q67_1 + Q67_2 + Q67_3) %>%
mutate(ratesleepqualitycombined = case_when(
  Q89_ratesleepquality_notawareofcampaign == "Good" ~ 1,
  Q89_ratesleepquality_notawareofcampaign == "Excellent" ~ 1,
  Q89_ratesleepquality_notawareofcampaign == "Poor" ~ 0,
  Q89_ratesleepquality_notawareofcampaign == "Fair" ~ 0,
)) %>%
mutate(POINTSFROMPICS1 = case_when(
  Q96_picture2 == "Yes" ~ 1,
  TRUE ~ 0
)) %>%
mutate(POINTSFROMPICS2 = case_when(
  Q96_picture4 == "Yes" ~ 1,
  TRUE ~ 0
)) %>% mutate(POINTSFROMPICS3 = case_when(
  Q96_picture5 == "Yes" ~ 1,
  TRUE ~ 0
)) %>% mutate(POINTSFROMPICS4 = case_when(
  Q96_picture7 == "Yes" ~ 1,
  TRUE ~ 0
)) %>% mutate(POINTFROMENGAGEMENT = case_when(
  Q69_didyouengagewiththecampaign == "Yes" ~ 1,
  TRUE ~ 0
)) %>% mutate(
  POINTSFROMPARTICIPATION = X.MoveMore + X.PowerDown + X.Breathe
) %>%
```



```
mutate(TOTALPOINTS = pointscombinedperdays + POINTSFROMPICS1 + POINTSFROMPICS2 +  
POINTSFROMPICS3 + POINTSFROMPICS4 + POINTFROMENGAGEMENT +  
POINTSFROMPARTICIPATION)
```



Self-efficacy related to motivation

MOTIVATION			
Predictors	Odds Ratios	CI	p
(Intercept)	11.28	0.89 – 178.23	0.071
SELF_EFFICACY	2.36	1.04 – 5.58	0.043
Q4_gender_binary: Male	1.78	0.58 – 6.72	0.344
On average, how many hours of sleep did you get per night during the following periods of time: during the last 5 workdays?	0.78	0.53 – 1.13	0.198
Observations	141		
R ² Tjur	0.043		

Attitude related to motivation

MOTIVATION			
Predictors	Odds Ratios	CI	p
(Intercept)	1.55	0.07 – 32.13	0.777
ATTITUDE	16.13	4.20 – 82.69	<0.001
Q4_gender_binary: Male	2.06	0.59 – 9.60	0.298
On average, how many hours of sleep did you get per night during the following periods of time: during the last 5 workdays?	0.77	0.50 – 1.15	0.214
Observations	141		
R ² Tjur	0.155		

Emotions/feelings related to motivation

MOTIVATION			
<i>Predictors</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
(Intercept)	14.17	1.07 – 232.37	0.052
EMOTIONS	2.47	0.75 – 11.24	0.175
Q4_gender_binary: Male	1.45	0.49 – 5.35	0.537
On average, how many hours of sleep did you get per night during the following periods of time: during the last 5 workdays?	0.79	0.53 – 1.15	0.223
Observations	141		
R ² Tjur	0.025		

Motivation related to intention

INTENTION			
<i>Predictors</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.11	0.01 – 1.23	0.079
MOTIVATION	3.65	1.60 – 8.87	0.003
Q4_gender_binary: Male	0.81	0.31 – 2.11	0.666
On average, how many hours of sleep did you get per night during the following periods of time: during the last 5 workdays?	1.21	0.88 – 1.69	0.243
Observations	140		
R ² Tjur	0.074		

Intention related to high exposure (defined as >75%ile of days performing activities [15 days cumulative])

UPPERPERCENTILEexposure			
<i>Predictors</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.55	0.04 – 6.93	0.647
INTENTION	5.87	2.53 – 15.08	<0.001
Q4_gender_binary: Male	1.29	0.43 – 3.68	0.640
On average, how many hours of sleep did you get per night during the following periods of time: during the last 5 workdays?	0.81	0.55 – 1.16	0.248
Observations	140		
R ² Tjur	0.133		

High exposure (defined as >75%ile of days performing activities [15 days cumulative]) vs. mid to low exposure < 15 days related to being happy with sleep

happywithsleepqualitycombined			
Predictors	Odds Ratios	CI	p
(Intercept)	0.00	0.00 – 0.00	<0.001
UPPERPERCENTILEexposure_categories	2.79	1.21 – 6.71	0.018
Q4_gender_binary: Male	1.42	0.49 – 4.20	0.521
On average, how many hours of sleep did you get per night during the following periods of time: during the last 5 workdays?	3.19	2.07 – 5.29	<0.001
Observations	142		
R ² Tjur	0.240		

Exposure to the campaign

- Correctly identifying each picture belonging to the campaign correctly identified (maximum 4 points);
- Engagement with the campaign (maximum 1 point);
- Points for each day that participants reported moving at least 30 minutes in the last 14 days(maximum 14 points)
- Points for each day that participants reported using a breathing exercise in the last 14 days (maximum 14 points)
- Points for each day that participants reported powering down devices at least 1 hour before bedtime in the last 14 days (maximum 14 points)

happywithsleepqualitycombined			
Predictors	Odds Ratios	CI	p
(Intercept)	0.00	0.00 – 0.00	<0.001
TOTALPOINTS	1.07	1.02 – 1.13	0.011
On average, how many hours of sleep did you get per night during the following periods of time: during the last 5 workdays?	3.39	2.15 – 5.77	<0.001
What is your role at Bloomberg: Full-time student	1.44	0.26 – 8.37	0.678
What is your role at Bloomberg: Part-time student	1.01	0.17 – 6.04	0.992
Q4_gender_binary: Male	1.43	0.49 – 4.28	0.514
AGESMALLERCATEGORIES	1.66	0.37 – 7.32	0.500
Observations	142		
R ² Tjur	0.251		