INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS

WHEN REASON SLEEPS:

THE CONNECTION BETWEEN SUICIDALITY AND CIRCADIAN RHYTHM

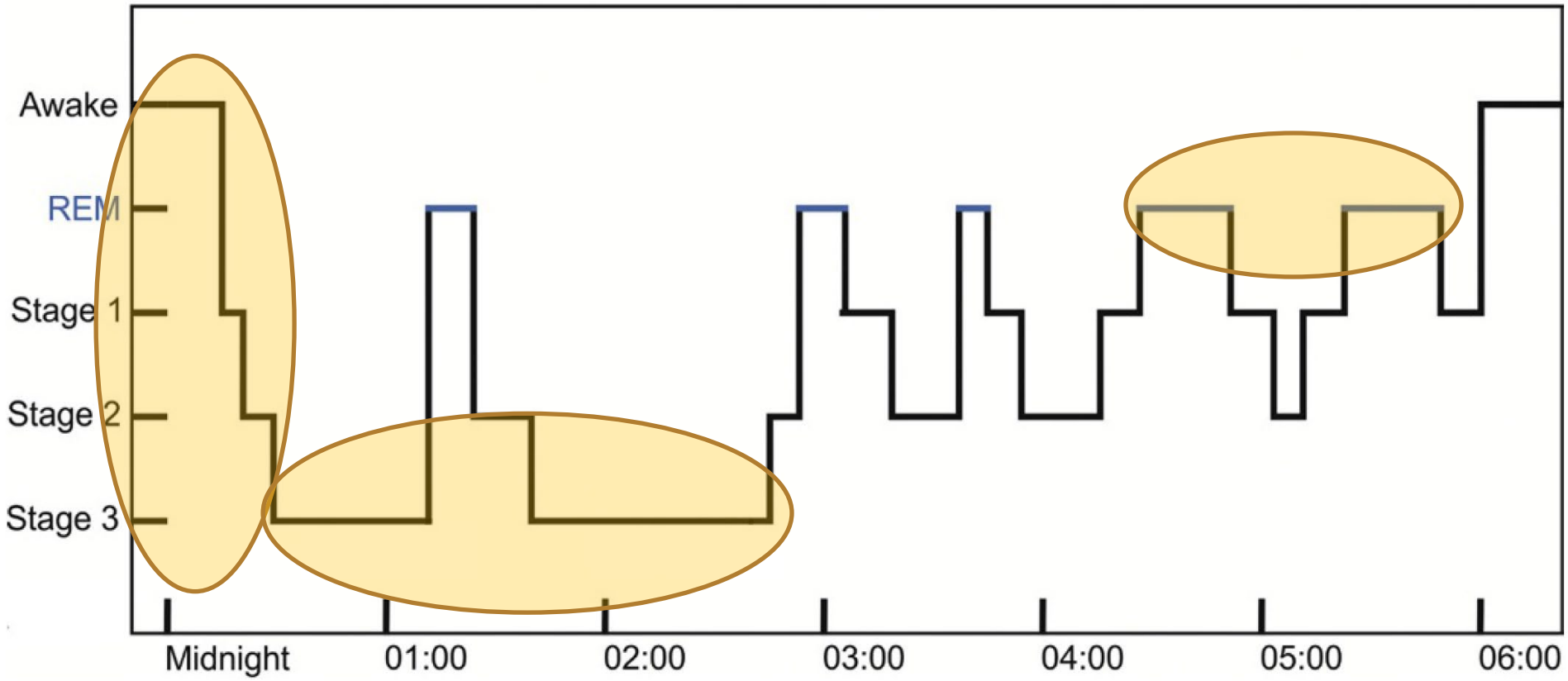
March 30, 2026

WORKING DEFINIETION OF SLEEP

WORKING DEFINITION OF SLEEP

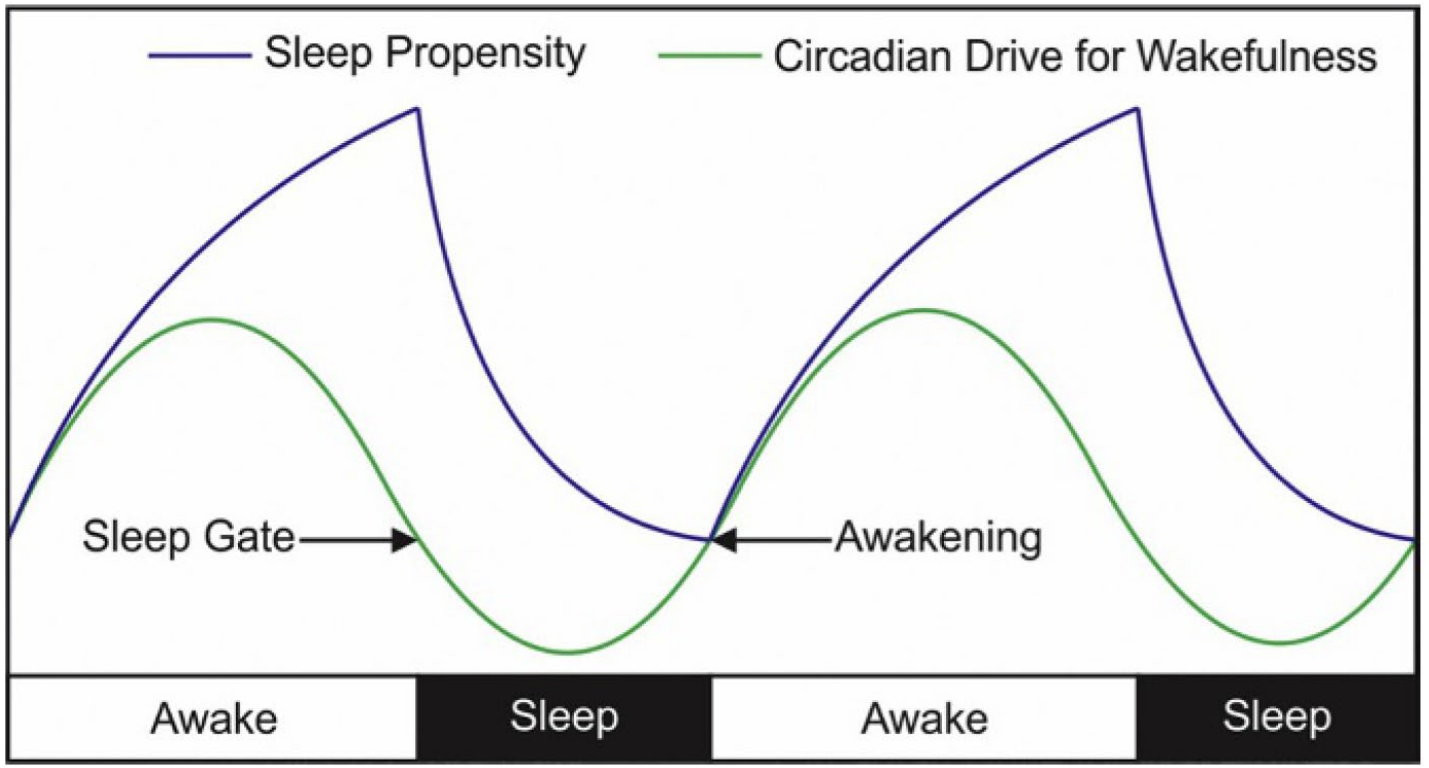
- Naturally recurring (rhythmic)
- Reduced or absent consciousness
- Perceptual disengagement
- Immobility
- Sleeping posture
- Reversible

SLEEP STAGES ACROSS THE NIGHT



Tubbs et al., 2019

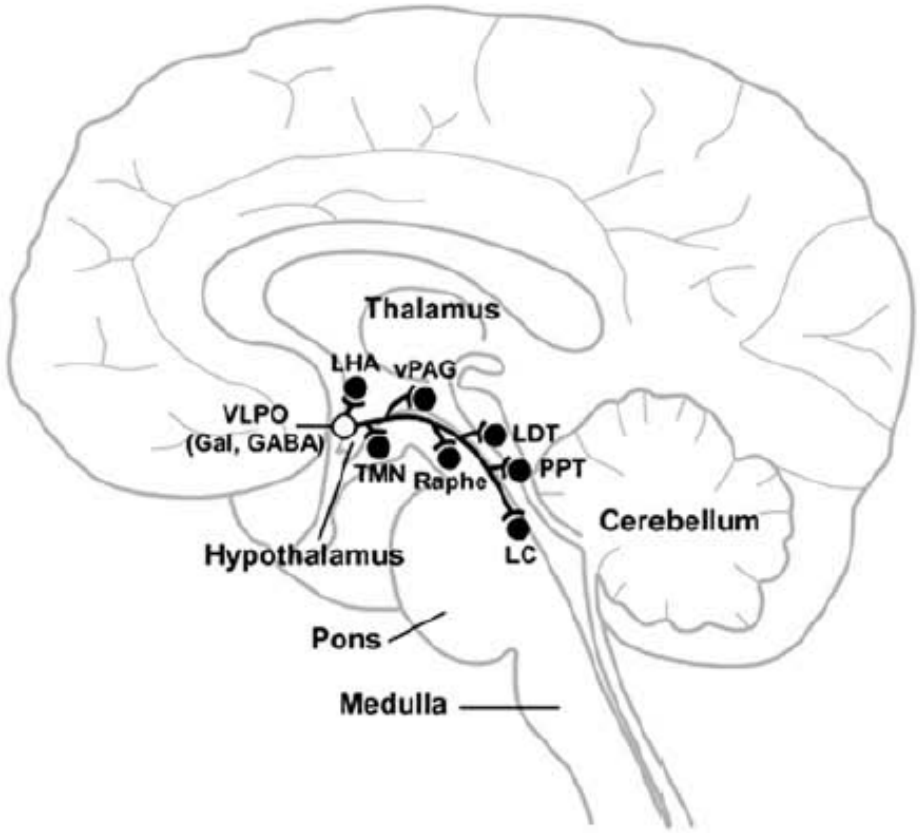
2-PROCESS MODEL

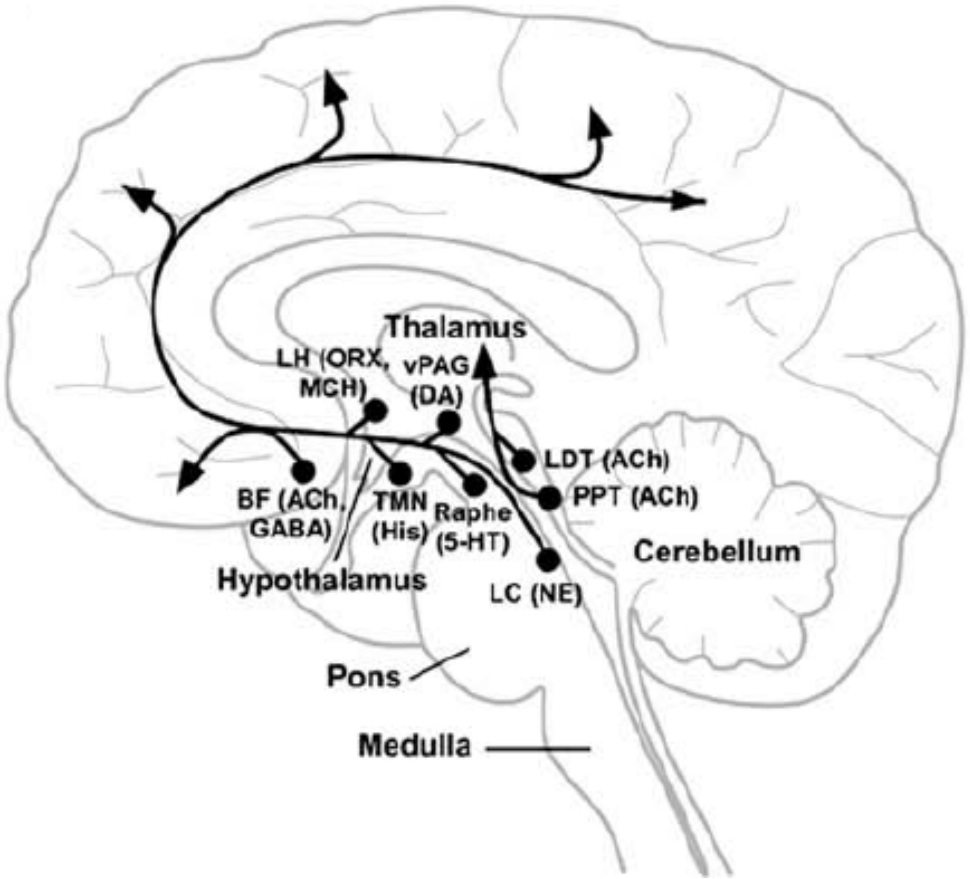


Borbely, 1982; Tubbs et al., 2019

SLEEP ANATOMY AND NEUROPHYSIOLOGY

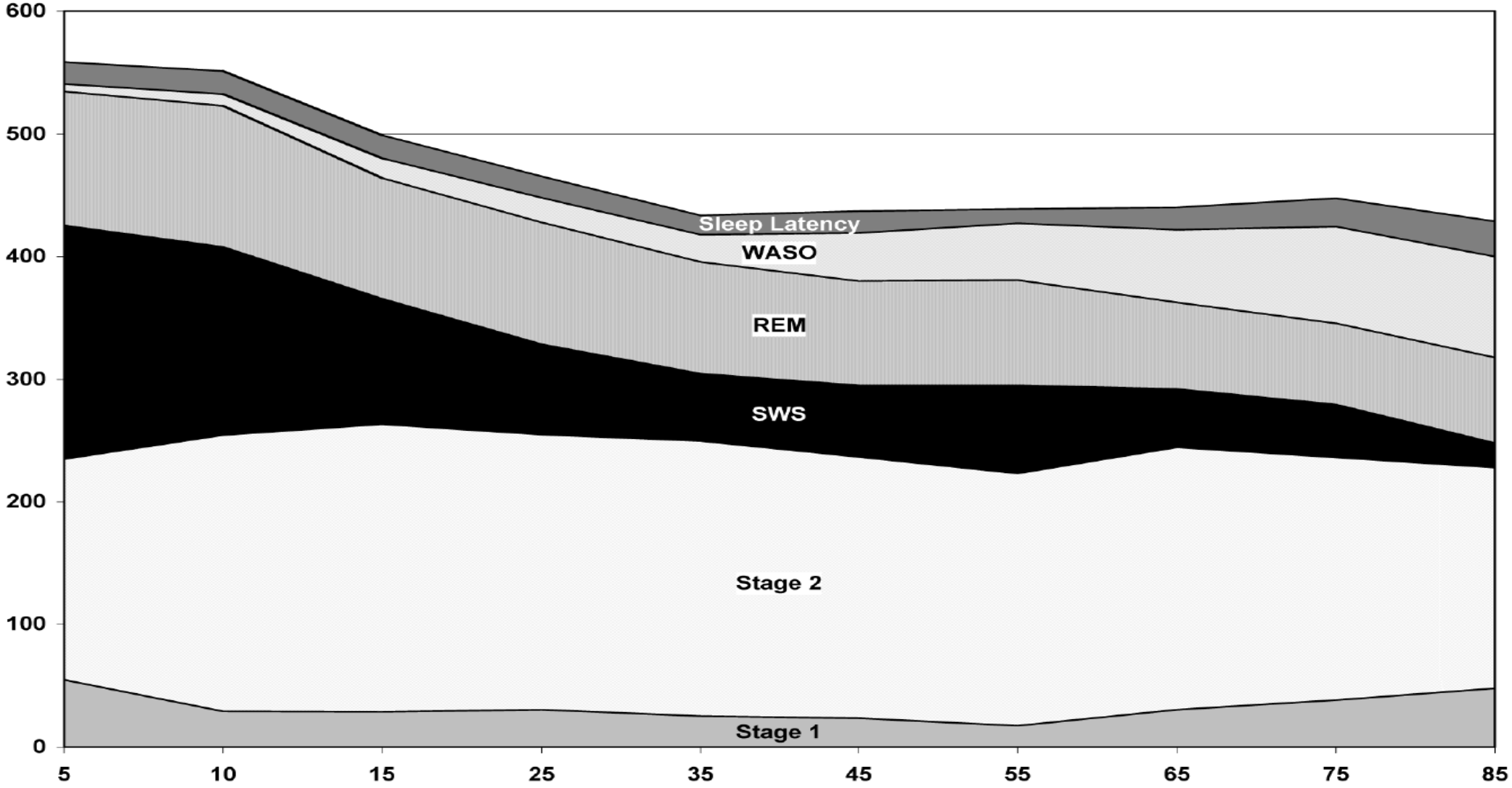
Two systems: sleep and wake





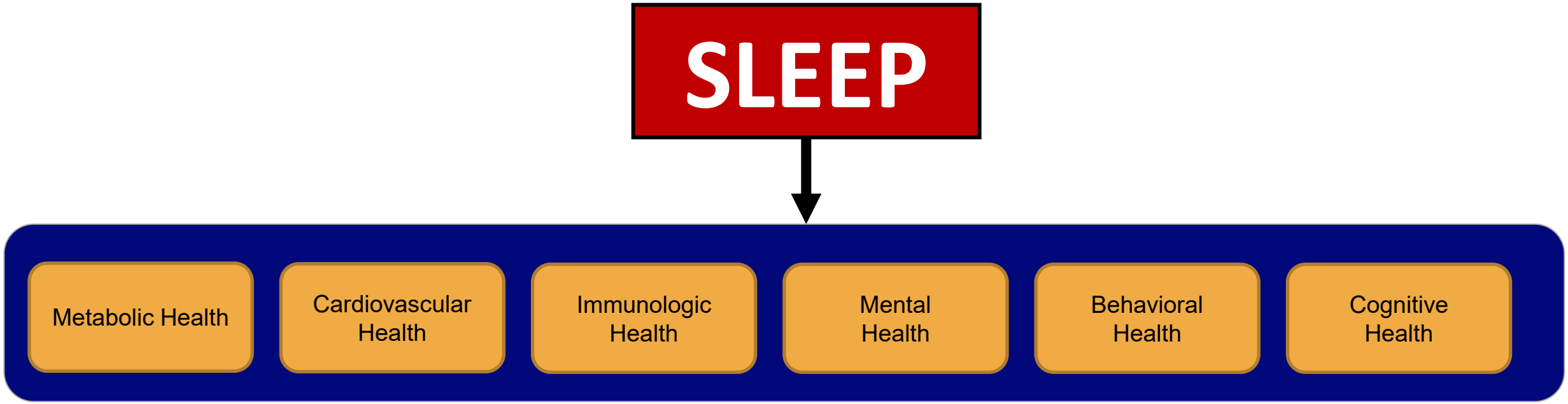
Saper et al.

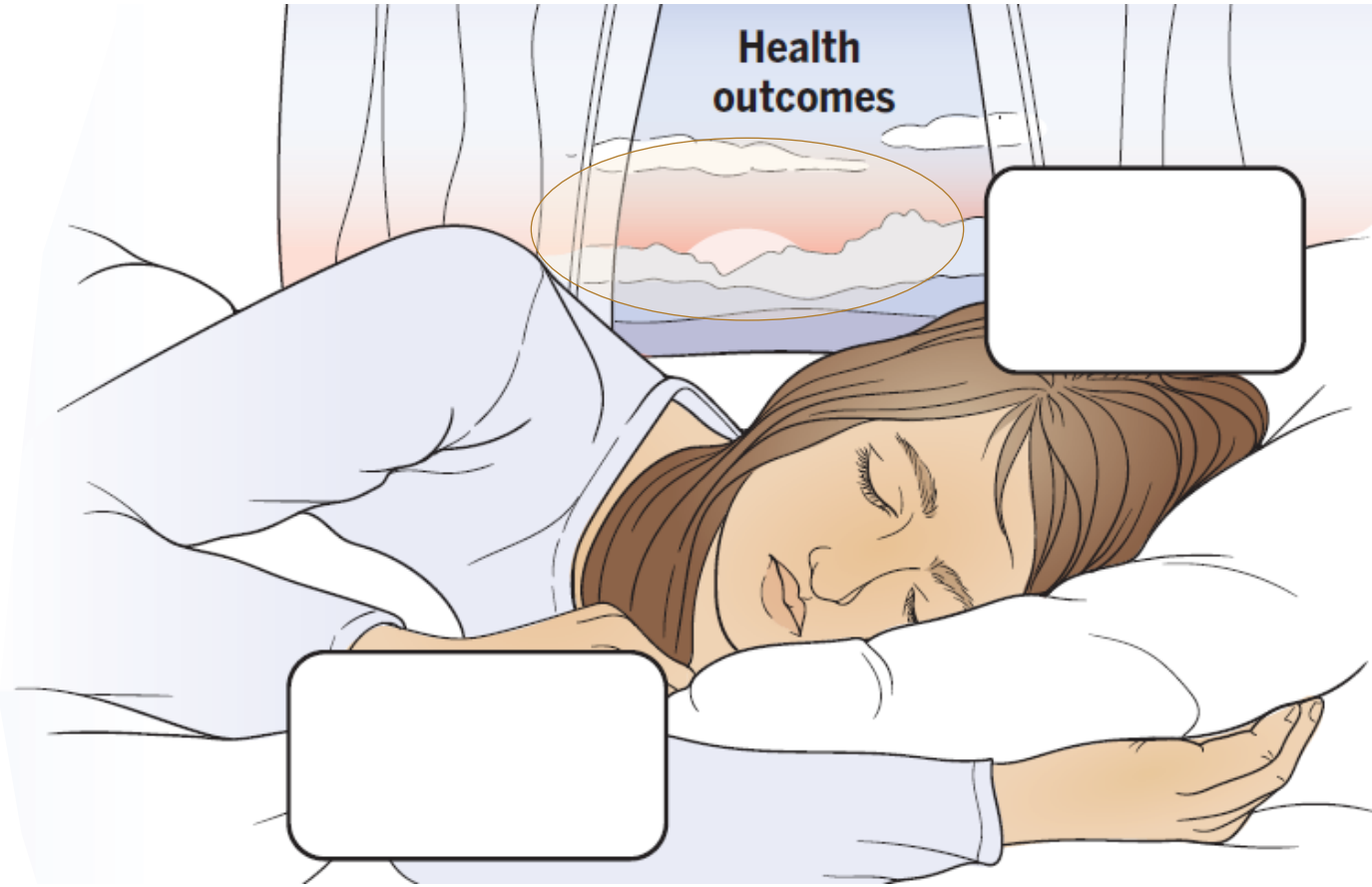
SLEEP STAGES BY AGE



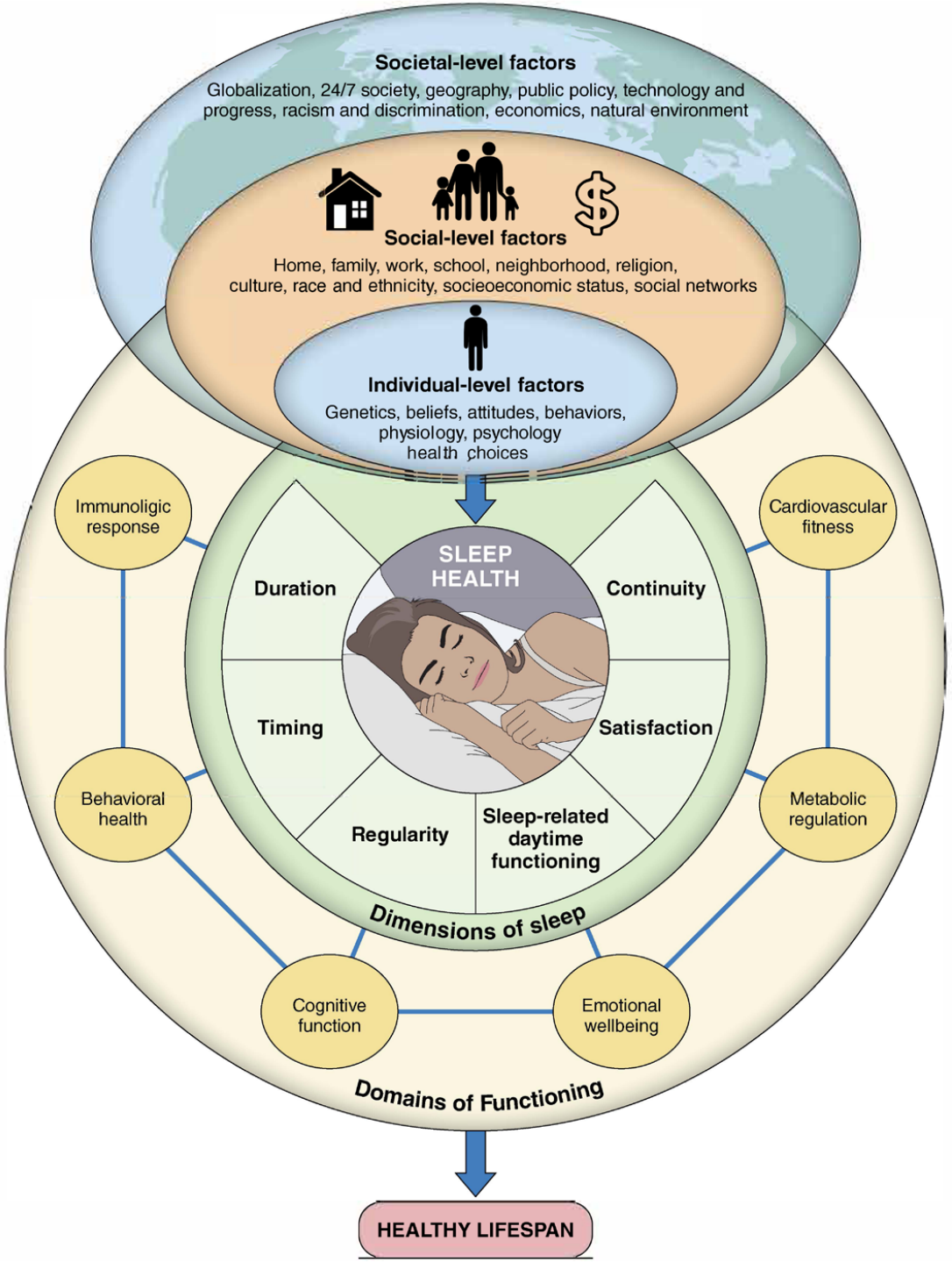
Ohayon et al., 1994

SLEEP → HEALTH





Grandner and Fernandez, 2021



AHA SCIENTIFIC STATEMENT

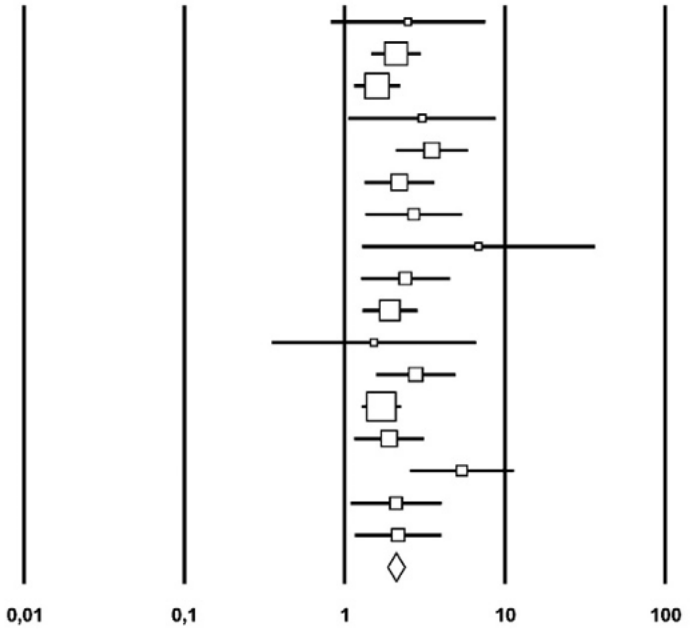
Multidimensional Sleep Health: Definitions and Implications for Cardiometabolic Health: A Scientific Statement From the American Heart Association

Marie-Pierre St-Onge, PhD, Chair; Brooke Aggarwal, EdD; Julio Fernandez-Mendoza, PhD; Dayna Johnson, PhD, MPH; Christopher E. Kline, PhD; Kristen L. Knutson, PhD; Nancy Redeker, PhD; Michael A. Grandner, PhD, Vice Chair; on behalf of the American Heart Association Council on Lifestyle and Cardiometabolic Health; Council on Cardiovascular and Stroke Nursing; Council on Clinical Cardiology; and Council on Quality of Care and Outcomes Research

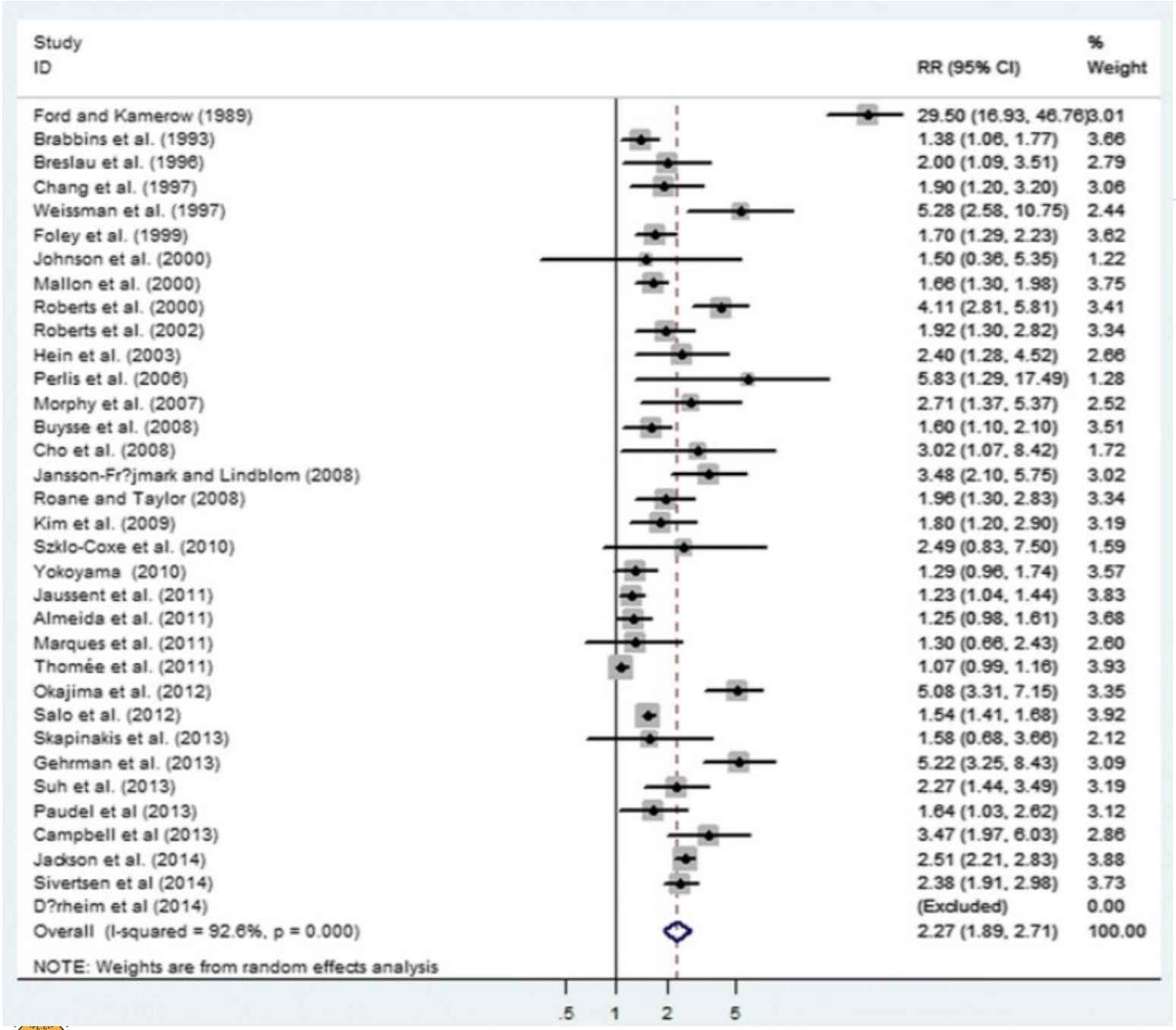
Study name	Odds ratio	Lower limit	Upper limit	Z-Value	p-Value
Szklo-Coxe et al 2010	2,49	0,83	7,48	1,62	0,10
Kim et al 2009	2,10	1,48	2,97	4,20	0,00
Buysse et al 2008	1,60	1,16	2,21	2,85	0,00
Cho et al 2008	3,05	1,07	8,72	2,08	0,04
Jansson-Fröjmark & Lindblom 2008	3,51	2,11	5,83	4,84	0,00
Roane & Taylor 2008	2,20	1,35	3,60	3,15	0,00
Morphy et al 2007	2,71	1,37	5,37	2,86	0,00
Perlis et al 2006	6,86	1,30	36,14	2,27	0,02
Hein et al 2003	2,40	1,28	4,51	2,72	0,01
Roberts et al 2002	1,92	1,30	2,83	3,30	0,00
Johnson et al 2000	1,53	0,36	6,56	0,57	0,57
Mallon et al 2000	2,78	1,59	4,88	3,58	0,00
Foley et al 1999	1,70	1,29	2,24	3,80	0,00
Chang et al 1997	1,90	1,16	3,10	2,57	0,01
Weissman et al 1997	5,40	2,59	11,26	4,50	0,00
Breslau et al 1996	2,10	1,10	4,00	2,25	0,02
Vollrath et al 1989	2,16	1,17	3,99	2,46	0,01
FIXED MODEL	2,10	1,86	2,38	11,96	0,00

Statistics for each study

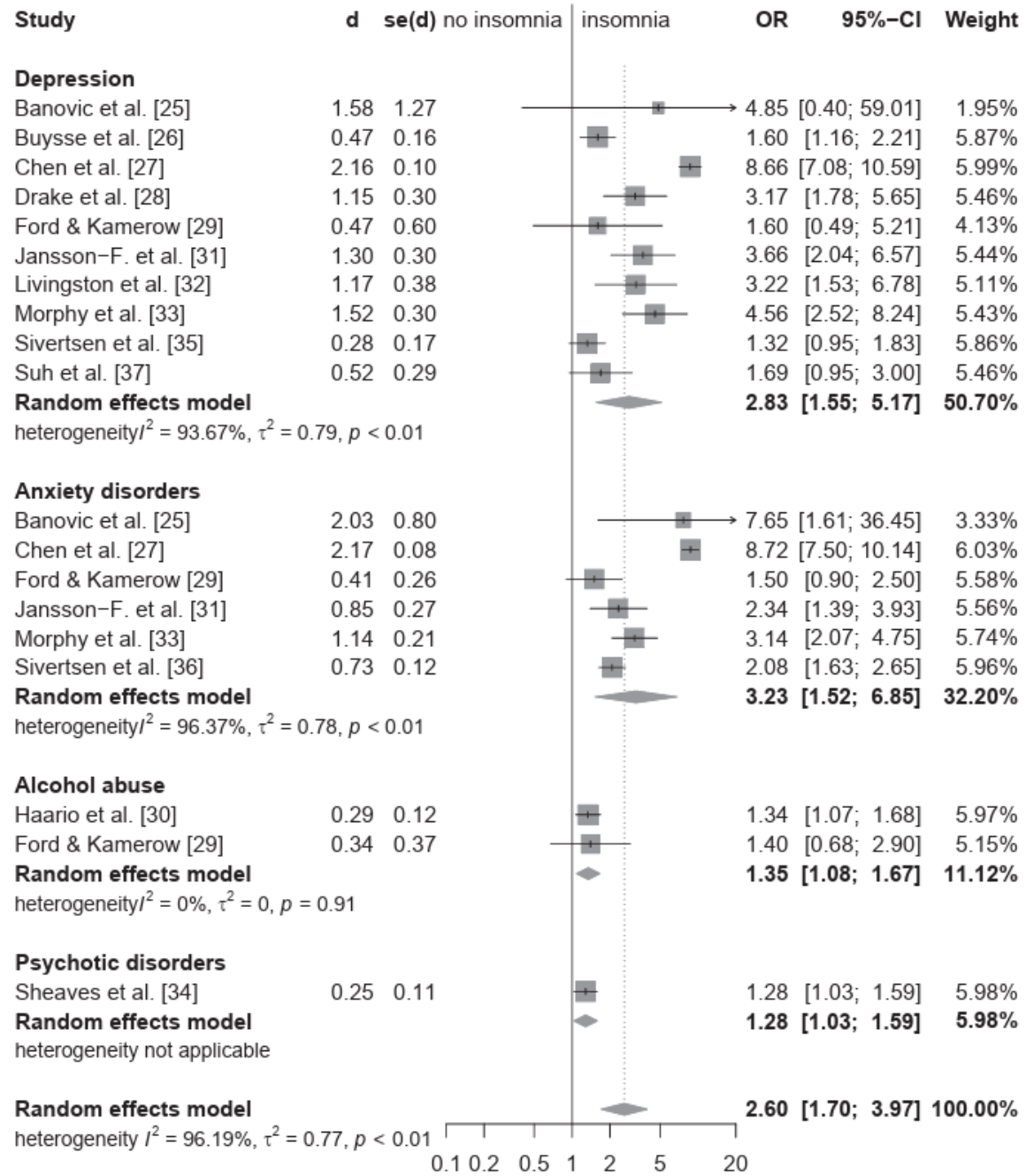
Odds ratio and 95% CI



Baglioni et al., 2011

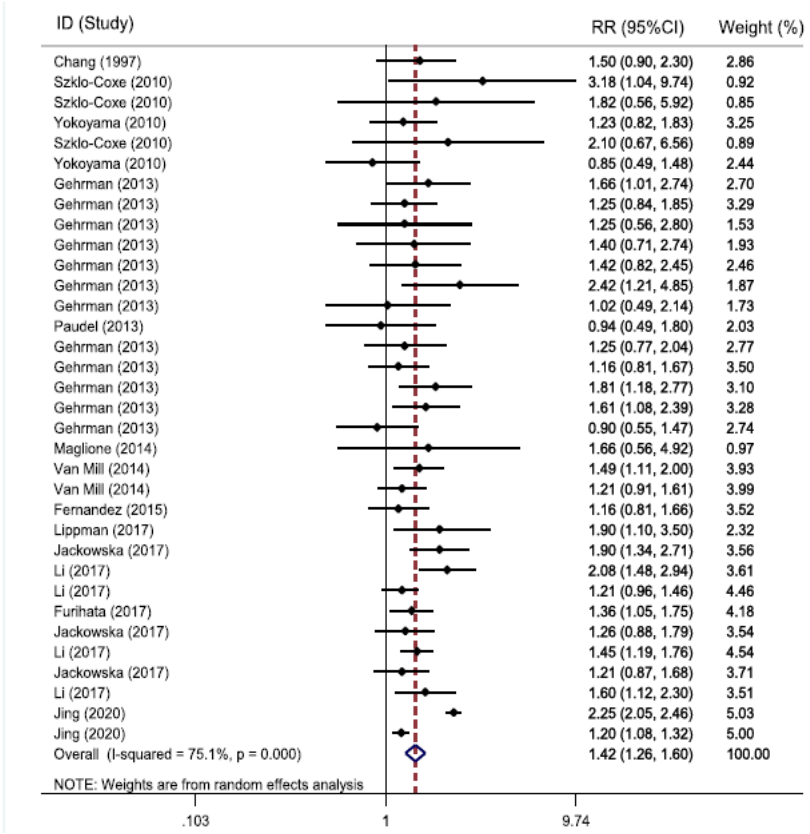

Study ID
RR (95% CI)
% Weight
Ford and Kamerow (1989) 29.50 (16.93, 46.76) 3.01
Brabbins et al. (1993) 1.38 (1.06, 1.77) 3.66
Breslau et al. (1996) 2.00 (1.09, 3.51) 2.79
Chang et al. (1997) 1.90 (1.20, 3.20) 3.06
Weissman et al. (1997) 5.28 (2.58, 10.75) 2.44
Foley et al. (1999) 1.70 (1.29, 2.23) 3.62
Johnson et al. (2000) 1.50 (0.36, 5.35) 1.22
Mallon et al. (2000) 1.66 (1.30, 1.98) 3.75
Roberts et al. (2000) 4.11 (2.81, 5.81) 3.41
Roberts et al. (2002) 1.92 (1.30, 2.82) 3.34
Hein et al. (2003) 2.40 (1.28, 4.52) 2.66
Perlis et al. (2006) 5.83 (1.29, 17.49) 1.28
Morphy et al. (2007) 2.71 (1.37, 5.37) 2.52
Buysse et al. (2008) 1.60 (1.10, 2.10) 3.51
Cho et al. (2008) 3.02 (1.07, 8.42) 1.72
Jansson-Fr?jmark and Lindblom (2008) 3.48 (2.10, 5.75) 3.02
Roane and Taylor (2008) 1.96 (1.30, 2.83) 3.34
Kim et al. (2009) 1.80 (1.20, 2.90) 3.19
Szklo-Coxe et al. (2010) 2.49 (0.83, 7.50) 1.59
Yokoyama (2010) 1.29 (0.96, 1.74) 3.57
Jaussent et al. (2011) 1.23 (1.04, 1.44) 3.83
Almeida et al. (2011) 1.25 (0.98, 1.61) 3.68
Marques et al. (2011) 1.30 (0.66, 2.43) 2.60
Thomée et al. (2011) 1.07 (0.99, 1.16) 3.93
Okajima et al. (2012) 5.08 (3.31, 7.15) 3.35
Salo et al. (2012) 1.54 (1.41, 1.68) 3.92
Skapinakis et al. (2013) 1.58 (0.68, 3.66) 2.12
Gehrman et al. (2013) 5.22 (3.25, 8.43) 3.09
Suh et al. (2013) 2.27 (1.44, 3.49) 3.19
Paudel et al (2013) 1.64 (1.03, 2.62) 3.12
Campbell et al (2013) 3.47 (1.97, 6.03) 2.86
Jackson et al. (2014) 2.51 (2.21, 2.83) 3.88
Sivertsen et al (2014) 2.38 (1.91, 2.98) 3.73
D?rheim et al (2014) (Excluded) 0.00
Overall (I-squared = 92.6%, p = 0.000) 2.27 (1.89, 2.71) 100.00
NOTE: Weights are from random effects analysis
.5
1
2
5

Li et al., 2016

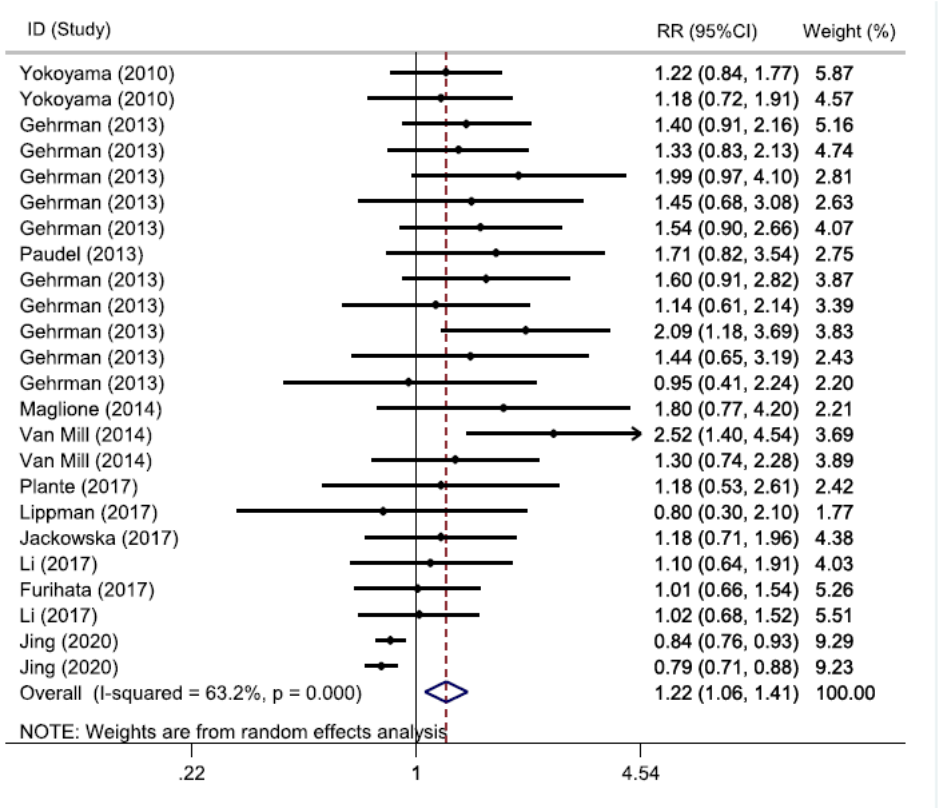


Hertenstein et al., 2019

A: Short sleep duration with mental health of cohort study in overall analysis (adjusted).



B: Long sleep duration with mental health of cohort study in overall analysis (adjusted).



Zhang et al., 2024

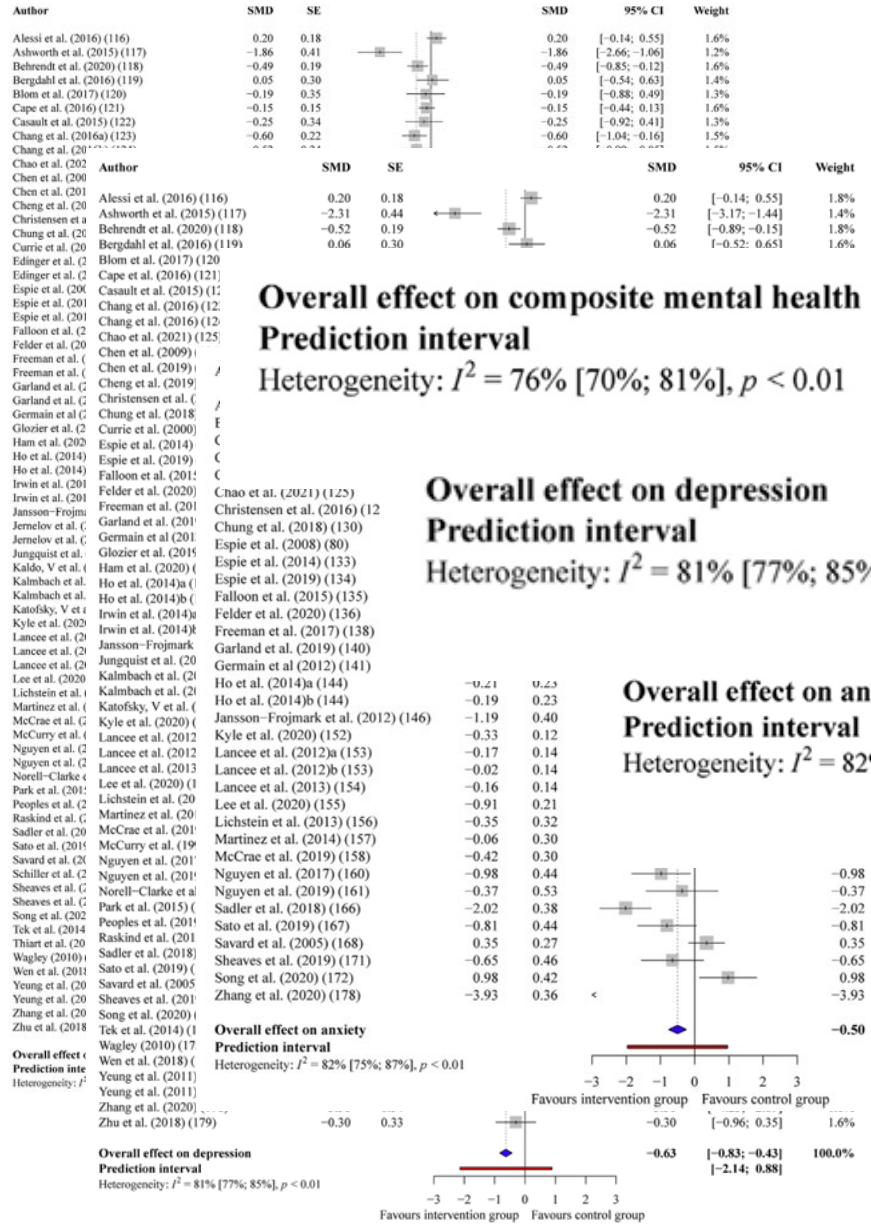
SLEEP TO IMPROVE MENTAL HEALTH?

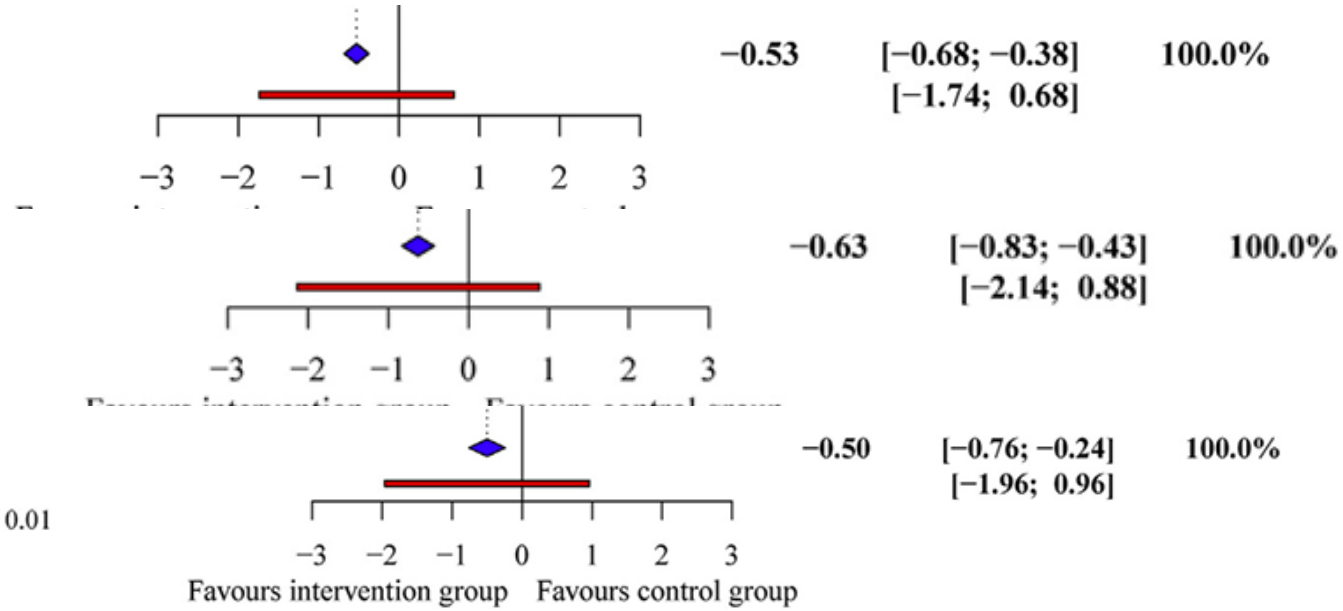
The effect of improving sleep on mental health outcomes.

Outcome	g_+	95% CI	I^2	Q	k	N
Composite outcomes	−0.53***	−0.69 to −0.38	76%	291.94***	72	8608
Depression	−0.63***	−0.84 to −0.43	81%	322.03***	61	7868
Anxiety	−0.51***	−0.77 to −0.24	82%	186.92***	35	5819
Stress	−0.42*	−0.79 to −0.05	55%	11.05	6	419
Psychosis spectrum						
PANSS total	−0.17	−0.53 to 0.19	0%	0.41	3	121
Positive symptoms	−0.26*	−0.43 to −0.08	0%	1.71	5	1715
Negative symptoms	−0.28	−3.22 to 2.65	0%	1.00	2	76
Suicidal ideation	0.10	−3.74 to 3.94	20%	1.25	2	60
PTSD	−0.72	−2.90 to 1.46	0%	0.59	2	91
Rumination	−0.49*	−0.93 to −0.04	36%	4.65	4	355
Burnout	−0.03	−0.58 to 0.52	–	–	1	51

Notes: ***$p < 0.001$, *$p < 0.05$, PANSS = Positive and Negative Symptoms Scale, PTSD = Post Traumatic Stress Disorder.

Scott et al., 2021





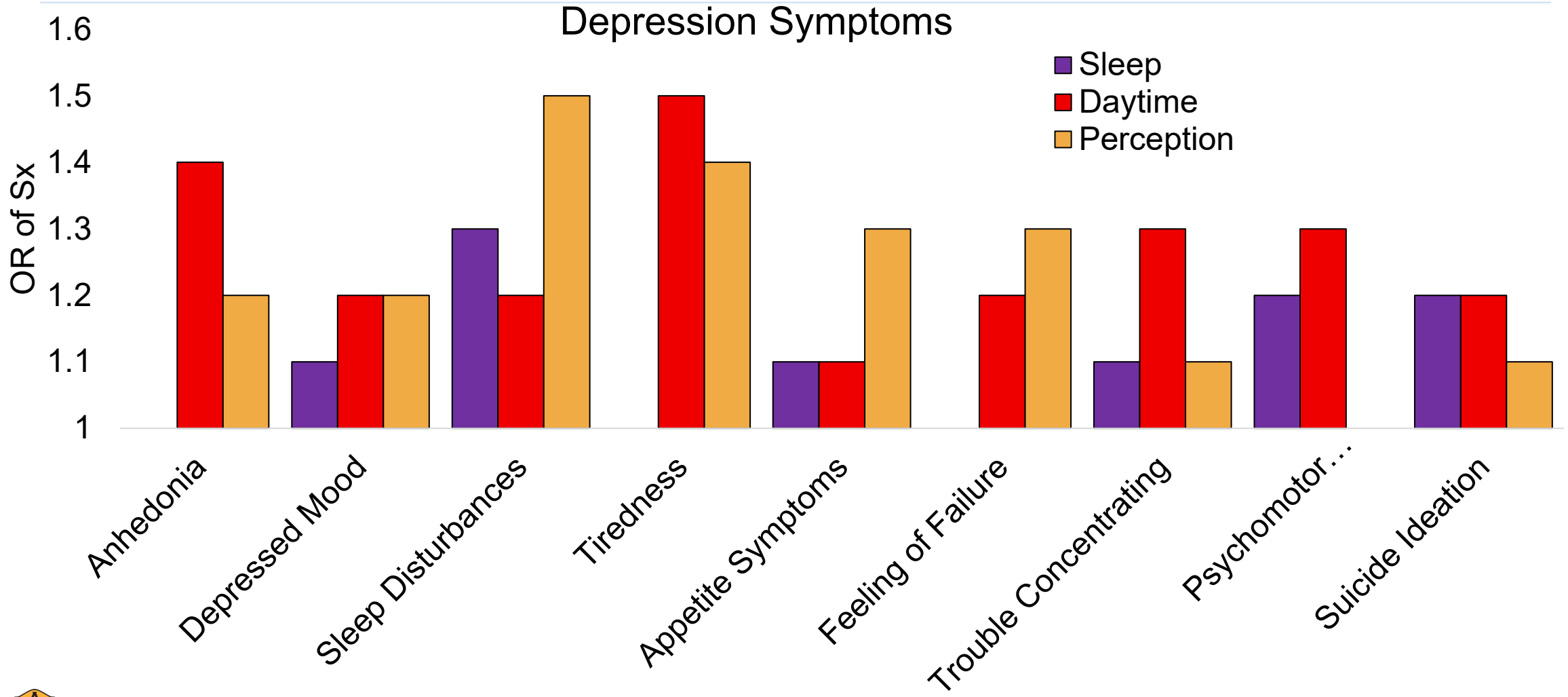
Scotet et al., 2021

POSSIBLE PATHWAYS

- Influence on daytime functioning and experience
- Influence on emotional regulation and processing
- Influence on social functioning
- Impacts on resilience
- Exposure to nocturnal wakefulness

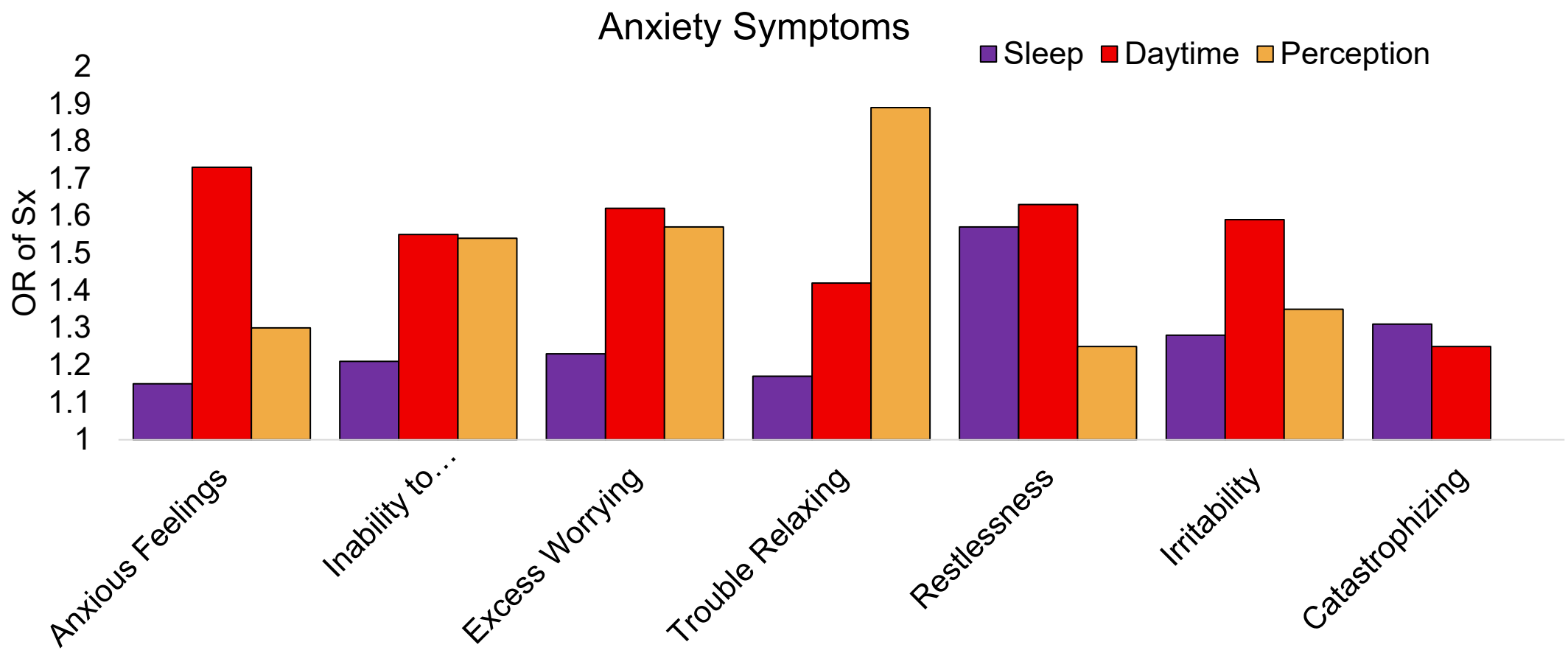
DAYTIME FUNCTIONING

SLEEP AND DEPRESSION



Ji et al., 2019

SLEEP AND ANXIETY



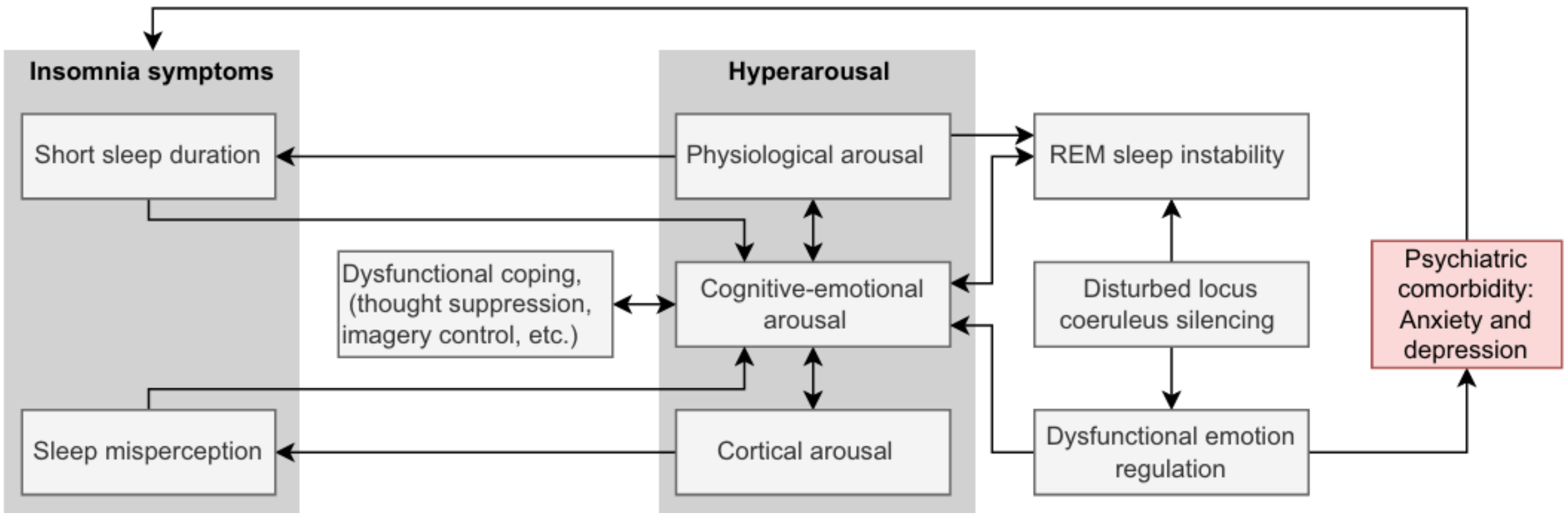
Ghani et al., 2022

INSOMNIA VS DEPRESSION

Depression	Insomnia
Debilitating Fatigue, Lack of Energy	
Disturbed Sleep, Difficulty Maintaining Sleep	
Delusional Beliefs	
Psychomotor Problems	
Problems with Work and School Performance	
Isolation, Withdrawal from Others	
Appetite Disruption (Weight Gain or Loss)	
Feelings of Hopelessness	
Feelings of Guilt	
Perceived Laziness	

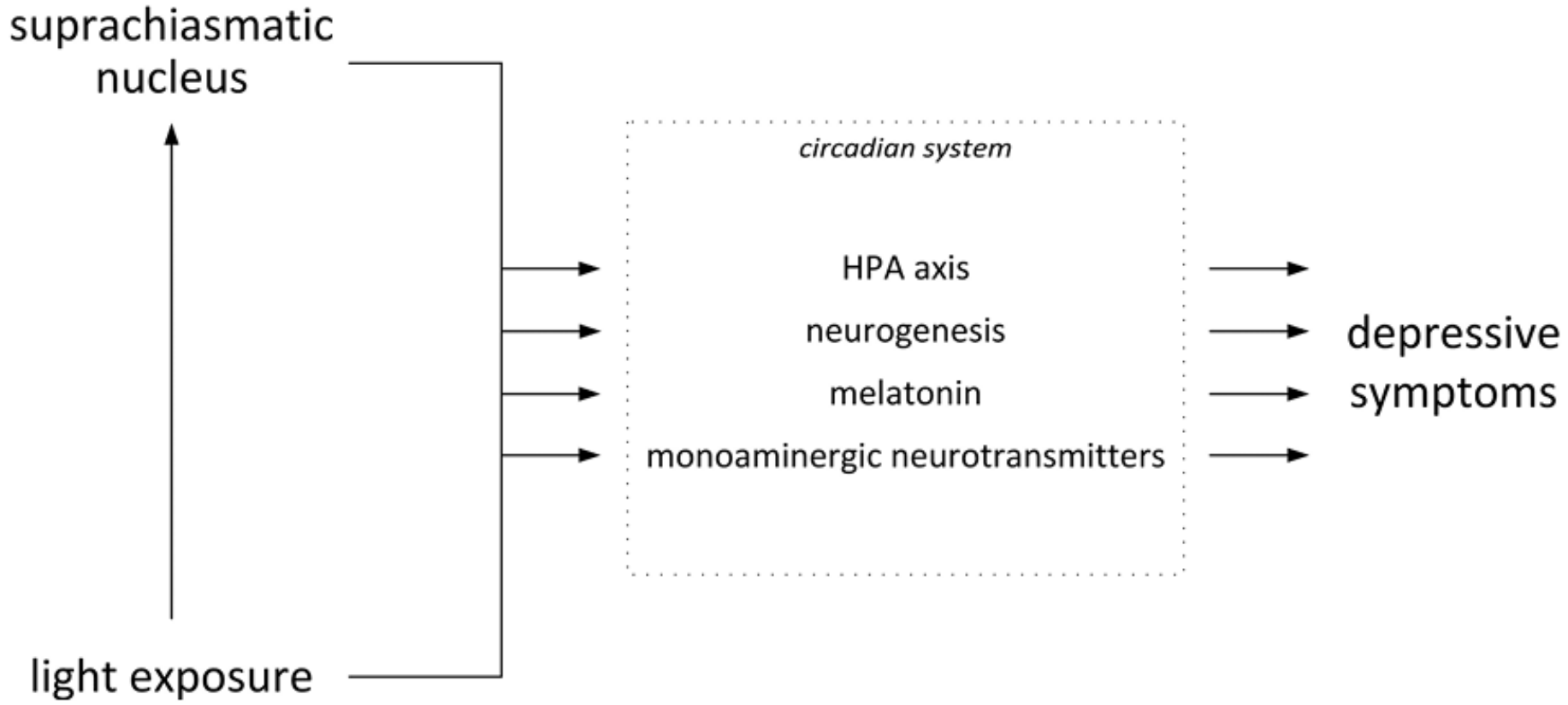
EMOTIONAL REGULATION

HYPERAROUSAL PATHWAYS



Riemann et al., 2024

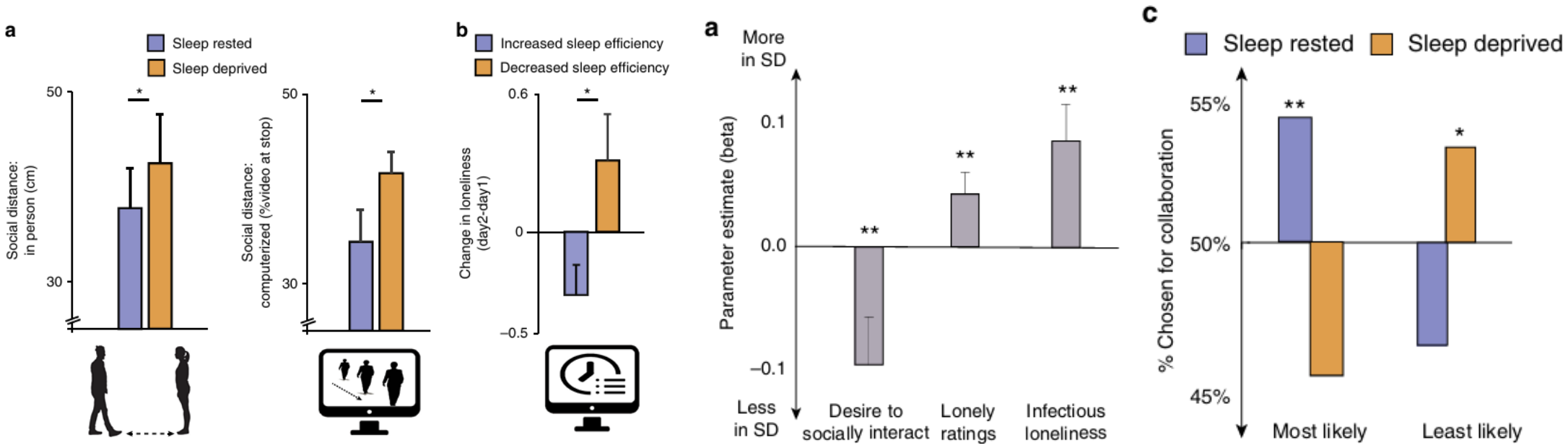
THE CIRCADIAN SYSTEM



De Leeuw et al., 2023

SOCIAL FUNCTIONING

SOCIAL FUNCTIONING



Ben Simon et al., 2018

DECREASED SOCIAL SUPPORT

	Family			Friends			Significant Other			Total Score	
	B	95% CI	p	B	95% CI	p	B	95% CI	p	B	95% CI
UNADJUSTED											
Very Short	-2.447	(-3.442, -1.454)	<0.0001	-2.925	(-3.873, -1.977)	<0.0001	-3.266	(-4.286, -2.247)	<0.0001	-8.639	(-11.025, -6.254)
Short	-1.603	(-2.213, -0.993)	<0.0001	-1.500	(-2.083, -0.919)	<0.0001	-1.358	(-1.985, -0.733)	<0.0001	-4.463	(-5.927, -2.999)
Long	-2.321	(-3.643, -1.001)	0.001	-0.976	(-2.237, 0.284)	0.129	-1.427	(-2.783, -0.073)	0.039	-4.725	(-7.897, -1.555)
ADJUSTED											
Very Short	-1.811	(-2.862, -0.761)	0.001	-1.849	(-2.846, -0.853)	<0.0001	-2.539	(-3.622, -1.458)	<0.0001	-6.200	(-8.704, -3.698)
Short	-1.274	(-1.897, -0.653)	<0.0001	-1.104	(-1.694, -0.514)	<0.0001	-1.044	(-1.685, -0.404)	0.001	-3.423	(-4.906, -1.941)
Long	-2.312	(-3.637, -0.988)	0.001	-0.971	(-2.227, 0.284)	0.129	-1.560	(-2.924, -0.197)	0.025	-4.844	(-7.999, -1.689)

Rasmussen et al.

SOCIAL SUPPORT AND CHRONOTYYPE

Table 2. Results of regression analyses examining the role of chronotype score (as continuous variable) and outcomes, including depression and social support.

Variable	B	SE*	95% CI **	*p***
CESD Depression Score	1.007	0.422	(0.175, 1.839)	.018
MSPSS Social Support	−3.313	0.959	(−5.204, −1.422)	.001
MSPSS Social Support (Family)	−1.235	0.295	(−1.818, −0.653)	<.0005
MSPSS Social Support (Friends)	−1.062	0.295	(−1.644, −0.479)	<.0005
MSPSS Social Support (Significant Other)	−0.340	0.339	(−1.009, 0.329)	.317
MSPSS Social Support (Teammates)	−0.676	0.272	(−1.213, −0.139)	.014

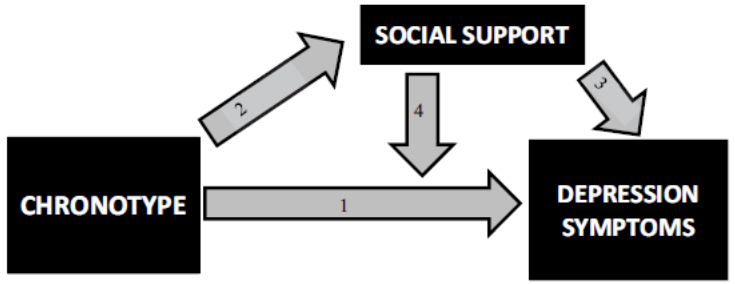


Table 4. Partial mediation analysis.

Mediator Variable	Indirect	Direct	%Mediation	Sobel Test	*p*_sobel
Total Score	0.626	0.381	0.621	3.044	.002
Family	0.657	0.350	0.652	3.313	.001
Friends	0.593	0.414	0.589	3.050	.002
Significant Other	0.082	0.925	0.081	0.939	.348
Teammates	0.464	0.543	0.461	2.328	.020

Wills et al., 2021

SOCIAL FUNCTIONING AS A LINK

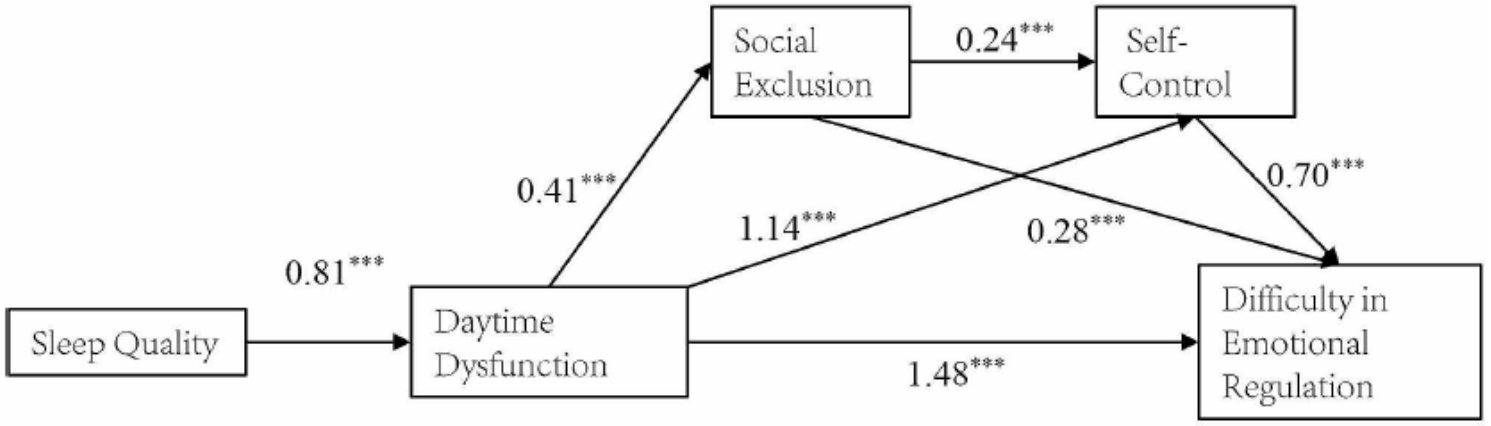


Fig. 2 Model diagram of chain mediation effect

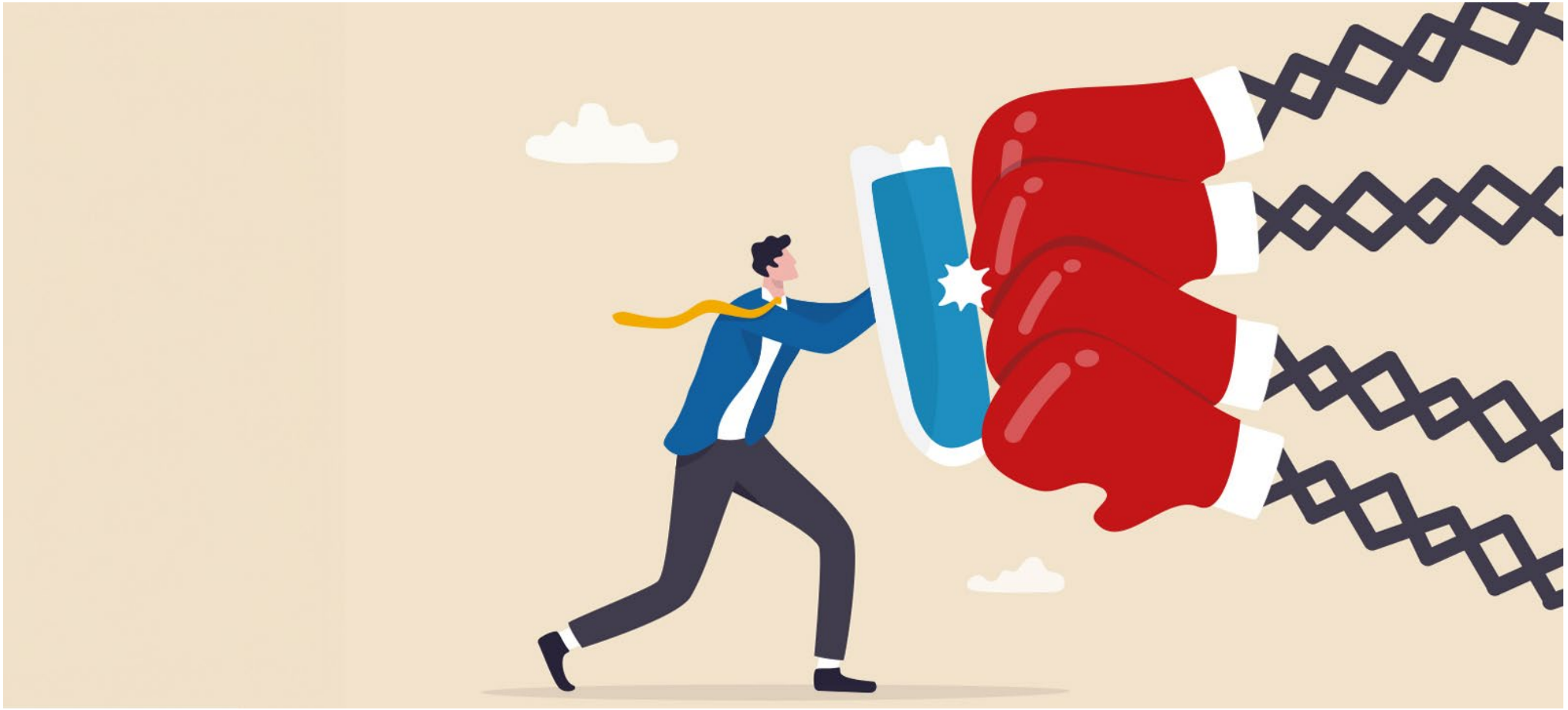
Table 3 Results of mediation effect test in the chain mediation model

	Estimate	*S.E.*	*Z*	Boot_95_CI
Sleep Quality → Daytime Dysfunction → Difficulty in Emotional Regulation	1.20	0.27	4.45	[0.70, 1.76]
Sleep Quality → Social Exclusion → Difficulty in Emotional Regulation	0.15	0.10	1.47	[-0.03, 0.37]
Sleep Quality → Self-Control → Difficulty in Emotional Regulation	0.26	0.24	1.08	[-0.21, 0.70]
Sleep Quality → Daytime Dysfunction → Social Exclusion → Difficulty in Emotional Regulation	0.09	0.05	1.94	[0.01, 0.20]
Sleep Quality → Daytime Dysfunction → Self-Control → Difficulty in Emotional Regulation	0.65	0.13	5.05	[0.42, 0.91]
Sleep Quality → Social Exclusion → Self-Control → Difficulty in Emotional Regulation	0.09	0.06	1.56	[-0.01, 0.21]
Sleep Quality → Daytime Dysfunction → Social Exclusion → Self-Control → Difficulty in Emotional Regulation	0.06	0.03	2.13	[0.01, 0.11]
Direct Effect	0.59	0.59	1.00	[-0.53, 1.81]
Total Effect	3.10	0.62	5.04	[1.89, 4.32]

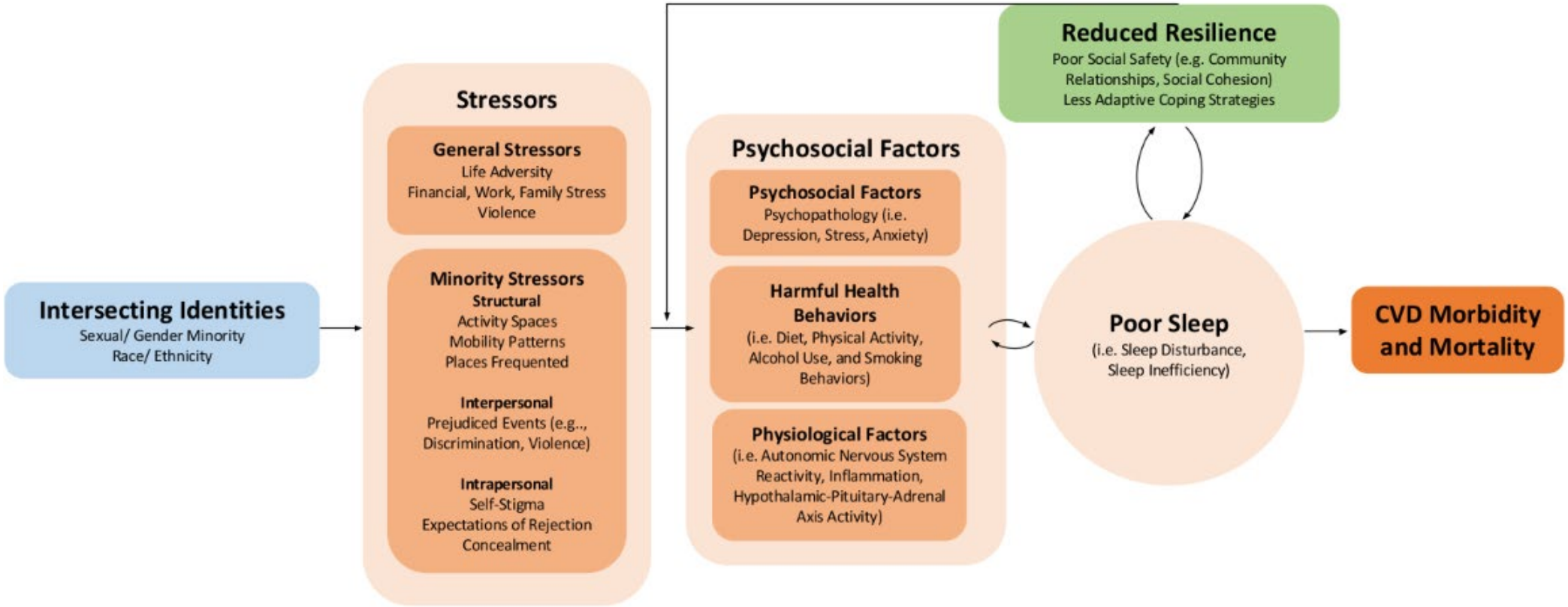
Wang et al., 2024

DECREASED RESILIENCE

IMPAIRED RESILIENCE



IMPAIRED RESILIENCE



Aggarwal et al., 2025

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CLINICAL REVIEW

A systematic review and meta-analysis to assess the relationship between sleep duration/quality, mental toughness and resilience amongst healthy individuals

Teresa Arora [a], Ian Grey [b], Linda Östlundh [c], Asma Alamoodi [a], Omar M. Omar [d], Kin-Bong Hubert Lam [e], Michael Grandner [f,*]

[a] Zayed University, Abu Dhabi, United Arab Emirates
[b] Department of Cognitive Sciences, United Arab Emirates University, Al Ain, Abu Dhabi, United Arab Emirates
[c] The National Medical Library, College of Medicine and Health Sciences, United Arab Emirates University, Al Ain, Abu Dhabi, United Arab Emirates
[d] Birmingham Clinical Trials Unit, University of Birmingham, Birmingham, England, United Kingdom
[e] Nuffield Department of Population Health, University of Oxford, Oxford, England, United Kingdom
[f] University of Arizona, Tucson, AZ, USA

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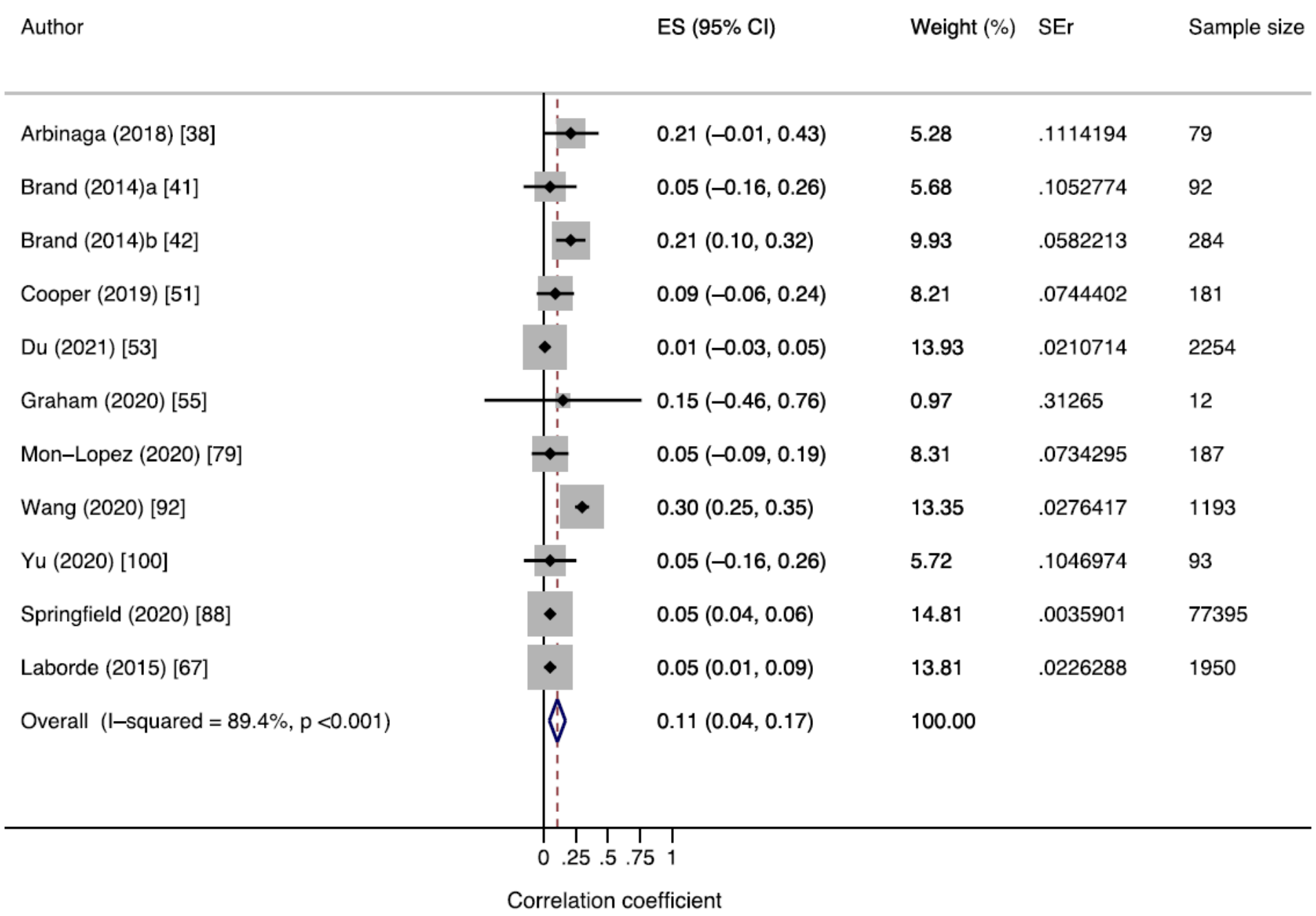
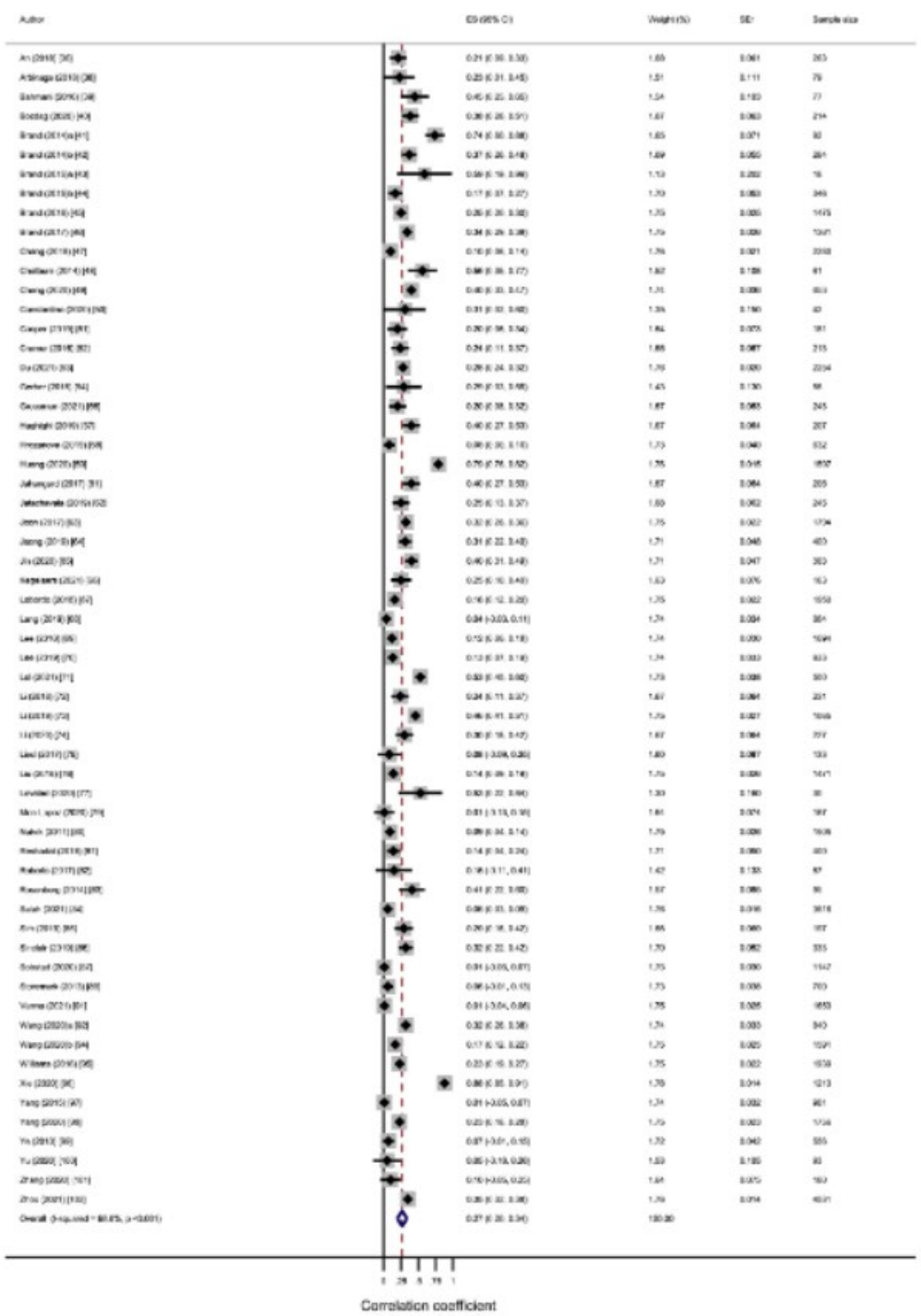
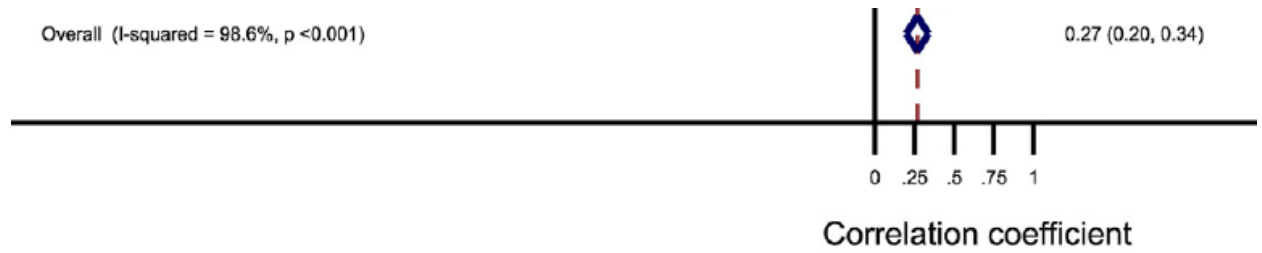


Fig. 2. Forest plot for all included studies that explored the relationship between sleep duration and psychological resilience.


Author
ES (95% CI)
Weight (%)
SE
Sample size
Overall (I-squared = 98.6%, p <0.001)
Correlation coefficient


Overall (I-squared = 98.6%, p <0.001)
0.27 (0.20, 0.34)
0
.25
.5
.75
1
Correlation coefficient

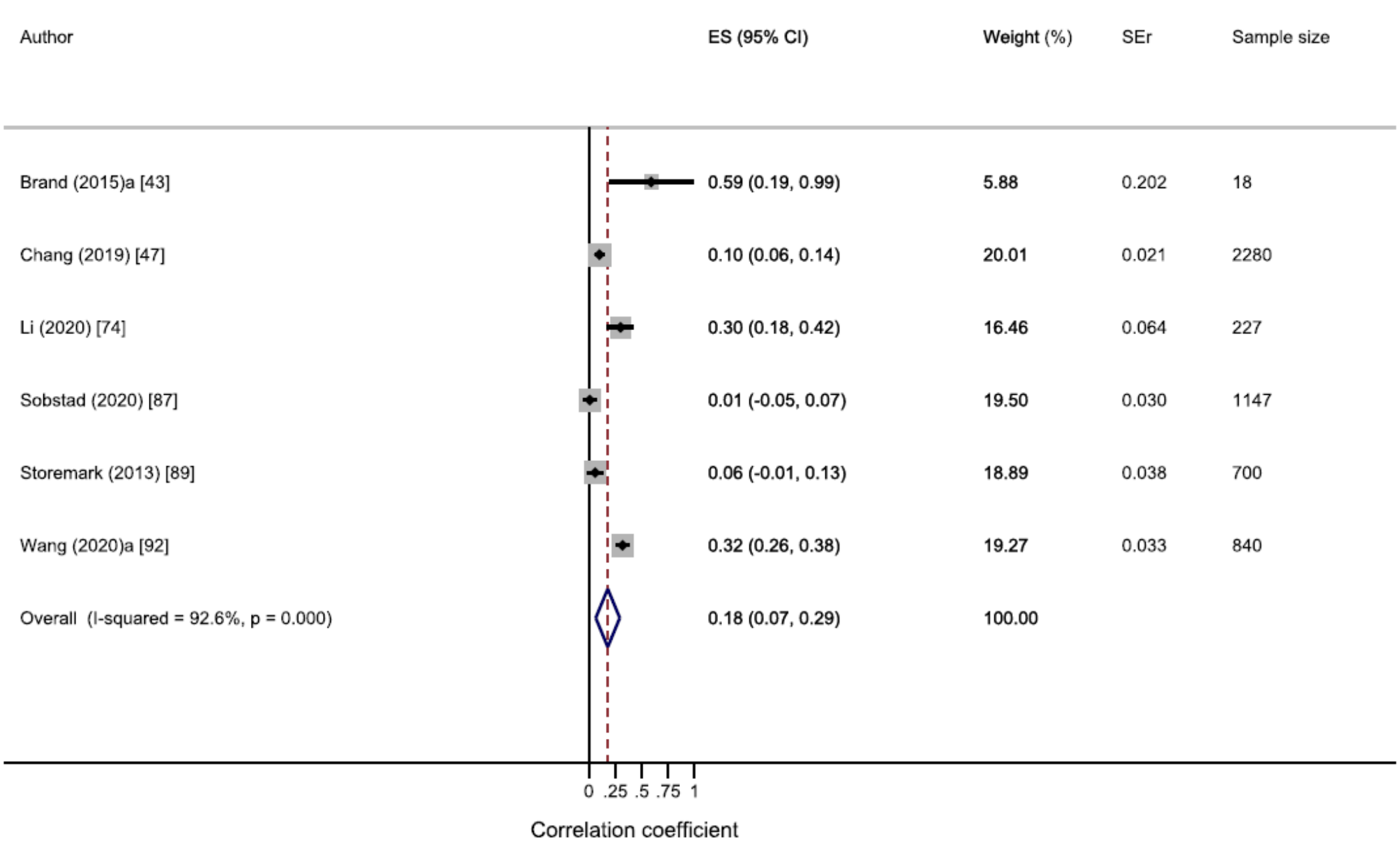


Fig. 4. Forest plot for all included studies that explored the prospective relationship between sleep quality and psychological resilience.

NOCTURNAL WAKEFULNESS

SUICIDE RISK FACTORS

- Serious physical health conditions (including pain)
- Mental health conditions (especially depression and substance use disorders, as well as serious mental illness)
- Hopelessness, feeling trapped, being a burden to others
- Traumatic brain injury
- Stressful life events, like divorce, rejection, financial crisis, etc.
- Exposure to suicide
- Access to lethal means, including firearms

SLEEP HEALTH AS A SUICIDE RISK FACTOR

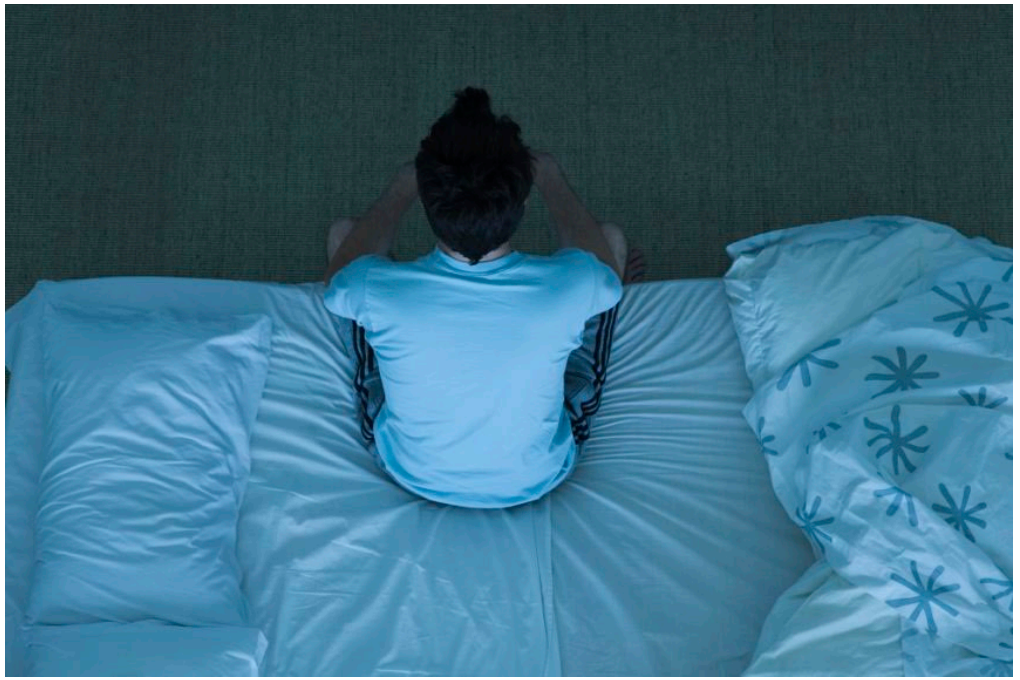
- Sleep is related to injury, illness, and pain
- Sleep is related to financial hardship
- Sleep is an important factor in mental illnesses
- Sleep disturbance is a key factor in substance use
- Sleep plays important roles in emotional regulation and mood
- Sleep plays important roles in decision making

SLEEP, INJURY, ILLNESS, PAIN

- Having a major illness, especially one that is debilitating and/or degenerative, is a major suicide risk factor
- Also, extreme pain – whether or not in the context of illness – is a major suicide risk factor
- Most major medical conditions, especially those that are degenerative, are associated with poor sleep
- Sleep loss increases pain perception, sensations of pain, and impact associated with pain sensations

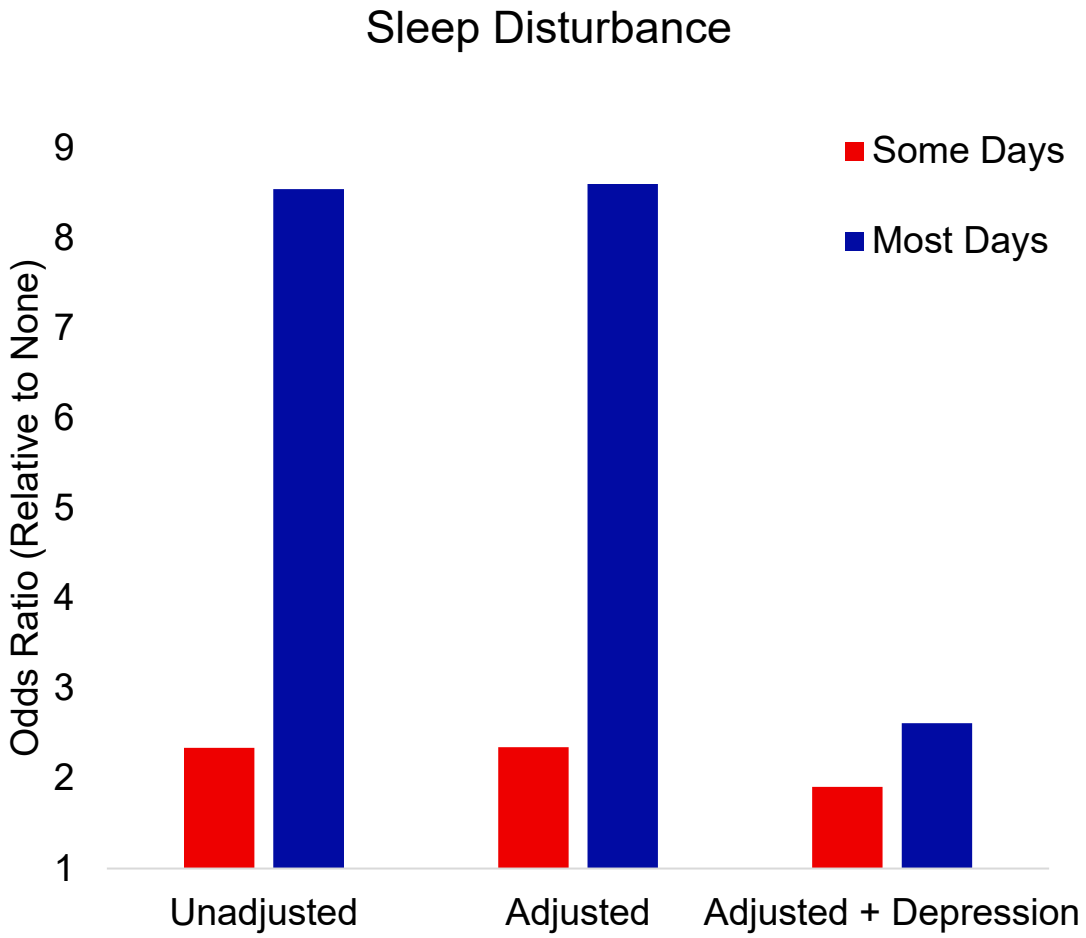
INSOMNIA AS A SUICIDE RISK FACTOR

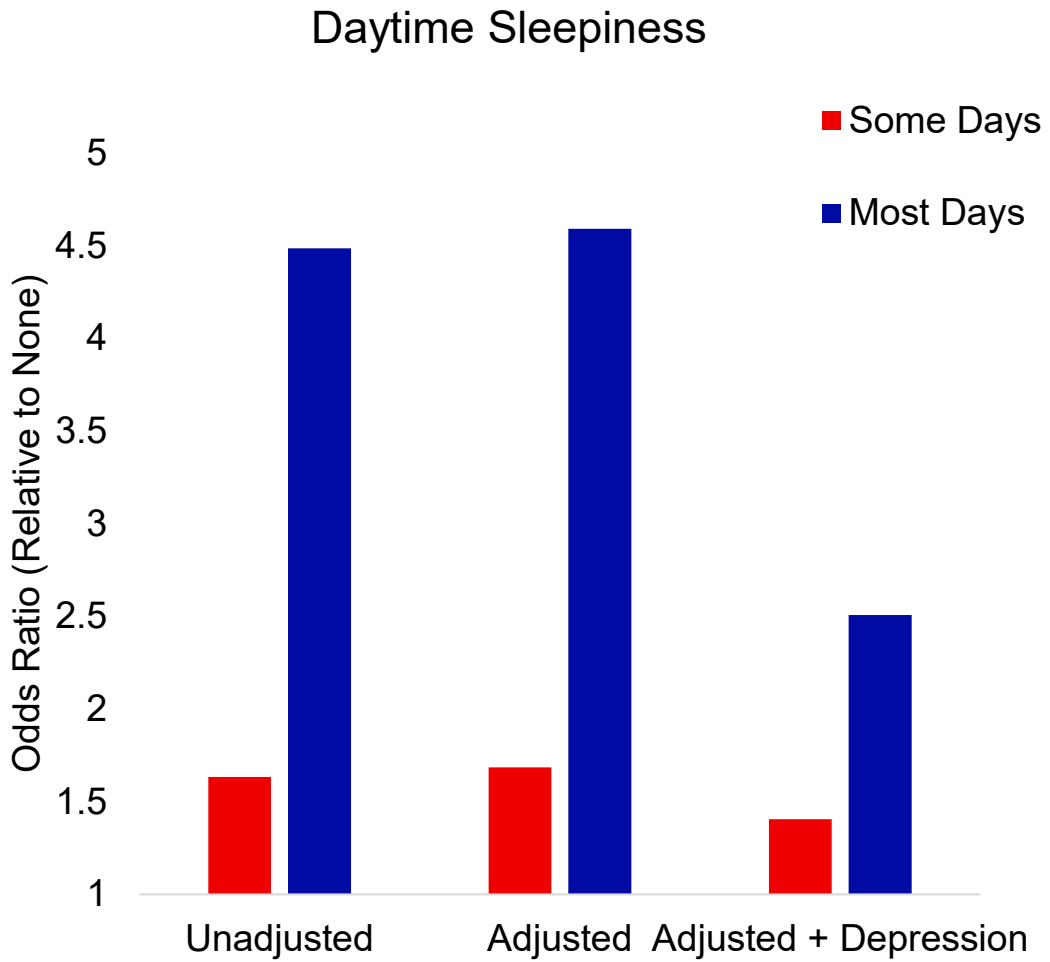
- A meta-analysis of all existing studies of insomnia and nightmares shows that the presence of insomnia is associated with:
- 2.8-fold likelihood of suicide ideation
- 3.5-fold likelihood of suicide attempts
- 2.4-fold likelihood of death by suicide



Pigeon et al., 2012

GENERAL SLEEP DISTURBANCE

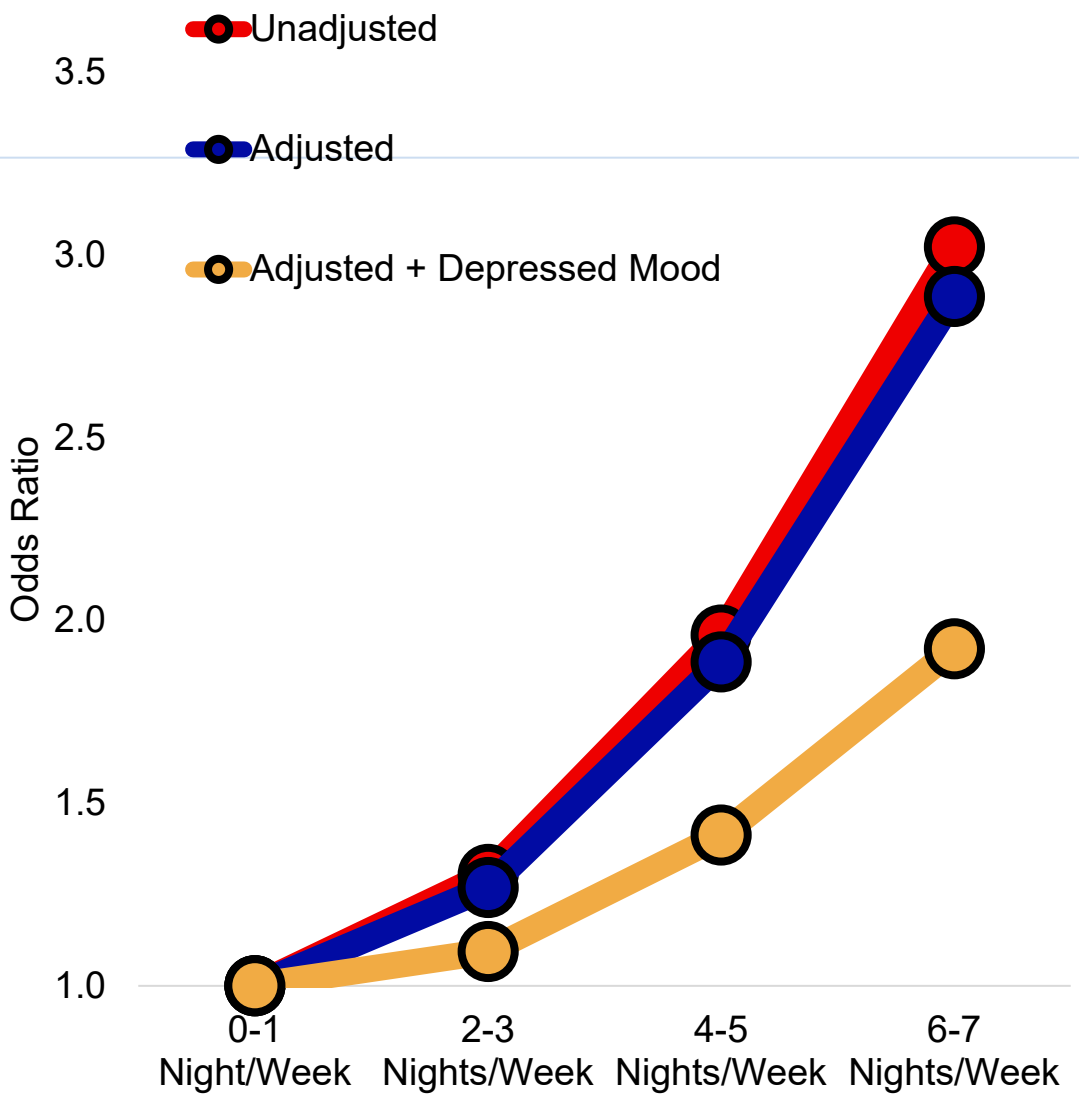




Jajoo et al

INSUFFICIENT SLEEP

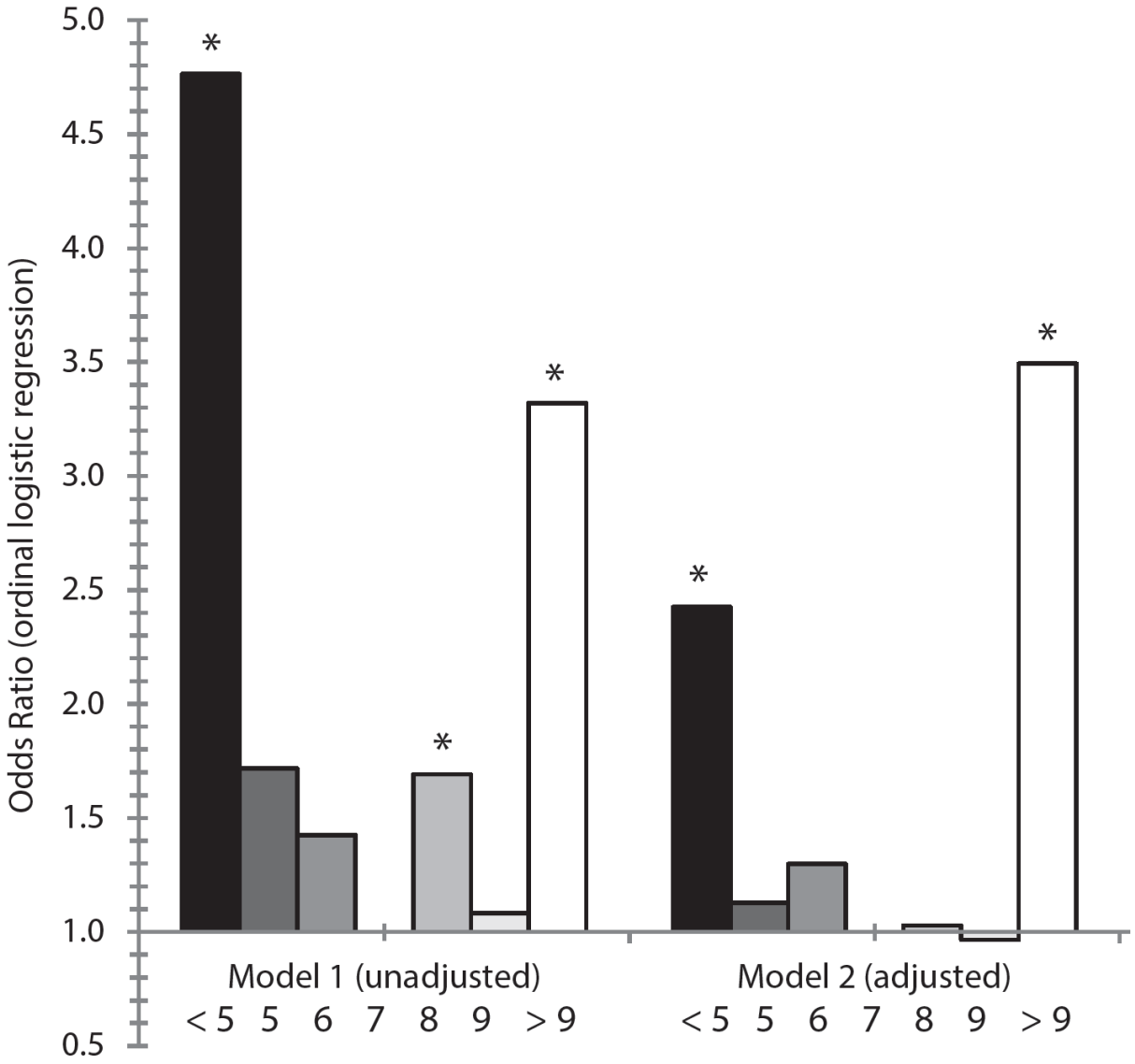
In young adults, each additional night of insufficient sleep was associated with increased risk of suicide ideation



Khader et al., 2020

SLEEP DURATION

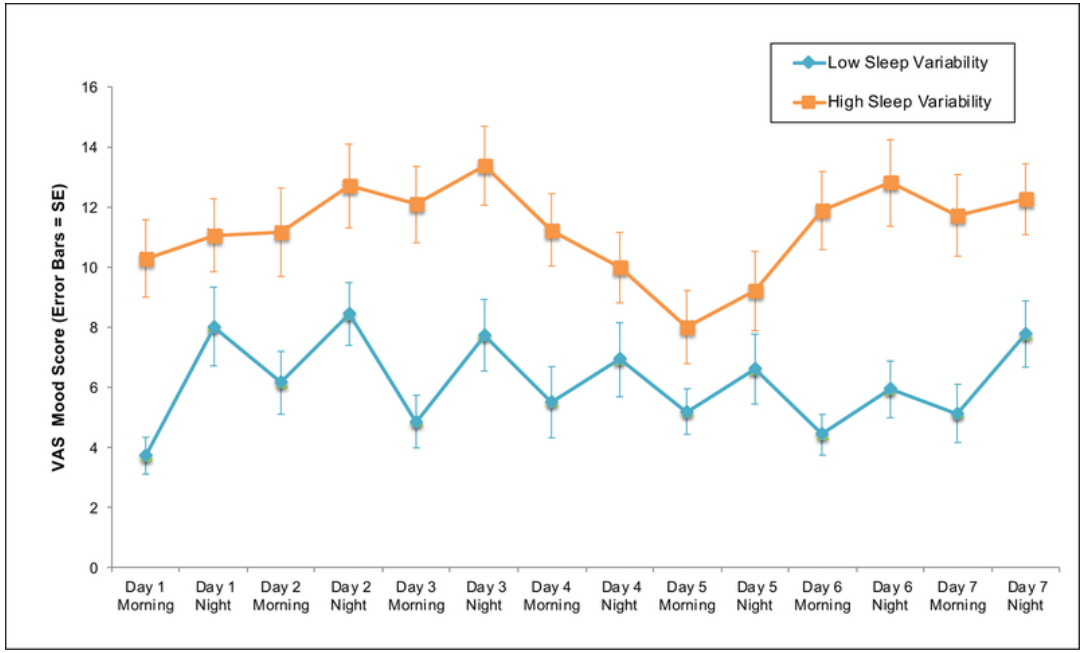
Both short and long sleep associated with suicide ideation in a general population sample

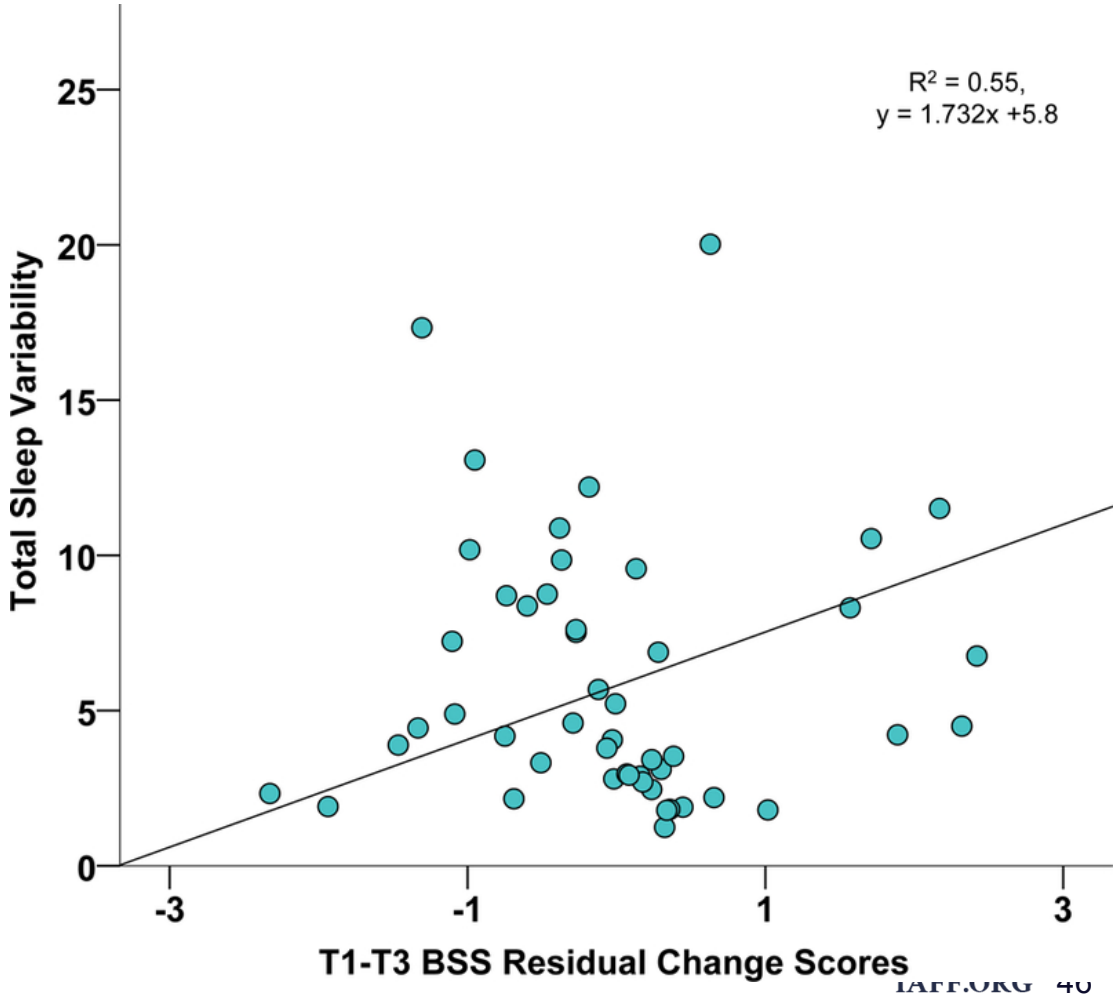


Chakravorty et al., 2015

SLEEP VARIABILITY

Increased sleep variability is associated with increased suicide ideation and worse mood over time





Bernert et al., 2019

NIGHTMARES

Frequent nightmares are associated with depression and anxiety disorders, especially PTSD

Presence of nightmares associated with about a 3-fold increased risk of suicide-related outcomes

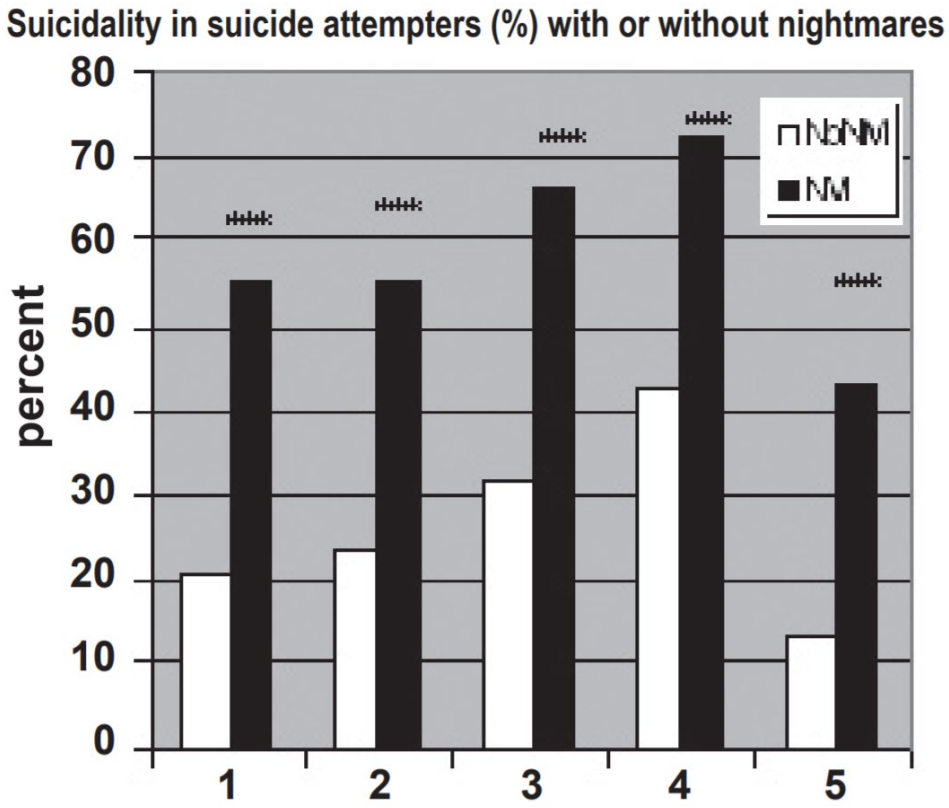


Figure 2—Percentages with scores ≥ 1 on Suicide Assessment Scale (SUAS) suicidality items in patients without (white bars) and with (black bars) frequent nightmares. 1 = suicidal thoughts, 2 = purpose of suicide, 3 = wish to die, 4 = lack of reasons for living and 5 = suicidal actions. *** $p < .001$ (χ^2 test).

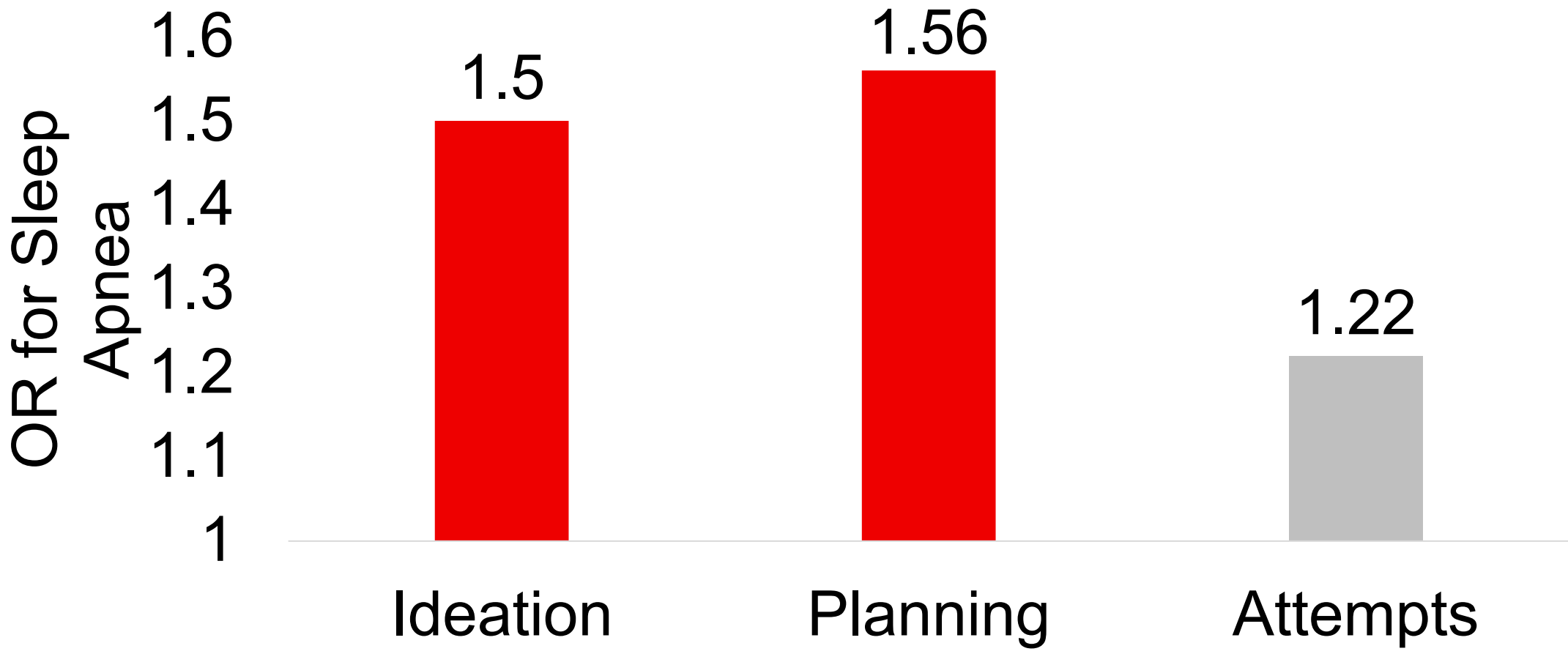
Sjostrom et al., 2007

NIGHTMARES

- Nightmare frequency differentiated multiple from single suicide attempters, even after controlling for symptoms of depression, posttraumatic stress disorder, insomnia, nightmare severity/distress, nightmare chronicity, and age (P = .019).
- Comparison participants, those not reporting suicide attempts, reported a significantly lower level of nightmare frequency than those reporting single or multiple suicide attempts.

Speed et al., 2018

SLEEP APNEA



Bishop et al., 2018

MAYBE BETTER THAN DEPRESSION

- Insomnia symptoms predict suicide-related outcomes even after controlling for depression
- Ribeiro et al (2012) showed that among suicidal military service members, insomnia at baseline predicted suicide ideation levels one month later
  - Depression scores did not
  - And the direction of association was only one way
  - And the same pattern was seen for suicide attempts

WHY?

Contents lists available at ScienceDirect

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journal homepage: www.elsevier.com/locate/smrv

THEORETICAL REVIEW

Suicide and sleep: Is it a bad thing to be awake when reason sleeps?

Michael L. Perlis [a, b, c, *], Michael A. Grandner [d], Subhajit Chakravorty [a, e], Rebecca A. Bernert [f], Gregory K. Brown [g], Michael E. Thase [h]

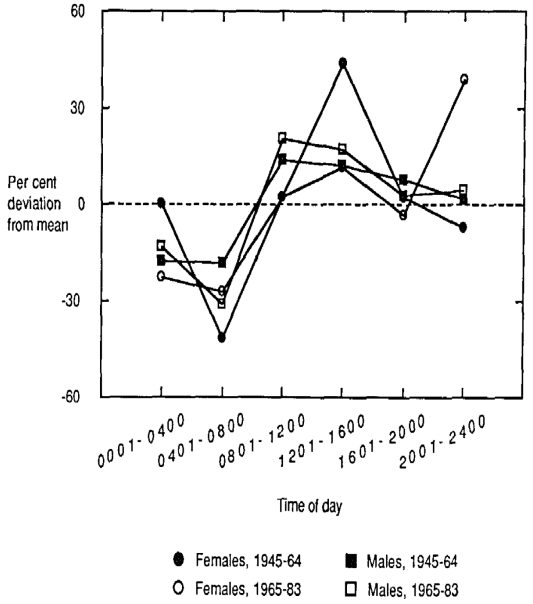


Figure 2. Suicide in Sacramento County, CA, 1945–83: Percent Deviation from Mean by Time of Day and Year, Males and Females.

Maldonado and Kraus, 1991

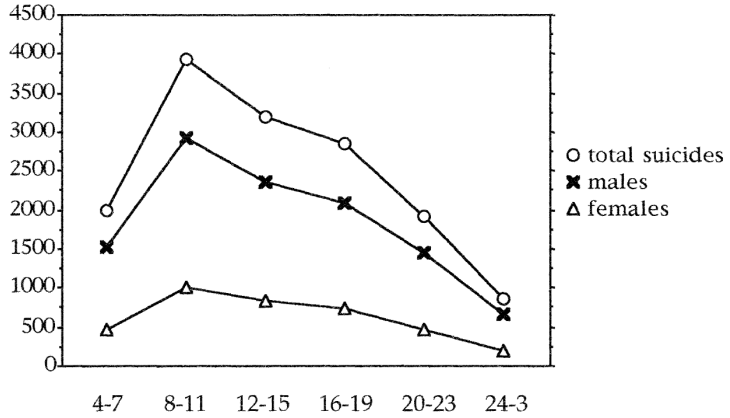


Fig. 1. Distribution of suicides by hour, Italy (1994–1997).

Preti and Miotto, 2001

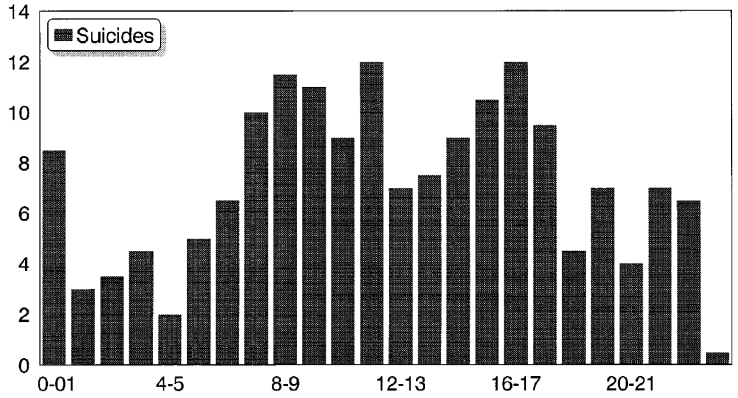
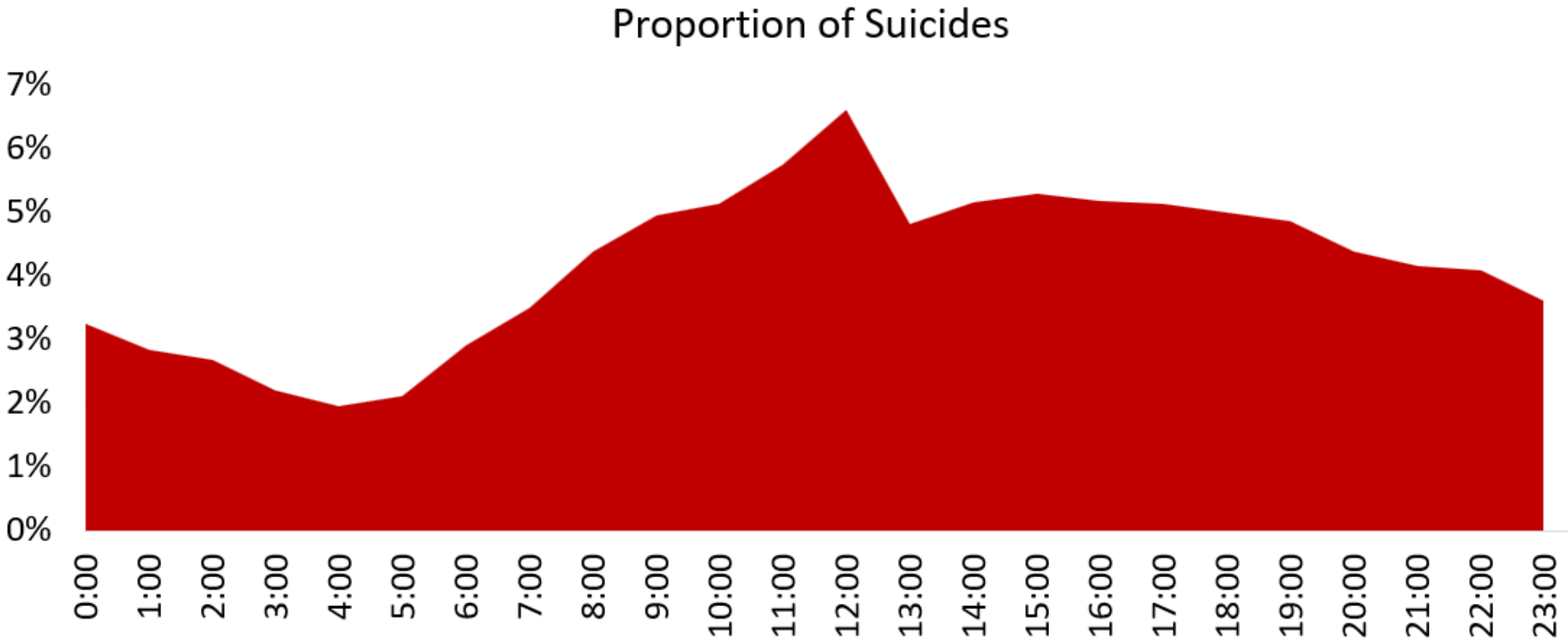


Fig. 4. Mean number of suicides per hour in Cagliari, Italy.

Altamura et al., 1999

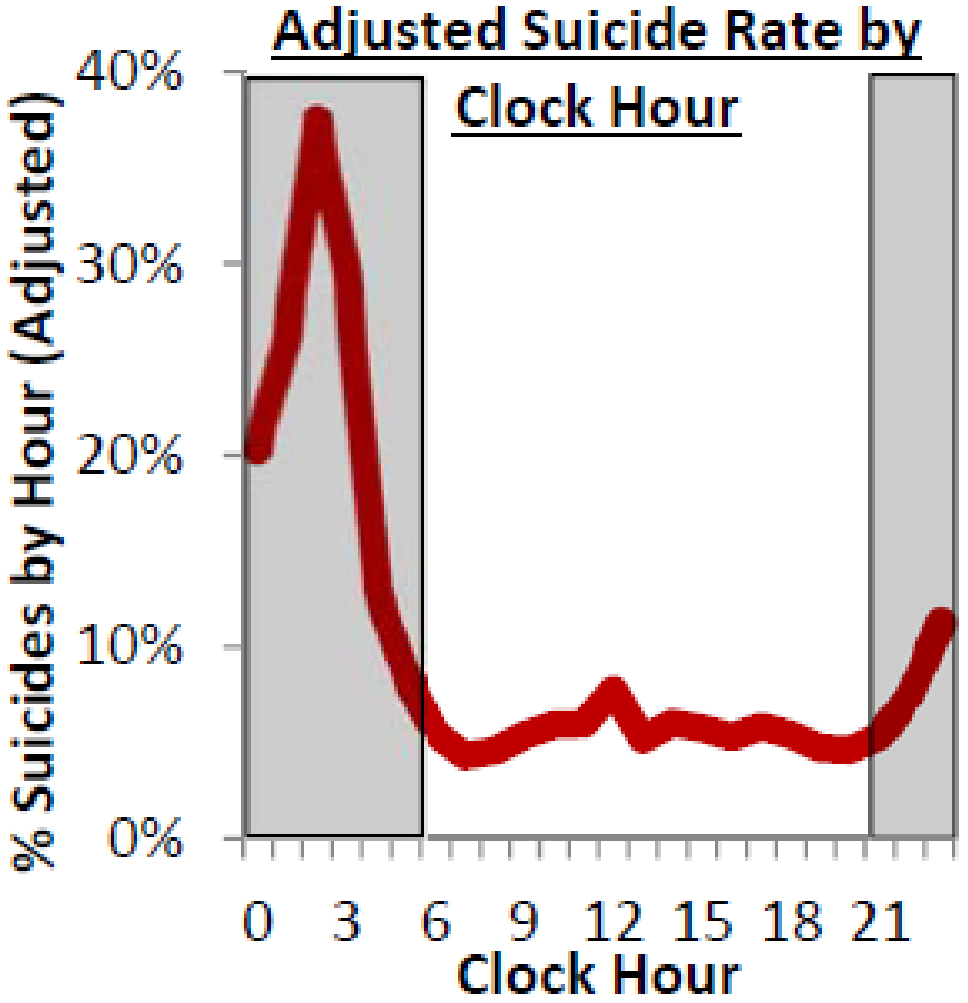


Perlis et al., 2016

After filtering out the wakefulness signal…

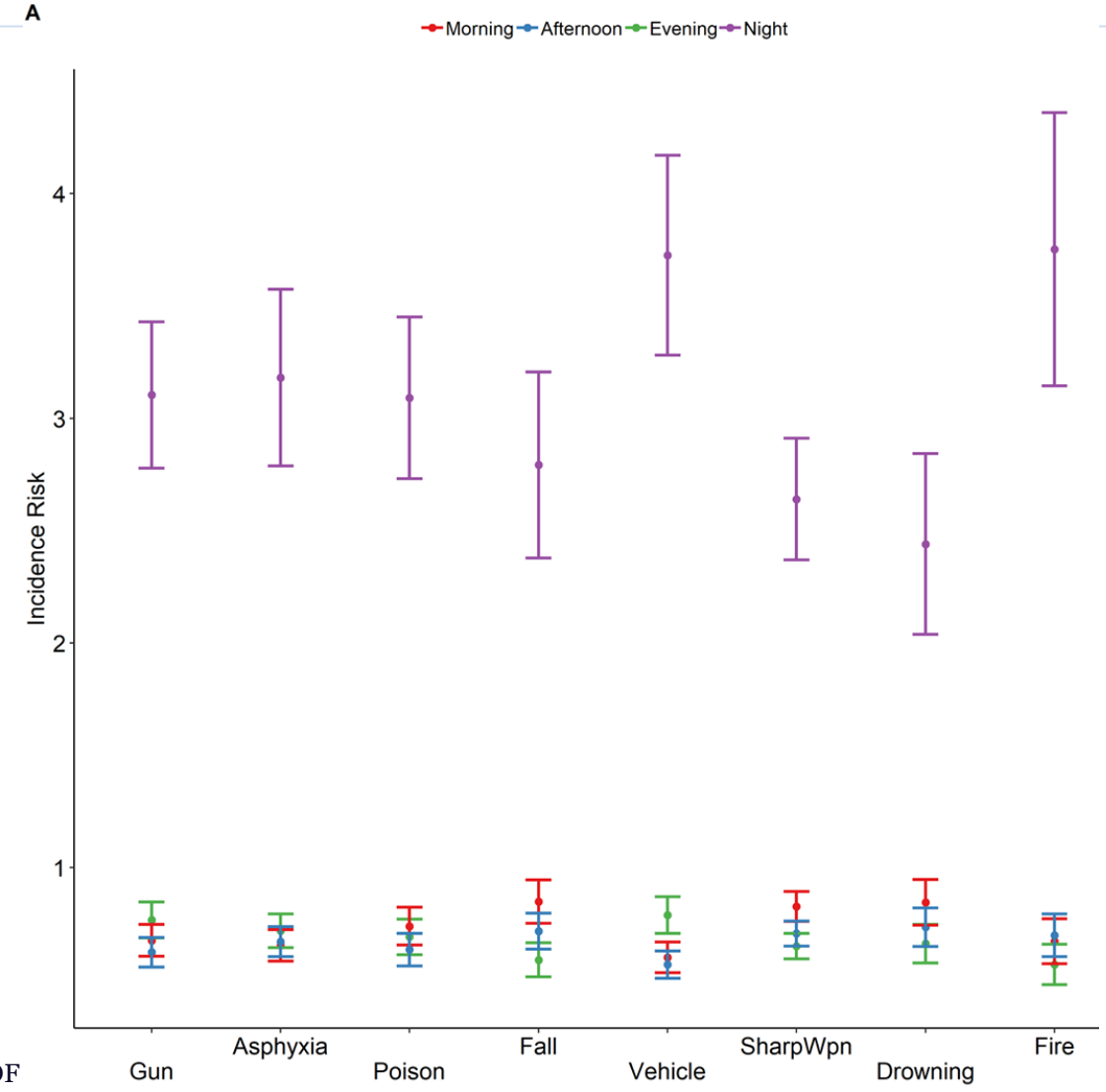
This is what we found:

Nearly all of the increased risk was at night



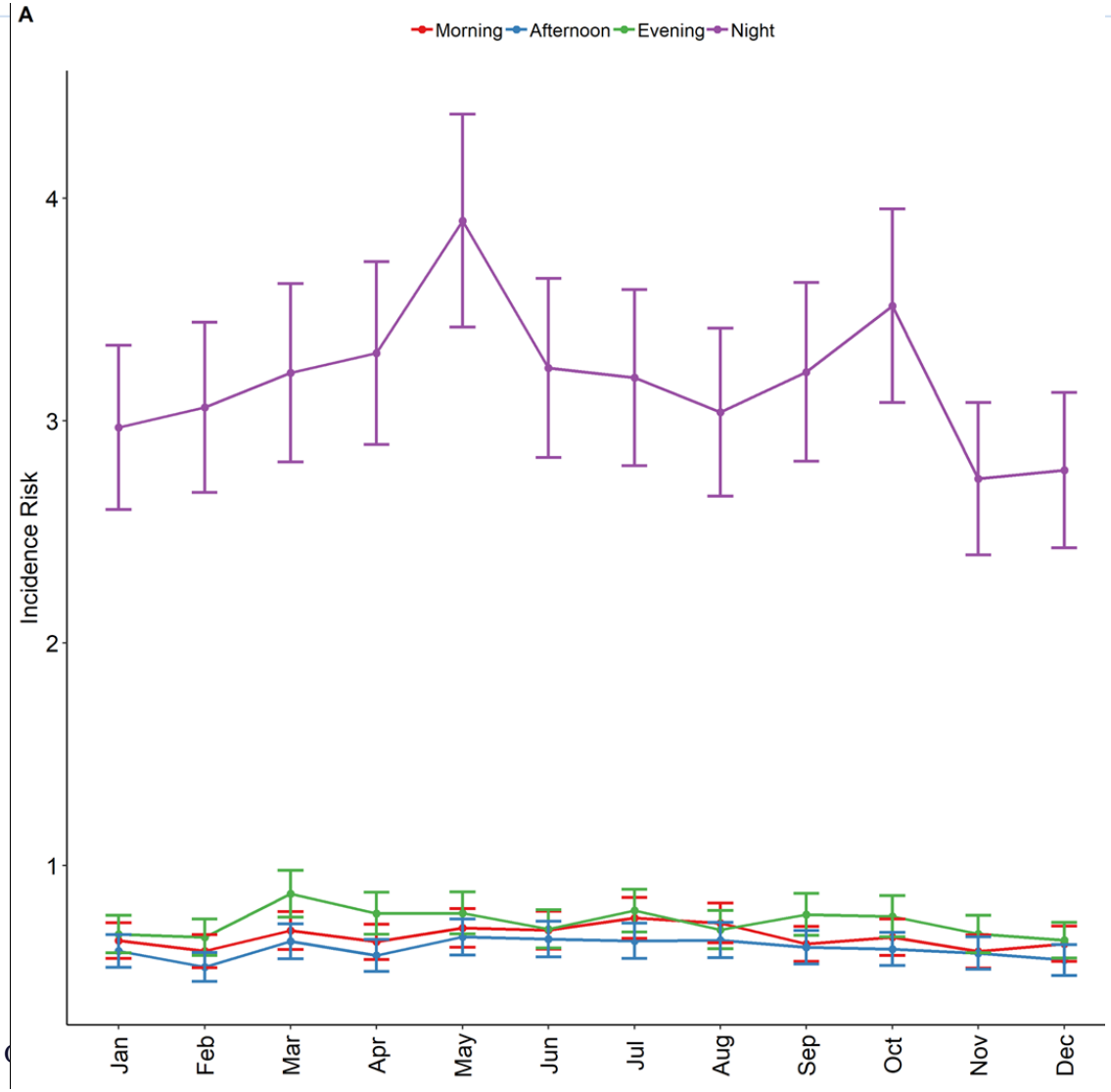
Perlis et al., 2016

WHAT ABOUT METHOD?



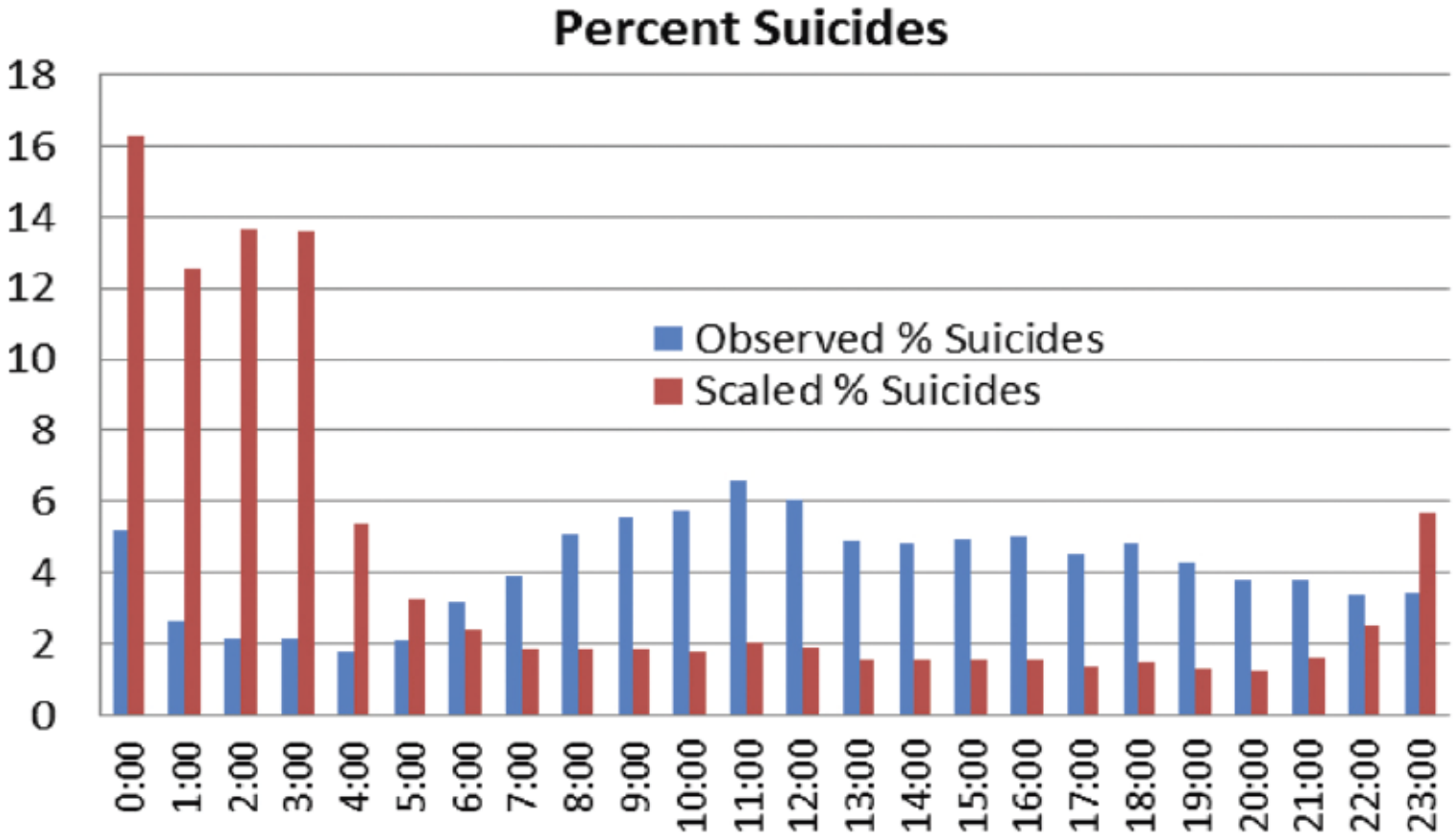
Tubbs et al., 2019

WHAT ABOUT SEASON?



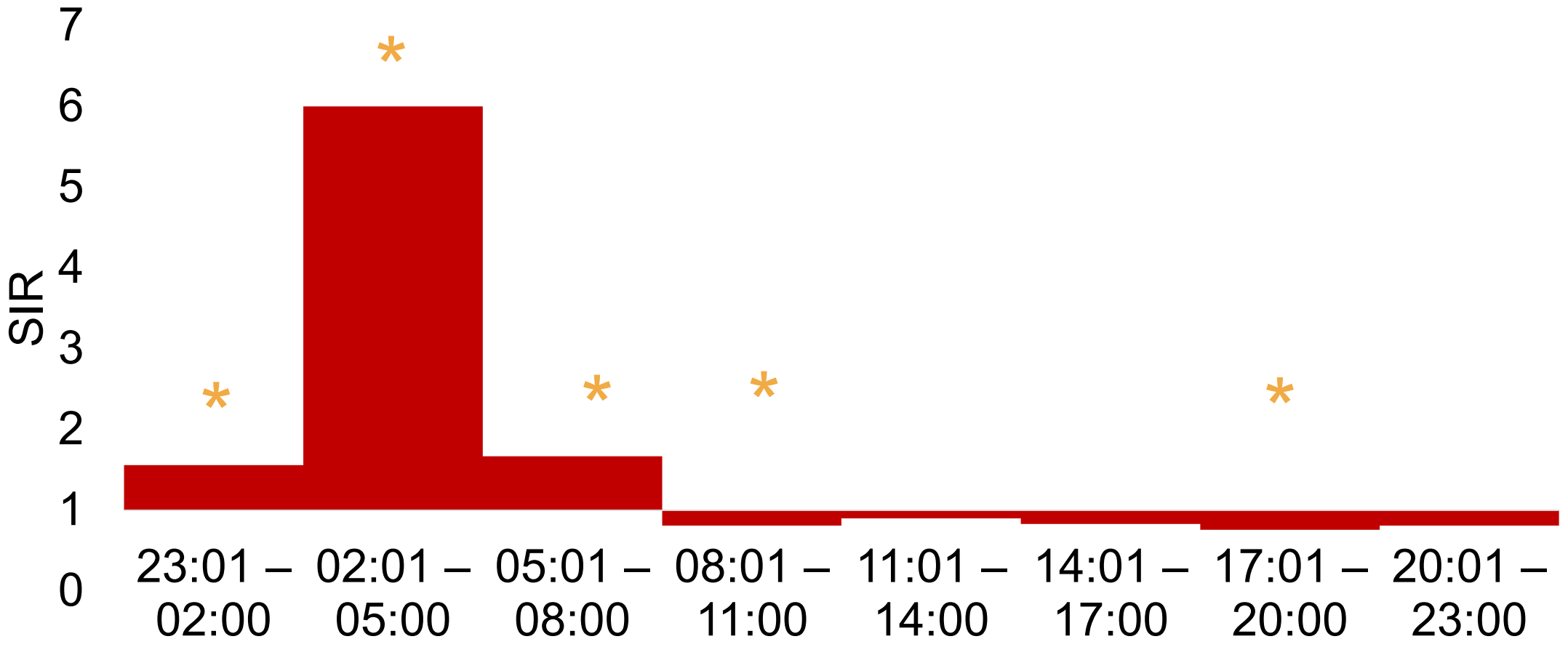
Tubbs et al., 2019

REPLICATED IN VETERANS



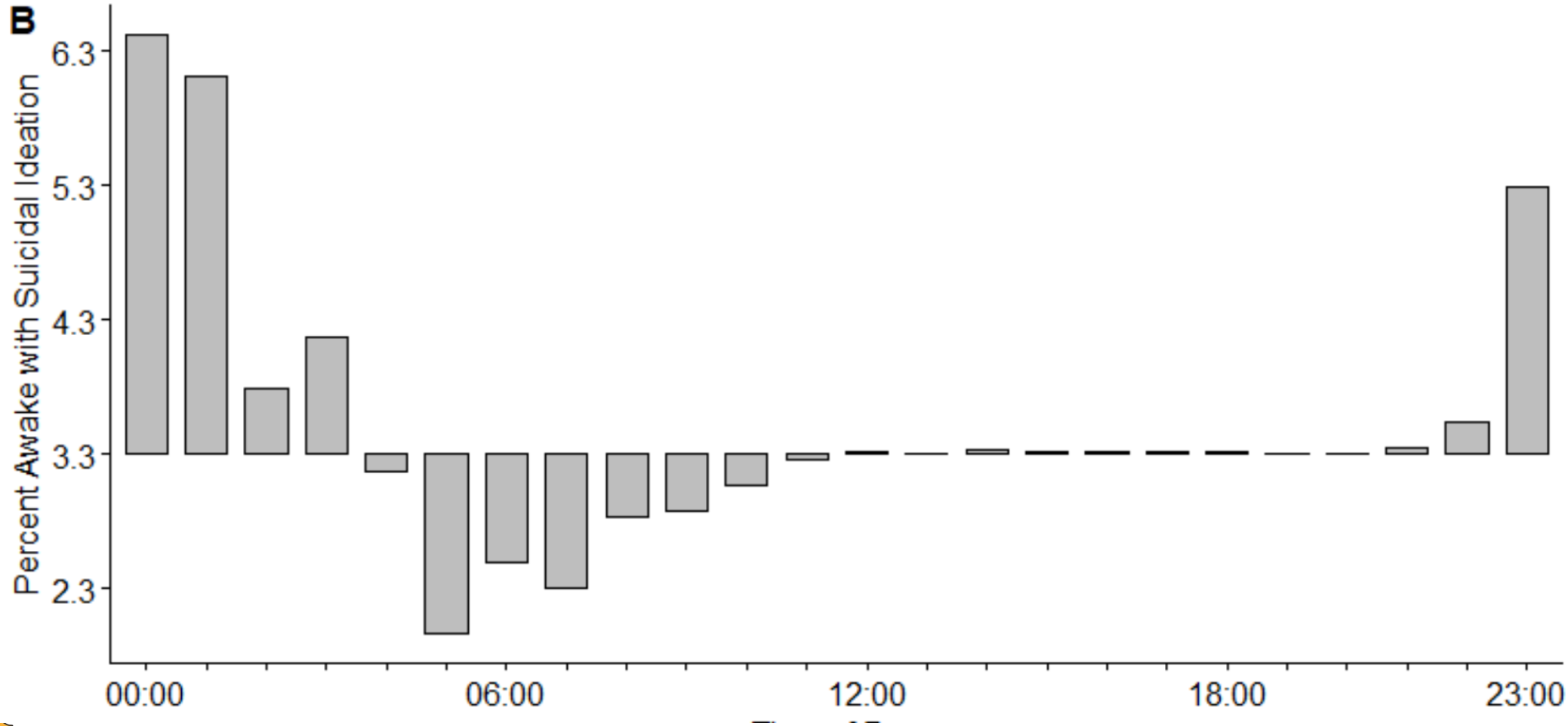
McCarthy et al, 2019

WHAT ABOUT A COUNTRY WITHOUT FIREARMS?



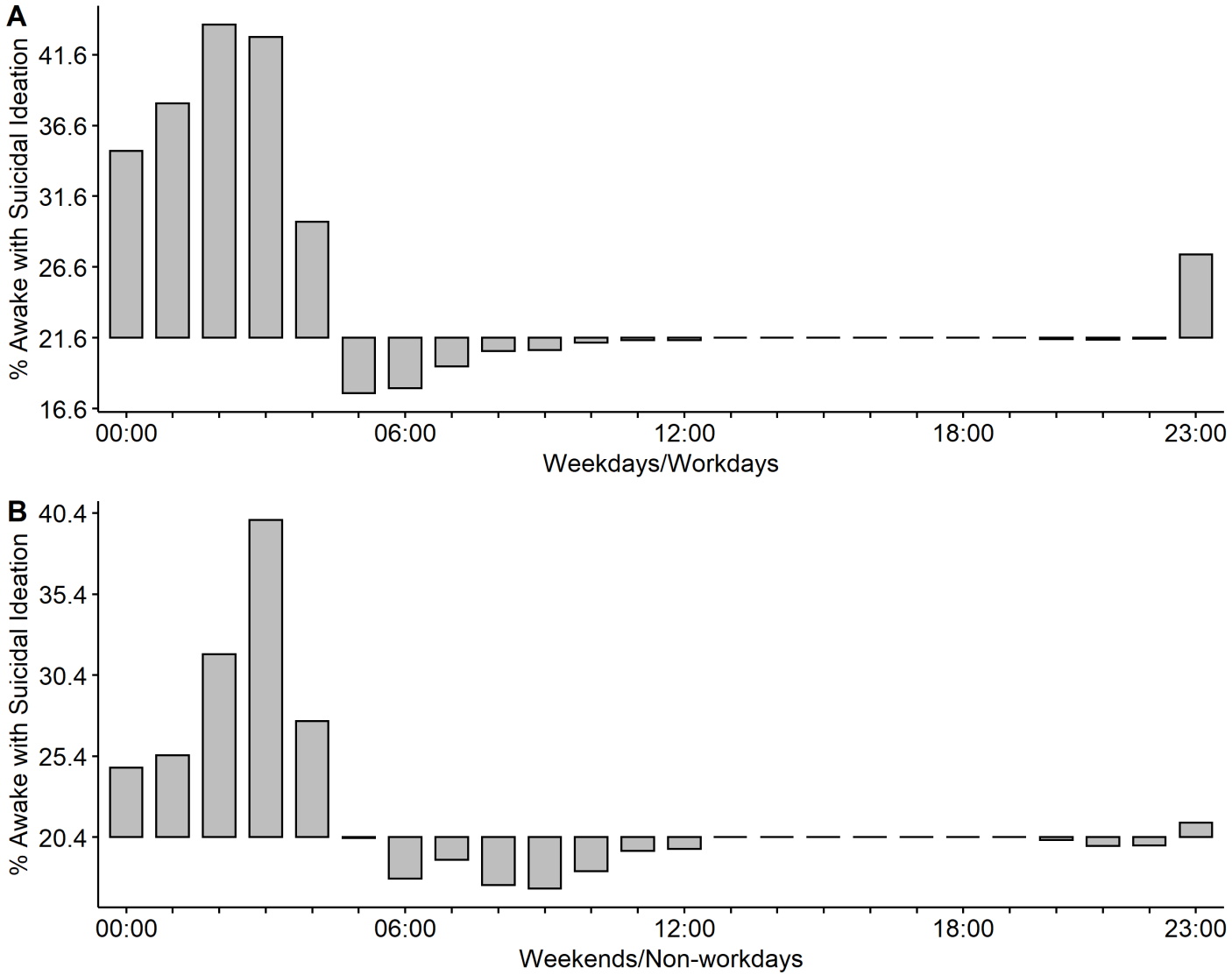
Mansfield et al., 2022

WHAT ABOUT PEOPLE ACTUALLY UP LATE?

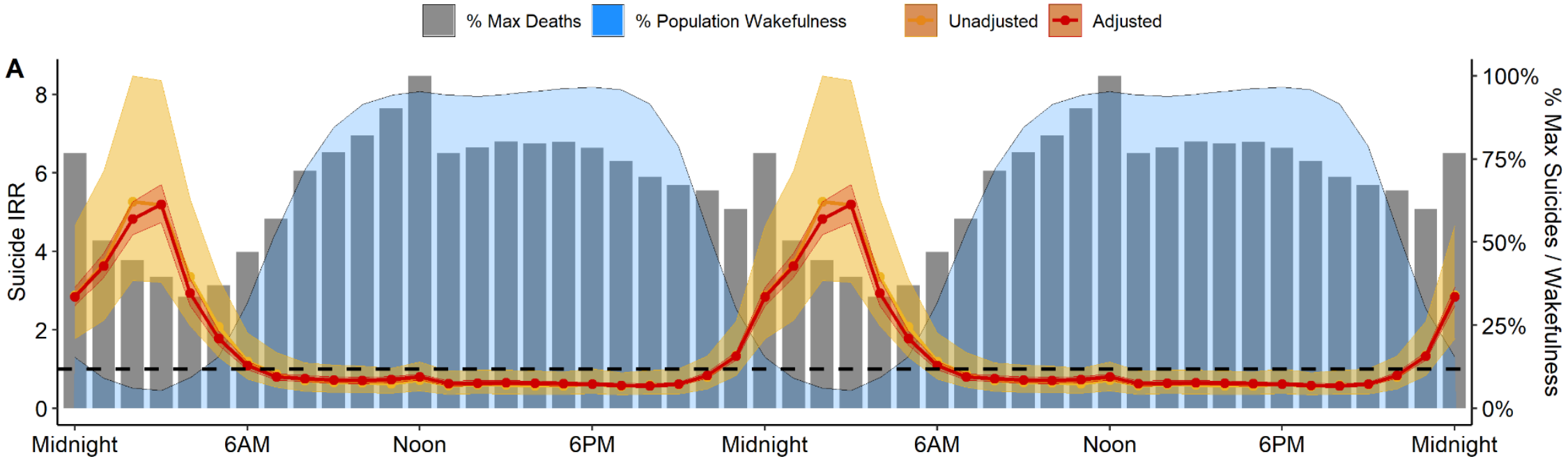


Tubbs et al., 2021

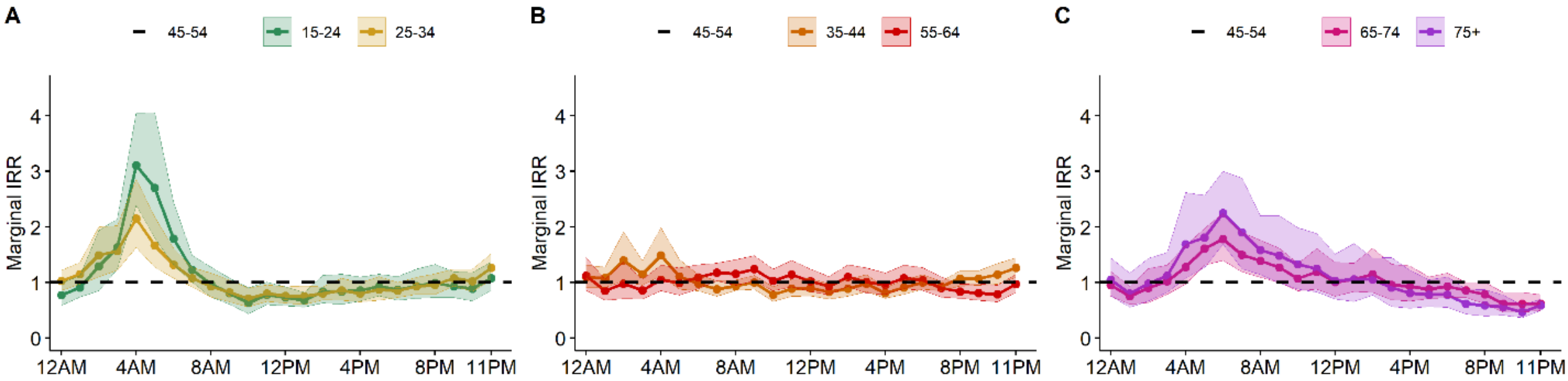
WHAT ABOUT AT THE NATIONAL LEVEL?



Tubbs et al., 2021



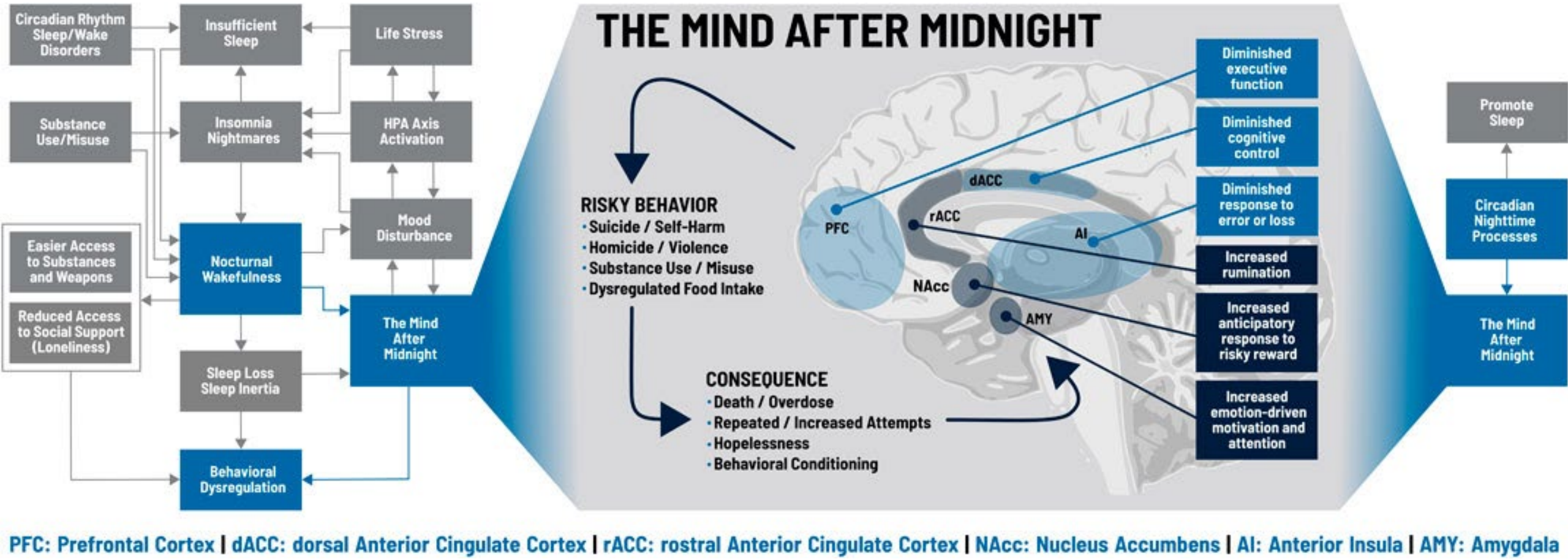
Tubbs et al., 2024


A
45-54
15-24
25-34
Marginal IRR
0
1
2
3
4
12AM
4AM
8AM
12PM
4PM
8PM
11PM
B
45-54
35-44
55-64
Marginal IRR
0
1
2
3
4
12AM
4AM
8AM
12PM
4PM
8PM
11PM
C
45-54
65-74
75+
Marginal IRR
0
1
2
3
4
12AM
4AM
8AM
12PM
4PM
8PM
11PM

frontiers in Network Physiology

The Mind After Midnight: Nocturnal Wakefulness, Behavioral Dysregulation, and Psychopathology

Andrew S. Tubbs[1†], Fabian-Xosé Fernandez[2†], Michael A. Grandner[1†], Michael L. Perlis[3†‡] and Elizabeth B. Klerman[4‡]*



PFC: Prefrontal Cortex | dACC: dorsal Anterior Cingulate Cortex | rACC: rostral Anterior Cingulate Cortex | NAcc: Nucleus Accumbens | AI: Anterior Insula | AMY: Amygdala

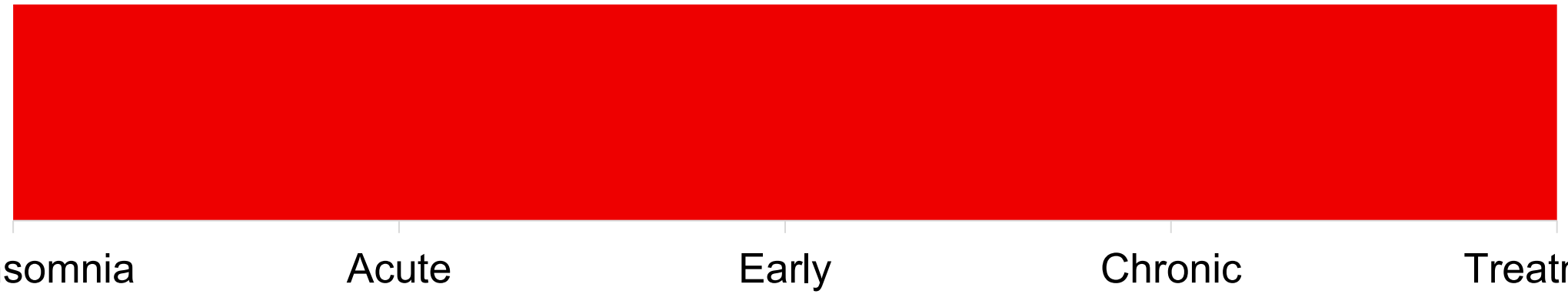
TAKING ACTION

THE 3-P MODEL

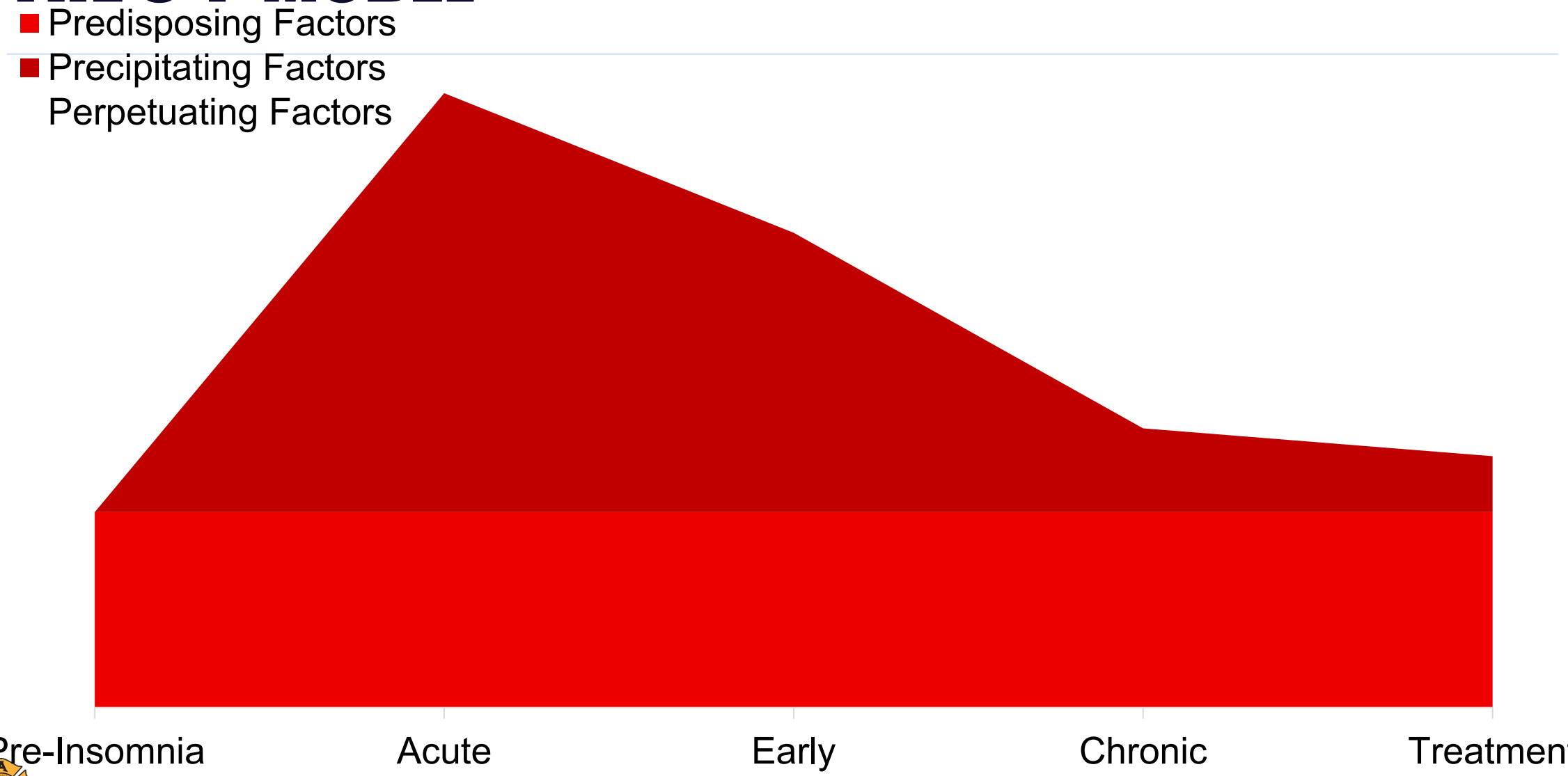
- Predisposing Factors

Precipitating Factors

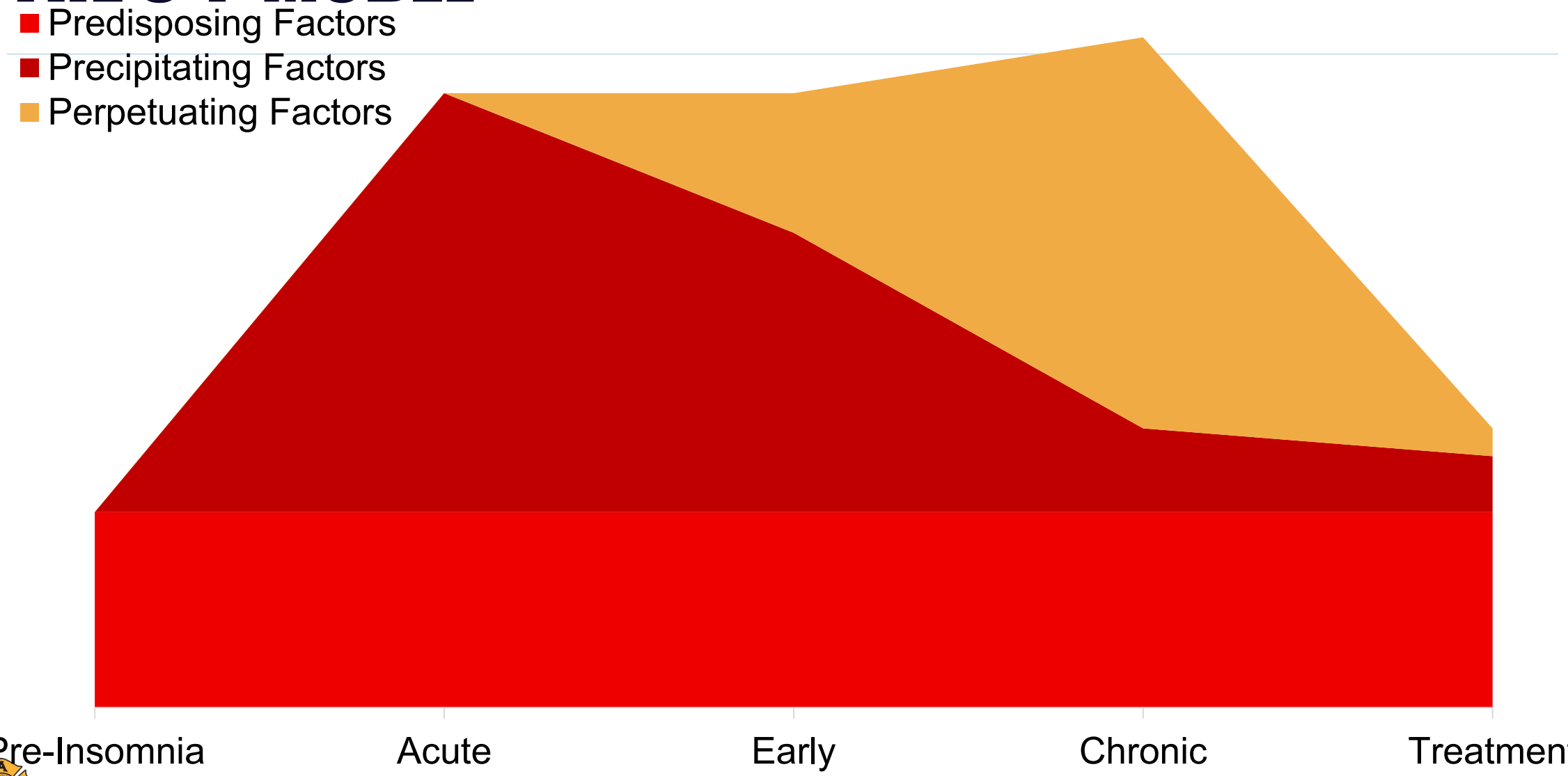
Perpetuating Factors



THE 3-P MODEL


Predisposing Factors
Precipitating Factors
Perpetuating Factors
Pre-Insomnia
Acute
Early
Chronic
Treatment

THE 3-P MODEL


Predisposing Factors
Precipitating Factors
Perpetuating Factors
Pre-Insomnia
Acute
Early
Chronic
Treatment

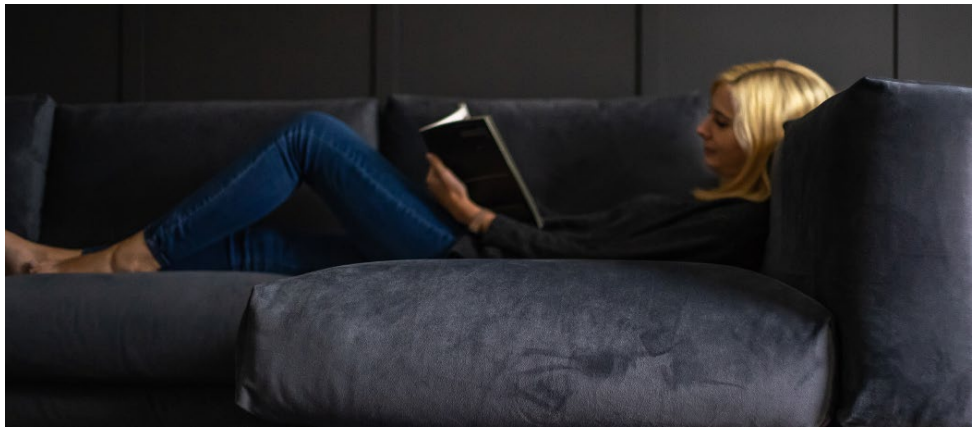
PERPETUATING FACTORS

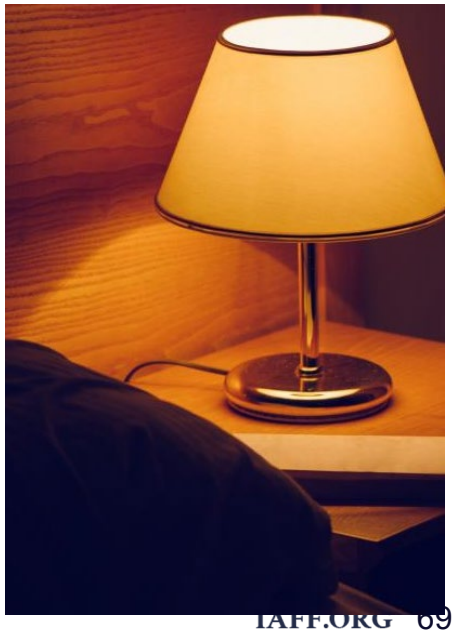
- Many people with insomnia have trouble "turning their mind off" and don't know why
  - But most of the time, this is a result of accidentally programming your brain to do this in bed!
- What happens is, for one reason or another, something causes us to spend time awake in bed
  - But even when that original cause is gone, the insomnia takes on a life of its own because you "trained" your brain to be awake in bed
- You need to give yourself time to wind down
  - Plan for 30-60 minutes at least of less intense activity
  - Both mental and physical
  - Allow time for your mind to go over whatever it needs to

PRE-BED ROUTINE

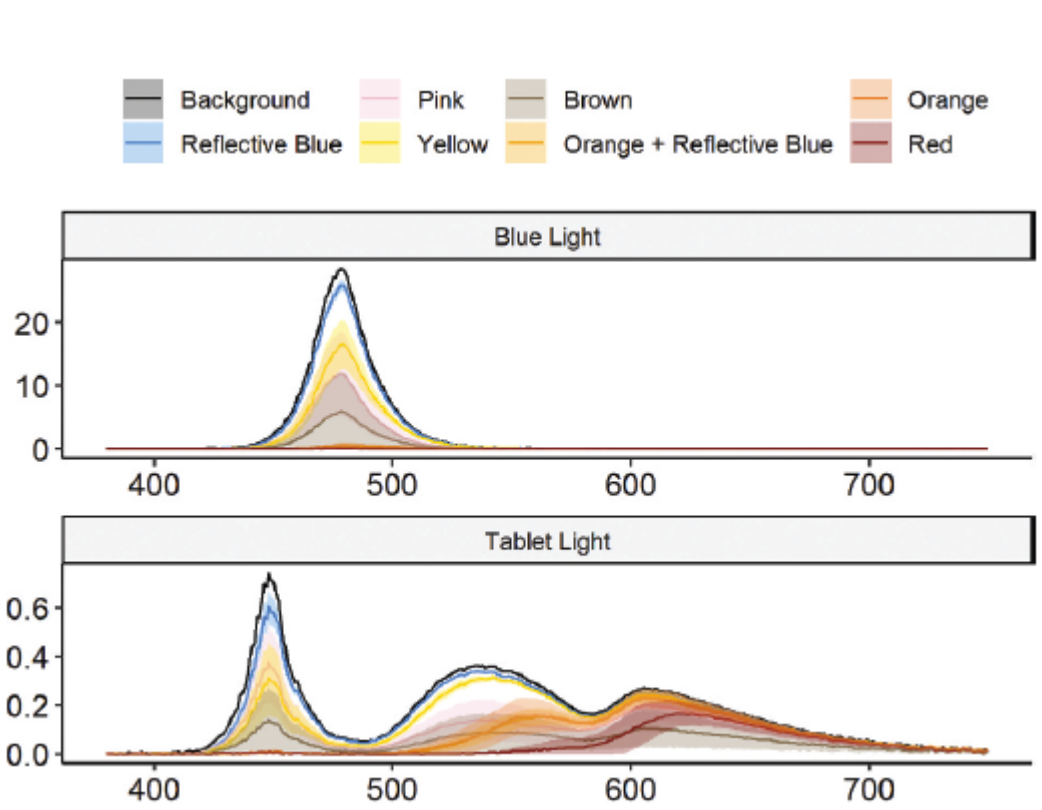
An effective bedtime routine has 5 key elements:

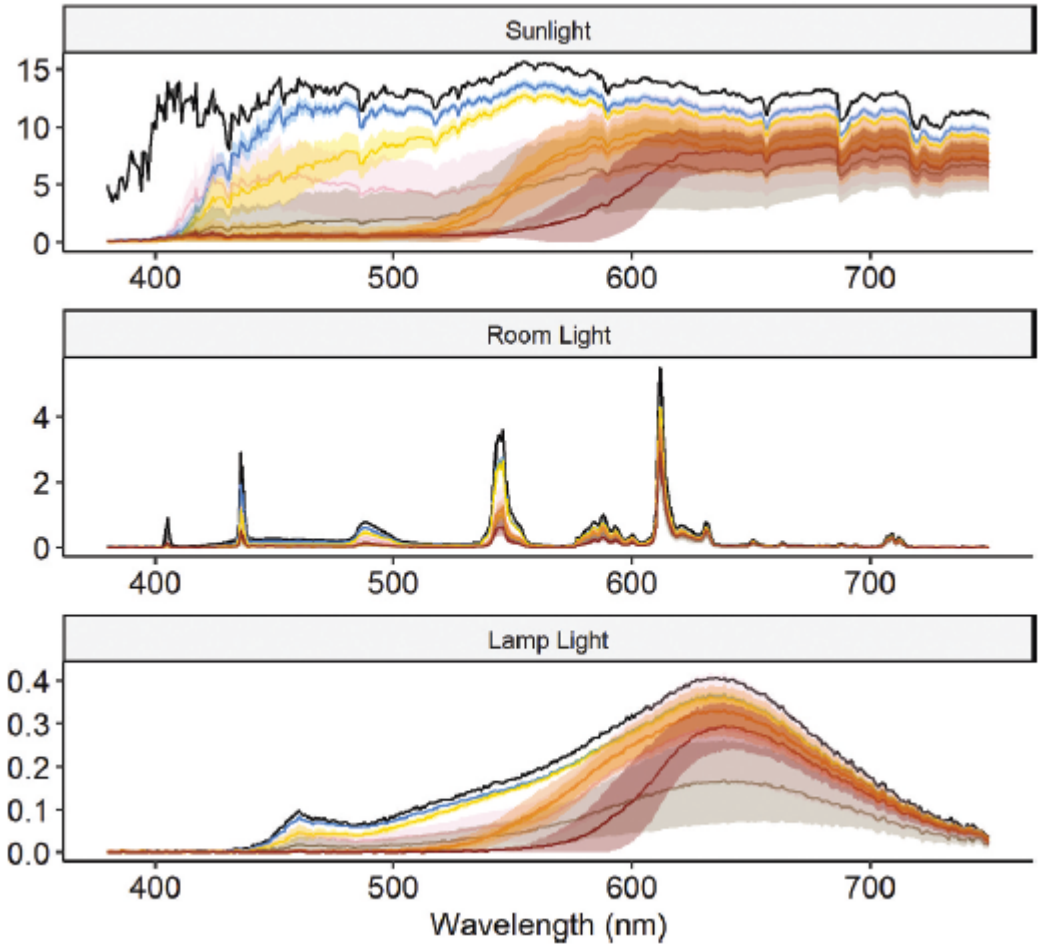
- It is repeatable and reliable
- It is the right length
- It includes nighttime signals
- It calms your mind and body
- It rolls downhill





USING BLUE BLOCKERS

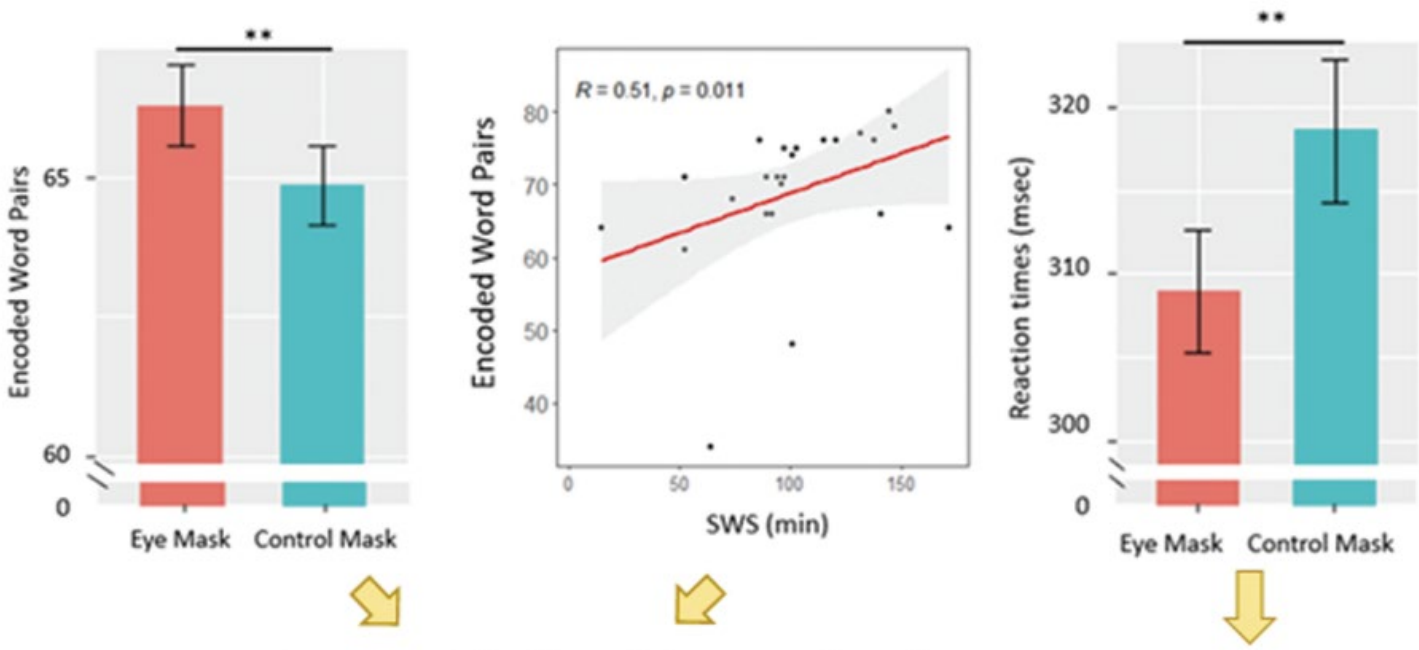




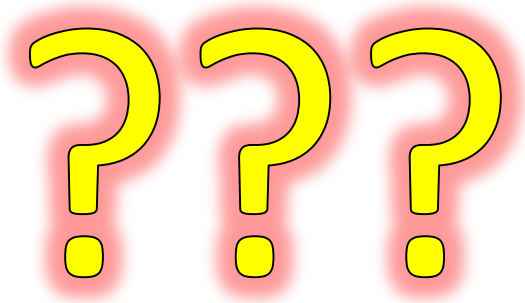
Mason et al.

LIGHT MASKS

- Surprisingly sparse data
- One recent study (Greco et al., 2023)
- 94 or 35 young adults



STIMULUS CONTROL



WAKE-UP ROUTINE

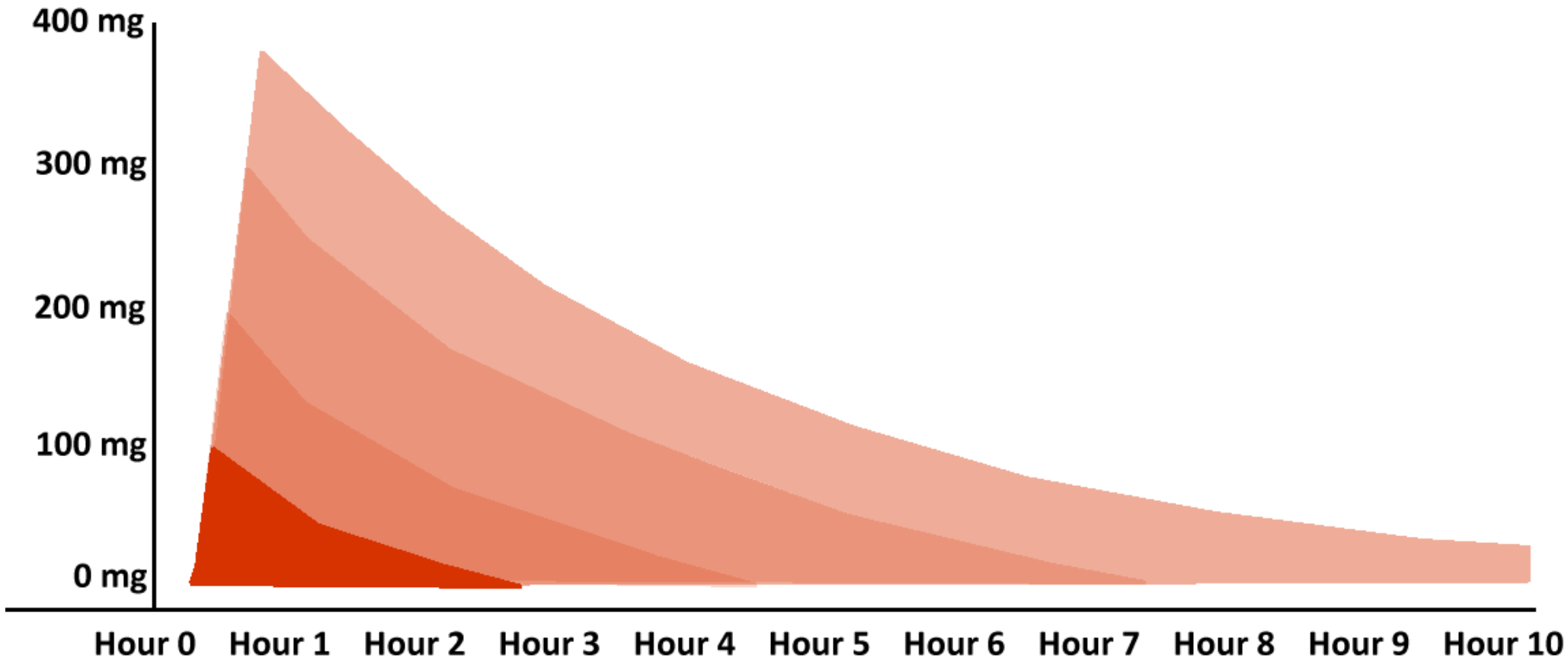
- When to wake in the morning
  - Getting the timing right
  - Building regularity
- Step 1: Get out of bed
- Step 2: Get light
- Step 3: Get moving
- Step 4: Get going

STRATEGIC NAPPING

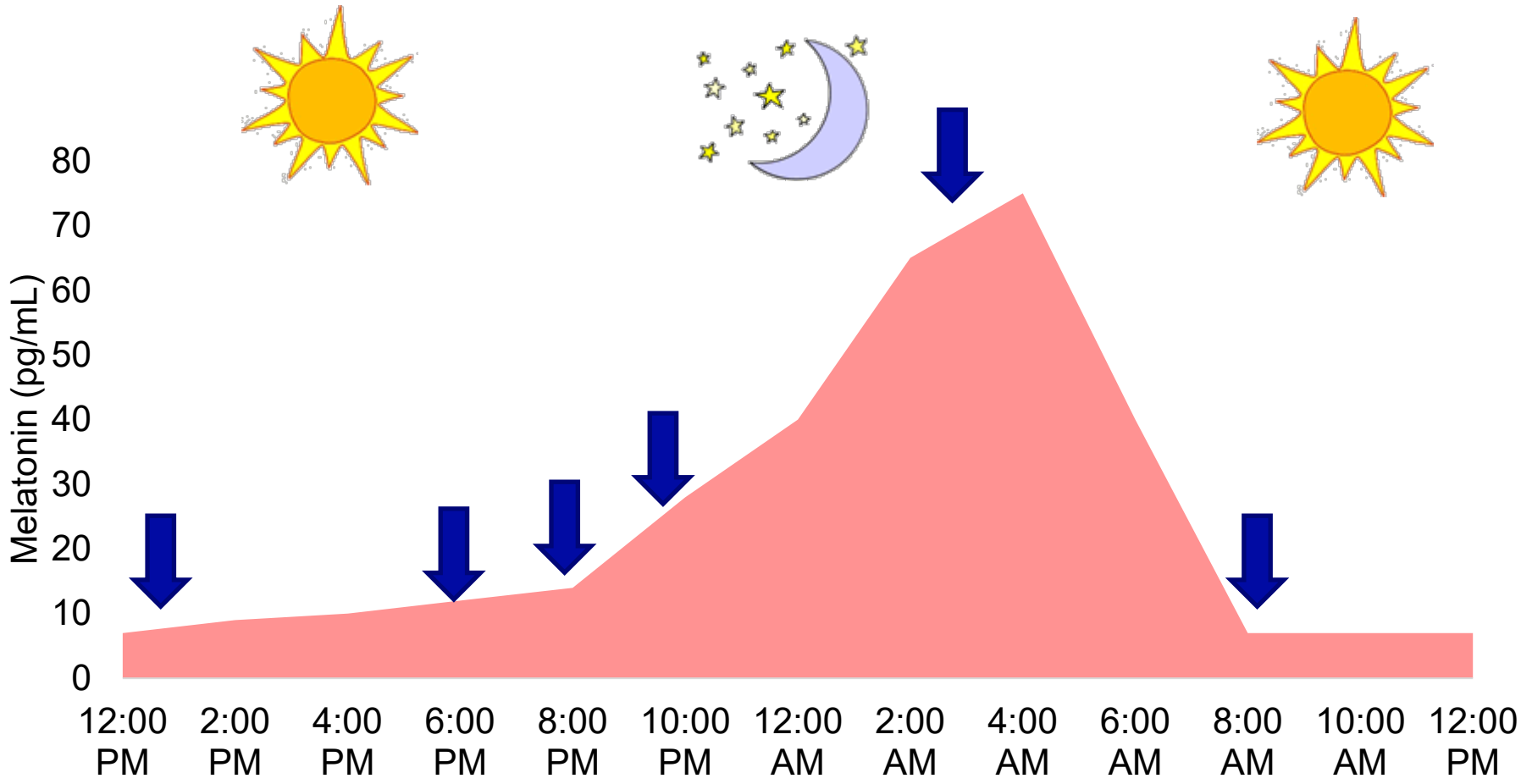
3 kinds of naps

- Power Naps
- Sleep Replacement Naps
- Accidental Naps

CAFFEINE


400 mg
300 mg
200 mg
100 mg
0 mg
Hour 0
Hour 1
Hour 2
Hour 3
Hour 4
Hour 5
Hour 6
Hour 7
Hour 8
Hour 9
Hour 10

MELATONIN


Melatonin (pg/mL)
80
70
60
50
40
30
20
10
0
12:00 PM
2:00 PM
4:00 PM
6:00 PM
8:00 PM
10:00 PM
12:00 AM
2:00 AM
4:00 AM
6:00 AM
8:00 AM
10:00 AM
12:00 PM

TO PROTECT AGAINST SLEEP PROBLEMS

- Build as much regularity into your schedule as possible
- Remove major barriers to being able to wind down
- Get into bed only when you think sleep is possible
- Keep your bedroom cool, dark, quiet and comfortable
- Have a good wind-down routine
- Have a good morning routine

FOR OCCASIONAL MILD SLEEP ISSUES

- Reduce activation at night
  - Relaxation / meditation exercises
  - Reduce screen use / consider blue-blocking lenses
- Consider tracking your sleep and using that information
- Consider supplements or other strategies to address mild problems

FOR MORE MODERATE OR FREQUENT ISSUES

- Get out of bed if you can’t sleep
  - Only stay in bed awake about 20-30 minutes at the maximum
  - This will protect you against future sleep problems
- If you need help getting back to sleep
  - Keep a notepad or something by your bed to download thoughts
- Supplements may help (but consider risks)
- If you are not able to sleep, don’t try harder
- If you might have sleep apnea, get it checked out!

AND IF YOU'RE AWAKE AT NIGHT

- Remember the "Mind After Midnight"
  - You are not making the best emotional decisions
  - Even if you can perform physically, you may be more likely to make unhealthy decisions

COLLEGE OF MEDICINE TUCSON

Sleep & Health Research Program

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Daniel Taylor
Patricia Haynes
John Ruiz
Sai Parthasarathy
Salma Patel
Kat Kennedy
Ruth Taylor-Pilliae

MILITARY SUICIDE RESEARCH CONSORTIUM

NIH National Institute of Mental Health

NIH National Institute on Minority Health and Health Disparities

American Heart Association.

NIH National Heart, Lung, and Blood Institute

HARMONY BIOSCIENCES

NIH National Institute on Drug Abuse

Jazz Pharmaceuticals

NIH National Institute of Environmental Health Sciences

Wake Up Narcolepsy INC.

The University of Arizona Health Sciences

THANK YOU!
ANY QUESTIONS?

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