

Using the Race-Based Disparities in Stress & Sleep Model to Identify Elements of Effective School Mental Health Programming

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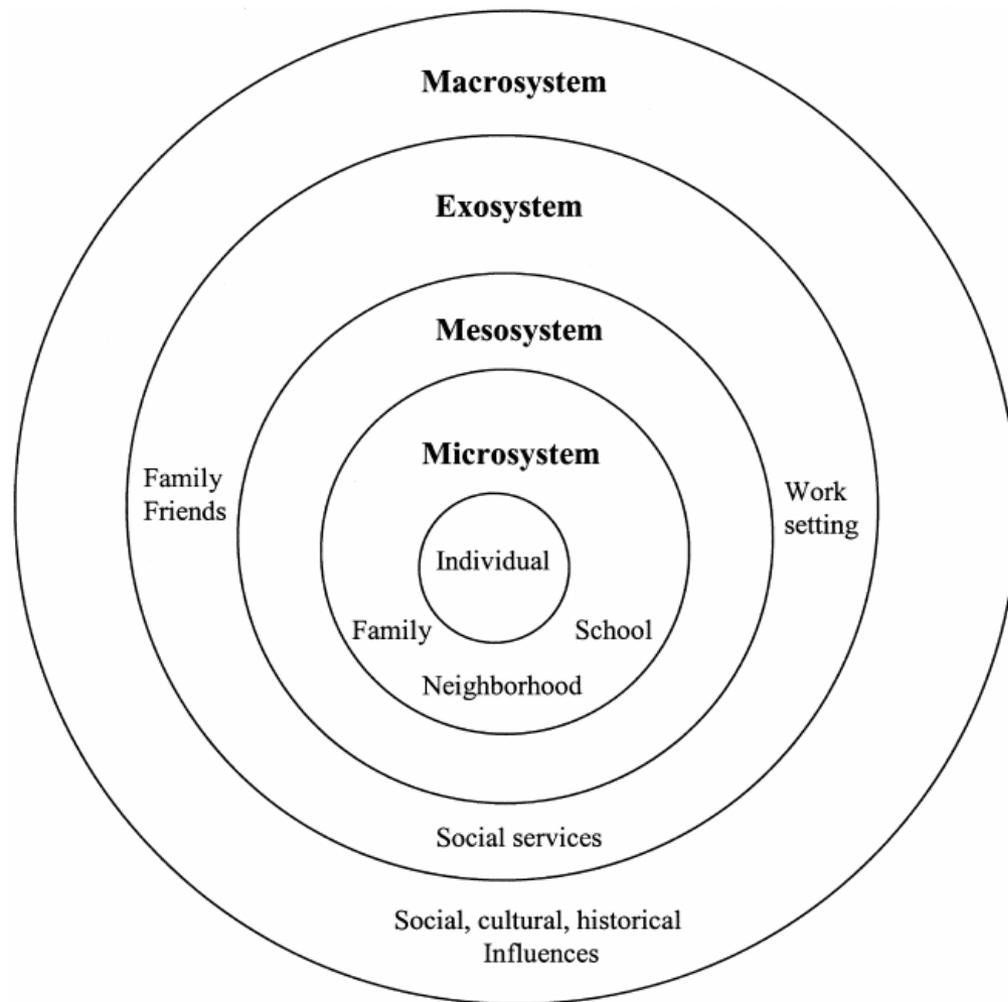
Advancing School Mental Health Annual Conference

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What influences the mental health of your students?



Ecological Systems Perspective



(Bronfenbrenner, 1979)

Mental health and students of color

- Both direct (overt) and indirect experiences (covert) of discrimination negatively affect mental health
(Nadal et al., 2014)
- Physiological effects of discrimination on the brain are very similar to chronic stress
(Berger & Sarnyai, 2014)

Mental health and students of color

- Youth of color report lower levels of mental disorders than non-Hispanic White youth
 - Positive ethnic identity, family support as buffers
- Perceptions of discrimination associated with increased likelihoods of:

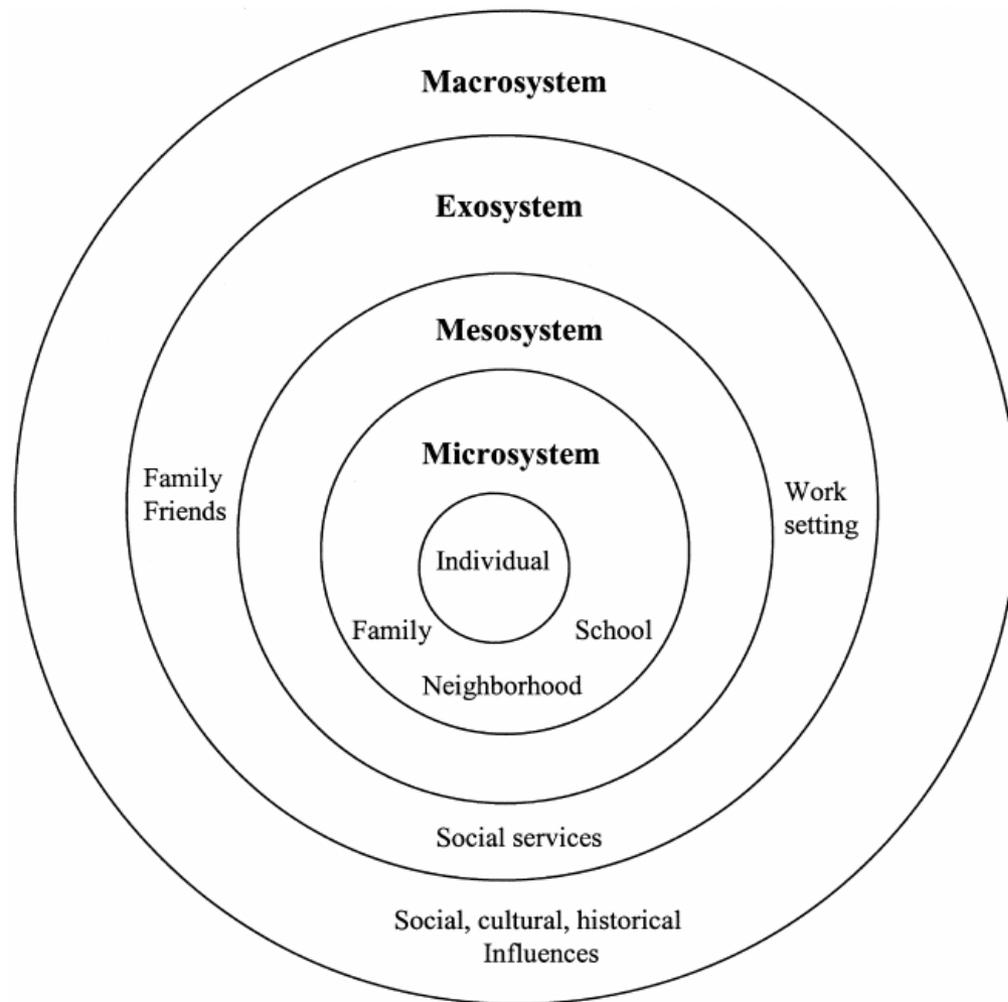
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|------------|-------------------------|
| Anxiety | Conduct disorder |
| Depression | Externalizing behaviors |

(Coker et al., 2009)

How do school-based mental health services increase access to care for diverse students?

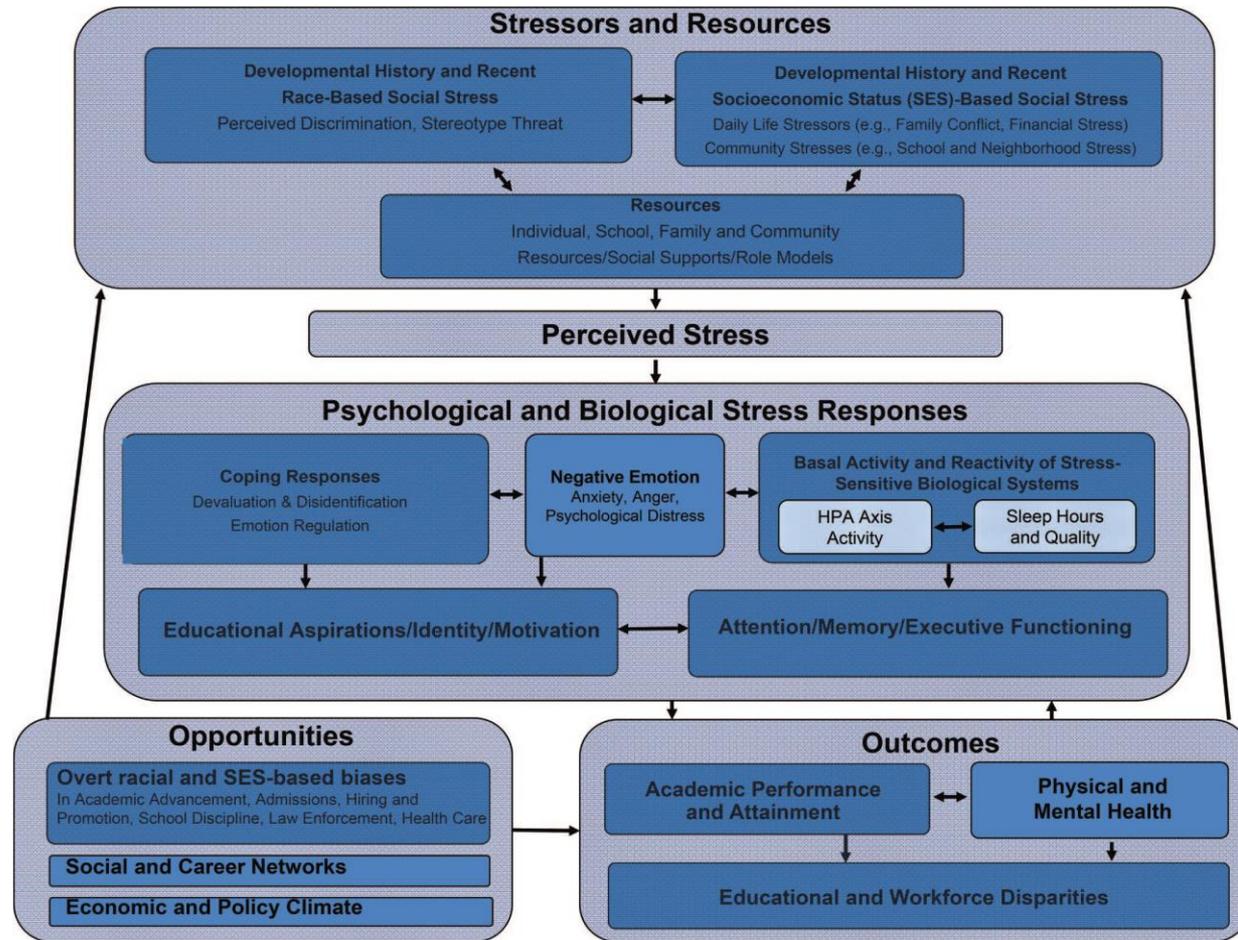


Ecological Systems Perspective



(Bronfenbrenner, 1979)

The Race-Based Disparities in Stress and Sleep in Context (RDSSC) model



(Levy, Heissel, Richeson, & Adam, 2016)



RDSSC model

- Discrimination and race-based social stress means children of color experience this model differently than dominant culture children
- Race-based stress occurs in multiple contexts in a person's world

Ecological systems & race-based stress

- Macro level: historical context of racism, discriminatory policies/laws, broadly held stereotypes, current events
- Exosystem: school district, local politics, parents' work

Ecological systems & race-based stress

- **Microsystem:** school policies, exclusionary discipline, neighborhood conditions
- **Individual:** stereotype threat, biological stress responses, disrupted sleep, family relationships, emotion regulation

Research questions

- Which elements of the RDSCC have the greatest impacts on the positive mental health of Black/African American, Latinx, & White adolescents?
- Which elements of the RDSCC have the greatest impacts on the general well-being of Black/African American, Latinx, & White adolescents?
- How can we put this in practice in schools?

Sample

- 5171 middle and high school students from 17 NC schools (2 communities)
- 60.5% White, 17% Black or African American, 14% Latinx, 8% other
- 50% male, 50% female
- Age range 9-20 years (mean = 12.73)

The School Success Profile

- Assesses socioenvironmental context for learning, health, & well-being
- Developed especially for use with middle & high school students
- Self-report, online or paper administration
- 30 domains in 7 dimensions



SCHOOL SUCCESS PROFILE

Flying Bridge Demo Summer 2012
FBT Pretest

Student ID: 6510039

Administered: 3/22/2011

Individual Profile

Social Environment Profile

Neighborhood

- Neighborhood Safety ● Asset
- Neighborhood Youth Behavior ● Caution
- Neighbor Support ● Risk

School

- School Safety ● Asset
- School Satisfaction ● Asset
- Learning Climate ● Asset
- Academic Rigor ● Asset
- Academic Relevancy ● Caution
- Teacher Support ● Asset
- Micro Interactions ● Asset

Friends

- Friend Behavior ● Asset
- Peer Group Acceptance ● Asset
- Friend Support ● Caution

Family

- Home Academic Environment ● Caution
- Parent Education Support ● Asset
- School Behavior Expectations ● Asset
- Parent Support ● Asset
- Family Togetherness ● Caution

Reference Information

| | |
|--------------------------------|------------------------|
| Age: | 10 |
| Grade: | 6th |
| Gender: | Male |
| Race: | Black/African-American |
| Free/Reduced: | Yes |
| Hispanic or Latino Background: | No |
| Active Duty Adult In Home: | No |

Individual Adaptation Profile

Personal Beliefs And Well-Being

- Physical Difficulties ● Asset
- Body Weight ● Asset
- Physical Health ● Asset
- Adjustment ● Asset
- Self-Confidence ● Caution
- Religious Orientation ● Caution
- Social Support Use ● Caution

School Attitudes and Behavior

- Success Orientation ● Asset
- School Engagement ● Asset
- Extracurricular Participation ● Asset
- Trouble Avoidance ● Caution

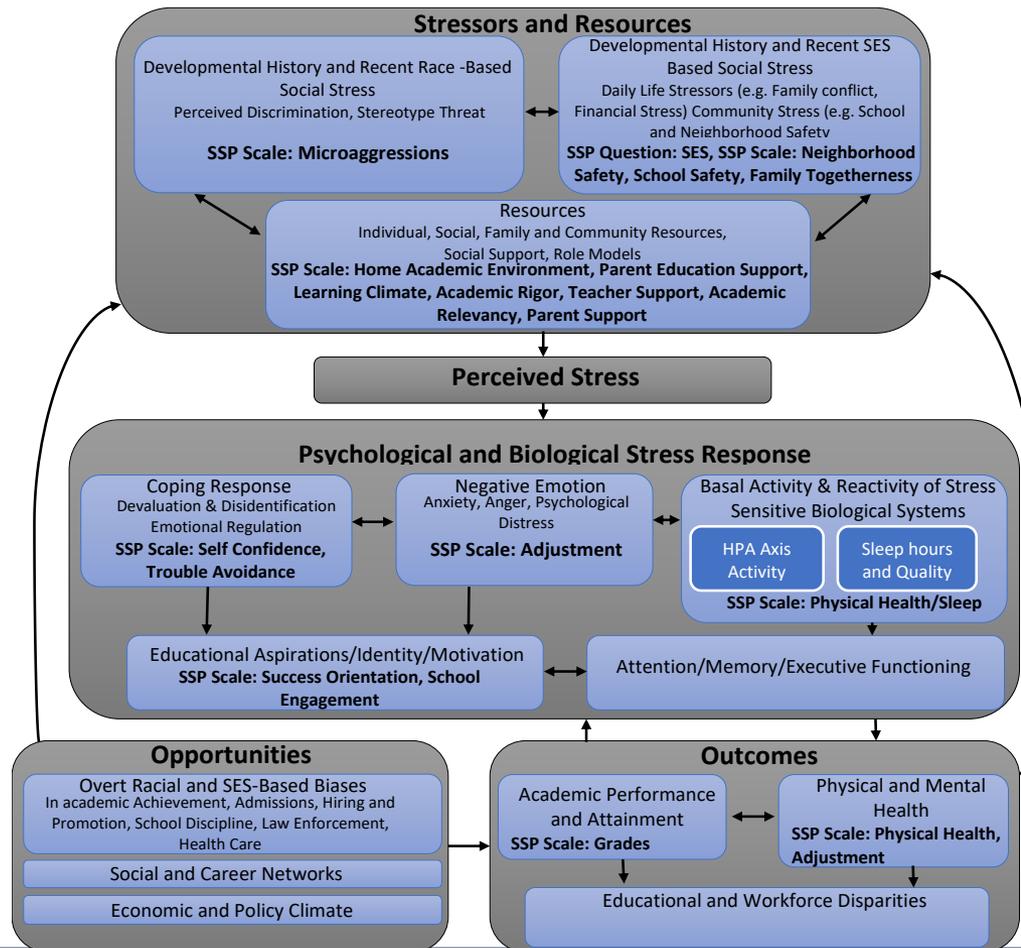
Academic Performance

- Grades ● Risk

Key

- Risk
- Caution
- Asset
- Not Answered
- Not Assessed

The Race-Based Disparities in Stress and Sleep in Context (RDSSC) model & the SSP



(Bowen & Richman, 1995; Levy et al., 2016)



General well-being & positive mental health

- General well-being scale = 6 items reflecting physiological symptoms of mental or physical distress (reverse coded)
- Positive mental health scale = 5 items assessing confidence, self-efficacy, self-esteem

Analysis Plan

- Independent samples t-tests for mean differences in positive mental health & general well-being
- Hierarchical linear regression to determine variance contributed by each RDSSC element

Mean differences

- No statistically significant differences between groups in general well-being
- Students of color reported significantly better mental health than White students

Analysis Plan: hierarchical regression

- **Block 1: Stressors & Resources** (demographics)
- **Block 2: Discrimination** (micro interactions)
- **Block 3: School Environment** (school safety & satisfaction)
- **Block 4: Neighborhood Environment**
- **Block 5: Family Home Environment** (family togetherness & parent support)
- **Block 6: Sleep** (quality sleep items)
- **Block 7: Negative Emotions** (mental adjustment)
- **Block 8: School Attitudes & Participation** (school engagement, success orientation, hours of homework, extracurricular involvement)

Latinx positive mental health

| Block | R ² | ΔR |
|--|----------------|------|
| demographics | .012 | -- |
| micro/peer aggression | .043 | .031 |
| school safety & satisfaction | .203 | .160 |
| neighborhood characteristics | .210 | .007 |
| family support | .310 | .100 |
| sleep | .326 | .016 |
| negative emotions | .336 | .010 |
| school attitudes (school engagement and success orientation) | .384 | .048 |

Black/African American positive mental health

| Block | R ² | ΔR |
|--|----------------|------|
| demographics | .008 | -- |
| micro/peer aggression | .056 | .048 |
| school safety & satisfaction | .081 | .025 |
| neighborhood characteristics | .130 | .049 |
| family support | .218 | .088 |
| sleep | .228 | .010 |
| negative emotions | .247 | .019 |
| school attitudes (school engagement and success orientation) | .311 | .064 |

White positive mental health

| Block | Total R ² | ΔR ² |
|--|----------------------|-----------------|
| Demographics: gender, FRL | .007 | -- |
| Aggression Composite | .062 | .055 |
| School Environment: School Safety, School Satisfaction | .167 | .105 |
| Neighborhood: Neighborhood Safety, Neighborhood Youth Behavior, Neighbor Support | .187 | .020 |
| Family Context: Family Togetherness, Parent Support | .256 | .069 |
| Sleep | .277 | .021 |
| Negative Emotions | .312 | .035 |
| School Attitudes & Behaviors: School Engagement, Success Orientation, Extracurricular Participation, Hours of HW | .337 | .025 |



Latinx general well-being

| Block | R ² | ΔR |
|--|----------------|------|
| demographics | .035 | -- |
| micro/peer aggression | .167 | .132 |
| school safety & satisfaction | .185 | .018 |
| neighborhood characteristics | .227 | .042 |
| family support | .229 | .002 |
| sleep | .418 | .189 |
| negative emotions | .456 | .038 |
| school attitudes (school engagement and success orientation) | .459 | .003 |

Black/African American general well-being

| Block | R ² | ΔR |
|--|----------------|------|
| demographics | .029 | -- |
| micro/peer aggression | .097 | .068 |
| school safety & satisfaction | .114 | .017 |
| neighborhood characteristics | .132 | .018 |
| family support | .138 | .006 |
| sleep | .363 | .225 |
| negative emotions | .391 | .028 |
| school attitudes (school engagement and success orientation) | .394 | .003 |

White general well-being

| Block | Total R ² | ΔR ² |
|--|----------------------|-----------------|
| Demographics: gender, FRL | .041 | -- |
| Aggression Composite | .148 | .107 |
| School Environment: School Safety, School Satisfaction | .168 | .02 |
| Neighborhood: Neighborhood Safety, Neighborhood Youth Behavior, Neighbor Support | .200 | .032 |
| Family Context: Family Togetherness, Parent Support | .205 | .005 |
| Sleep | .420 | .215 |
| Negative Emotions | .446 | .026 |
| School Attitudes & Behaviors: School Engagement, Success Orientation, Extracurricular Participation, Hours of HW | .453 | .007 |

Results

- RDSSC/SSP model explained:
 - 38.4% of variance in positive mental health, 45.9% of variance in general well-being for Latinx students
 - 31.1% of variance in positive mental health, 39.4% of variance in general well-being for Black/African American students
 - 33.7% of variance in positive mental health, 45.3% of variance in general well-being for White students

Results

- Positive mental health contributors:
 - School climate & safety (Latinx & White students)
 - Family support (Latinx & Black/African American students)
- General well-being contributors:
 - Sleep (all students)
 - Reduced peer aggression (White & Latinx students)

What do you do to promote a positive school climate, healthy sleep, positive peer relationships, and family support?

Informing intervention

- Universal-level approaches may be most effective (WHO, 2014)
 - “rising tide raises all boats”...but not all boats start at the same level of water
 - Youth of color tend to report more insomnia/poorer quality sleep than White peers (Blank et al., 2015)
- Advocacy opportunity: later start times

Informing intervention

- School climate and connectedness
 - Anti-bullying programs
 - Seeing and celebrating strengths and differences (representation matters!)
 - Positive peer relationships
 - Check in/check out

Informing intervention

- Sleep strategies:
 - Classroom level:
 - Sleep education
 - Sleep hygiene
 - Individual level:
 - Motivational interviewing (+ parents/caregivers)
 - Sleep diary/tracking
 - Relaxation strategies

| Complete in Morning | | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Start date: __/__/__ | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 | Day 7 |
| Day of week: | ___ | ___ | ___ | ___ | ___ | ___ | ___ |
| I went to bed last night at: | PM / AM |
| I got out of bed this morning at: | AM / PM |
| Last night I fell asleep: | | | | | | | |
| Easily | <input type="checkbox"/> |
| After some time | <input type="checkbox"/> |
| With difficulty | <input type="checkbox"/> |
| I woke up during the night: | | | | | | | |
| # of times | | | | | | | |
| # of minutes | | | | | | | |
| Last night I slept a total of: | Hours |
| My sleep was disturbed by: List mental or physical factors including noise, lights, pets, allergies, temperature, discomfort, stress, etc. | | | | | | | |
| | | | | | | | |
| When I woke up for the day, I felt: | | | | | | | |
| Refreshed | <input type="checkbox"/> |
| Somewhat refreshed | <input type="checkbox"/> |
| Fatigued | <input type="checkbox"/> |
| Notes: Record any other factors that may affect your sleep (i.e. hours of work shift, or monthly cycle for women). | | | | | | | |
| | | | | | | | |

| Complete at the End of Day | | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 | Day 7 |
| Day of week: | ___ | ___ | ___ | ___ | ___ | ___ | ___ |
| I consumed caffeinated drinks in the: (M)orning, (A)fternoon, (E)vening, (N/A) | | | | | | | |
| M / A / E / NA | | | | | | | |
| How many? | ___ | ___ | ___ | ___ | ___ | ___ | ___ |
| I exercised at least 20 minutes in the: (M)orning, (A)fternoon, (E)vening, (N/A) | | | | | | | |
| | | | | | | | |
| Medications I took today: | | | | | | | |
| | | | | | | | |
| Took a nap? (circle one) | Yes No |
| If Yes, for how long? | | | | | | | |
| During the day, how likely was I to doze off while performing daily activities: No chance, Slight chance, Moderate chance, High chance | | | | | | | |
| | | | | | | | |
| Throughout the day, my mood was... Very pleasant, Pleasant, Unpleasant, Very unpleasant | | | | | | | |
| | | | | | | | |
| Approximately 2-3 hours before going to bed, I consumed: | | | | | | | |
| Alcohol | <input type="checkbox"/> |
| A heavy meal | <input type="checkbox"/> |
| Caffeine | <input type="checkbox"/> |
| Not applicable | <input type="checkbox"/> |
| In the hour before going to sleep, my bedtime routine included: List activities including reading a book, using electronics, taking a bath, doing relaxation exercises, etc. | | | | | | | |
| | | | | | | | |

<https://www.sleepfoundation.org/sites/default/files/SleepDiaryv6.pdf>

