

# Parental Practice of Sleep Hygiene and Children's Temperament



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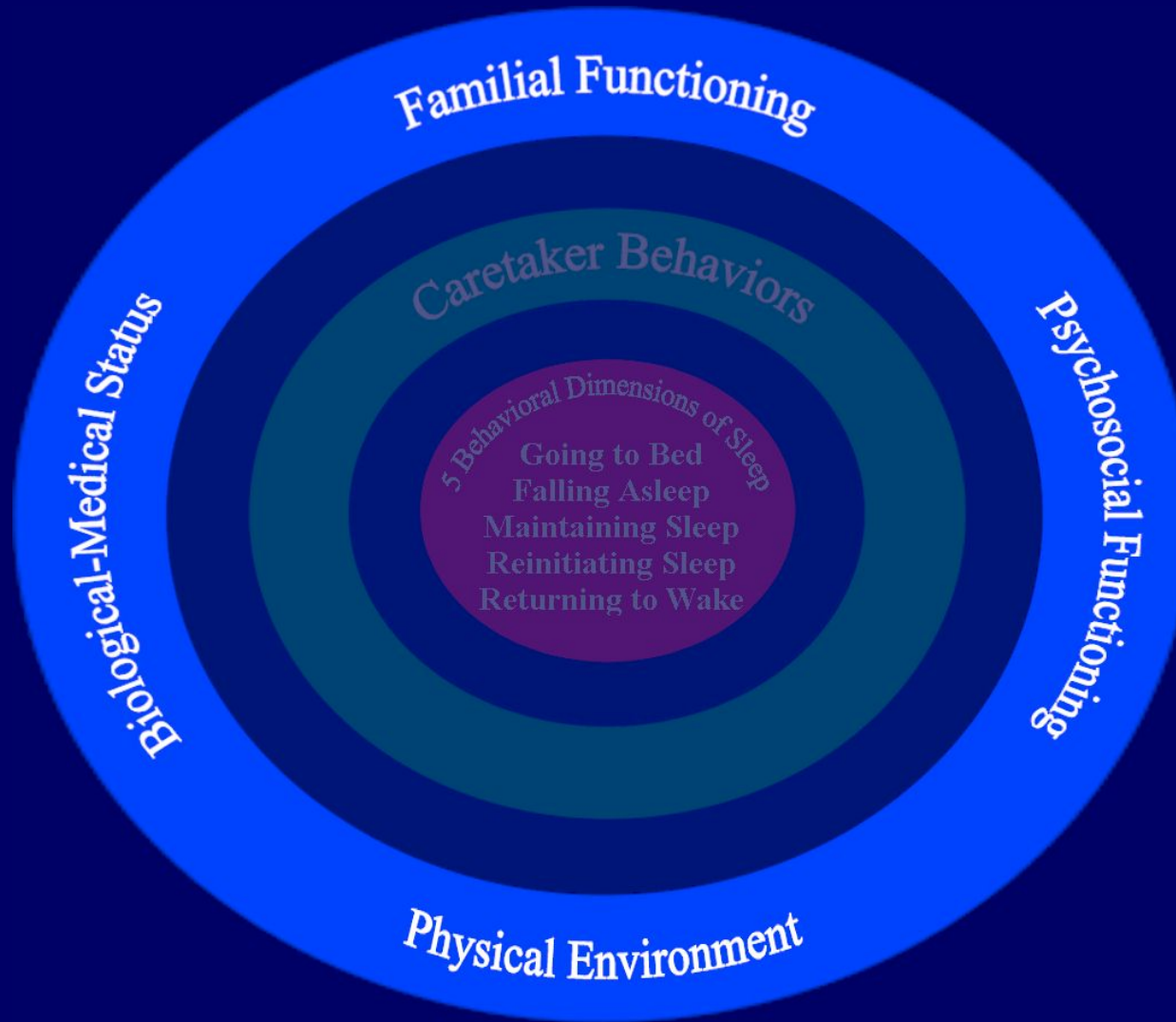
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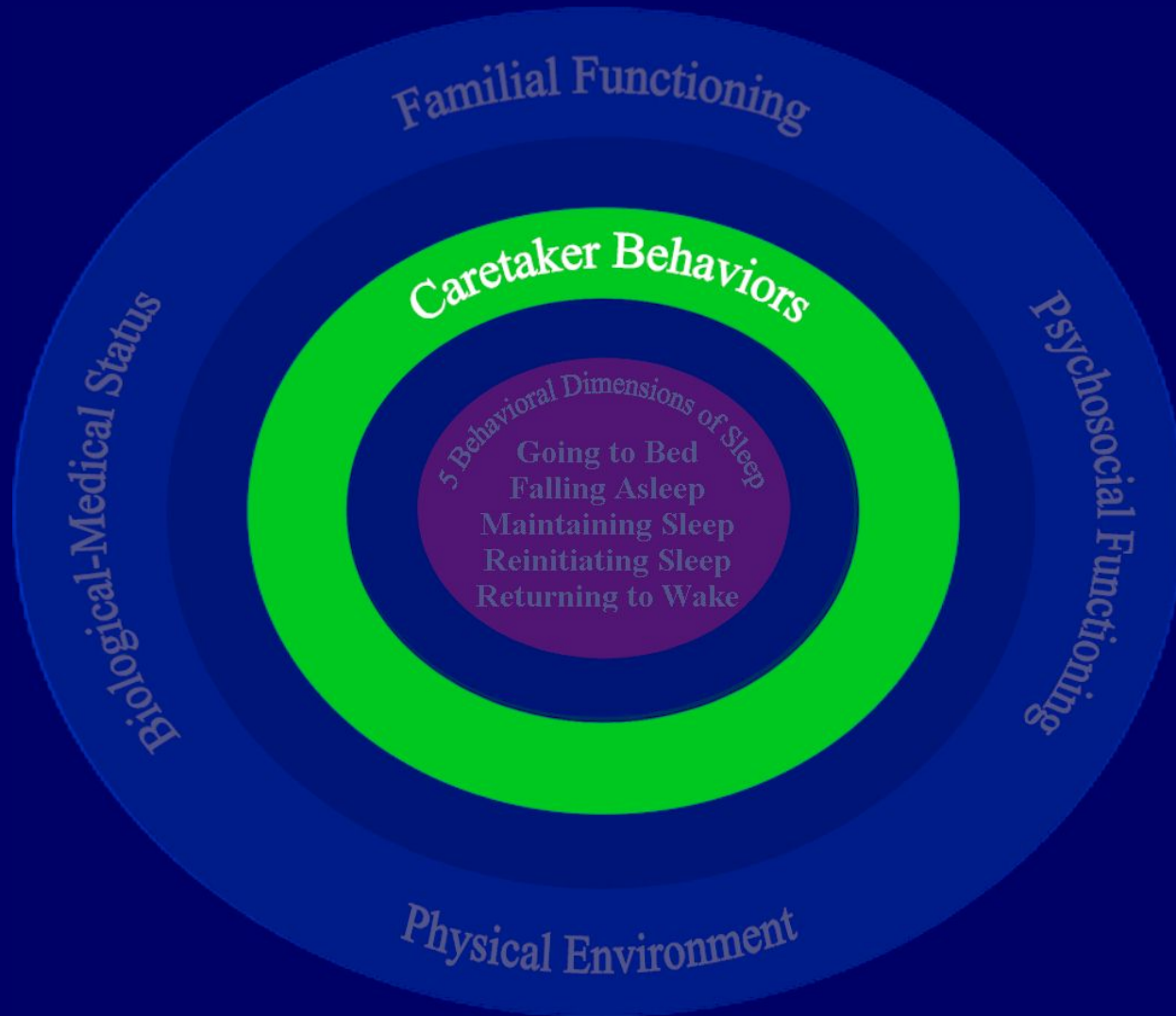
# Model for Studying Children's Sleep

- Children's sleep occurs within a broad context
- Transactional model
- Transitions to and from sleep important
- Sleep facilitators / inhibitors important
- Sleep quality assessed in behavioral terms
- Model includes 3 domains

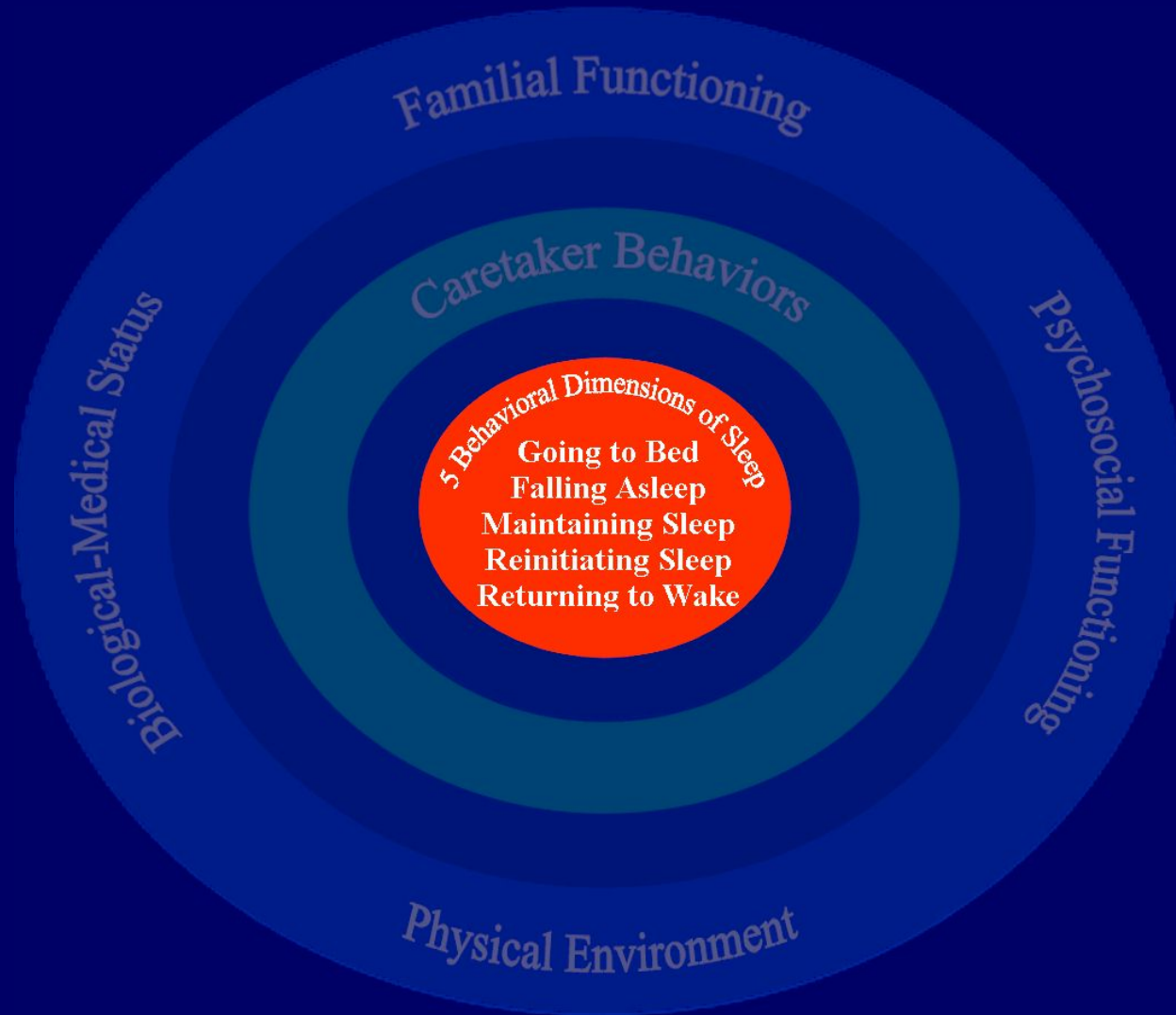
# Contextual Domain



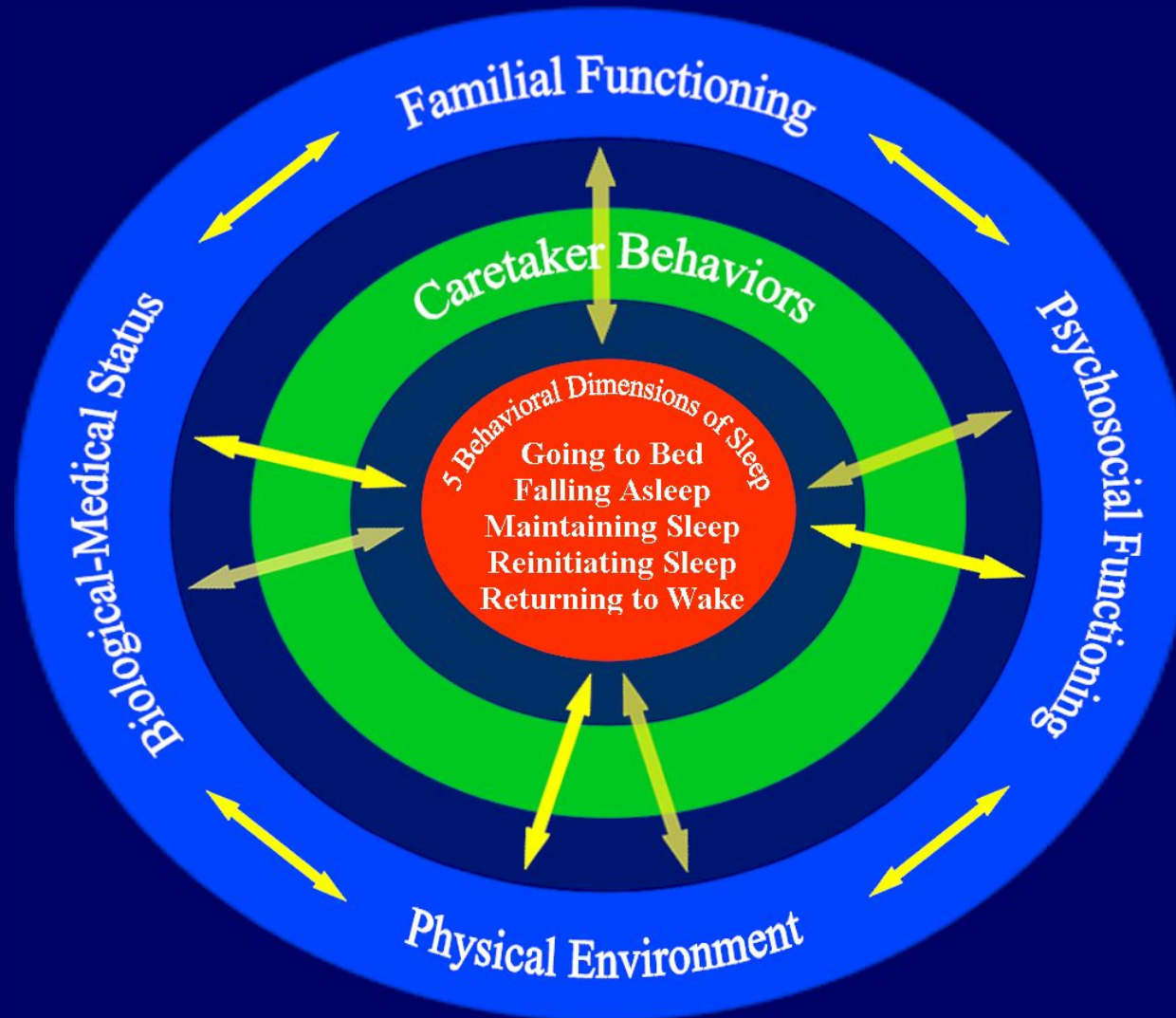
# Behavioral Domain



# Sleep Domain



# Model for Studying Children's Sleep



# Sleep is a Common Problem

- 30% - 55% resist bedtime (tantrums, curtain calls)
- 7% - 15% have sleep onset delays
- 9% - 22% frequently wake during the night
- 6% - 30% have difficulties returning to sleep after a night waking (crying, calling out)
- 5% - 23% have problems waking in the morning

# Sleep and Temperament

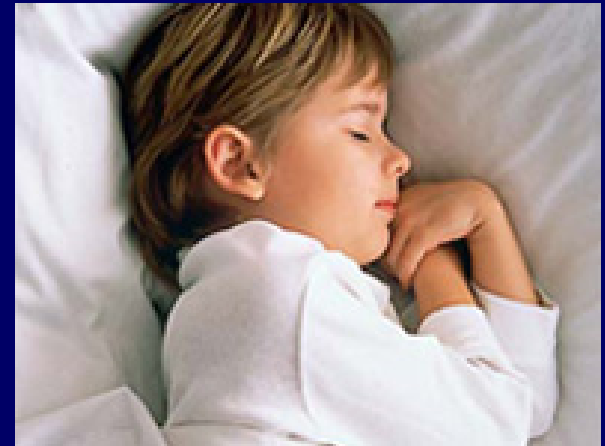
- Bedsharers more intense and exhibit less adaptability (Hayes et al., 2007)
- Intense/negative temperament associated with behavioral sleep disturbances (Owens et al., 1997)
- Adaptability correlated with number of night wakings (Weissbluth, 1984)
- Difficulties with adaptability predicted sleep problems (night waking >1x/night) (Atkinson et al, 1995)

# Follow-Up Interviews

- 9/35 (26%) children w/ **Easy** temperament profiles had sleep problem
- 5/22 w/ (23%) children w/ **Difficult** temperament profiles had no sleep problem
- Follow-up interviews on parental handling
  - Nature and attitude differed – impacted night waking?

# Research Questions

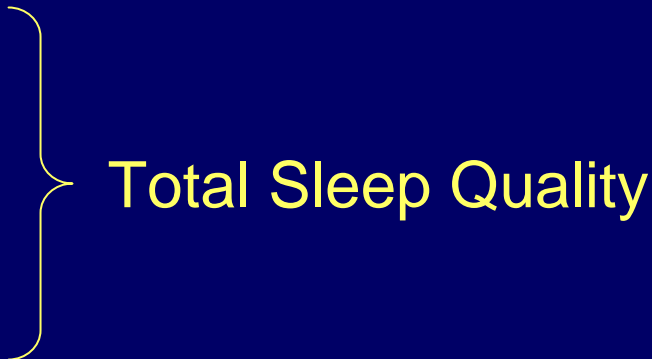
- What is the relationship between temperament and sleep quality in preschool children?
- Does parental practice of sleep hygiene moderate this relationship?



# Existing Sleep Questionnaires

- Most asked about unspecified sleep problems
- Many used single-item measures of specific sleep behaviors
- No questionnaires assessing the full range of sleep quality along multiple dimensions
- Lack of psychometric assessment

# Children's Sleep-Wake Scale (CSWS)

- 25-item parent report measure
  - 6-point response set (Always to Never)
  - 5 behavioral dimensions of sleep quality
    - Going to Bed
    - Falling Asleep
    - Maintaining Sleep
    - Reinitiating Sleep
    - Returning to Wakefulness
  - Higher scores = better sleep quality
- Total Sleep Quality**
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# Children's Sleep Hygiene Scale (CSHS)

- 24-item parent report measure
  - 6-point response set (Always to Never)
  - Assesses multiple aspects of Sleep Hygiene
    - Substances
    - Cognitive Activation
    - Emotional Activation
    - Physiological Activation
    - Sleep Stability
    - Bed Sharing
- } Total Sleep Hygiene
- Higher scores = better sleep hygiene

# Recruitment Strategy

- Representative sample from a tri-county area in southern Mississippi
- Multi-site sampling strategy
  - Head Start Centers
  - Public Health Department
  - Shopping Malls
  - Daycare Centers & Preschools
  - Community Events
- Snowball sampling method
- Census data guided recruitment

# Participants

- 261 preschool children
- 3 to 5 years old (mean = 3.9, SD = .75)
- 129 males, 132 females

## Race:

- 70% Caucasian
- 29% African American
- 1% Other

## Household Income:

- 32% < 25 K
- 37% 25 – 50 K
- 24% 50 – 100 K
- 7% >100 K

# Behavioral Style Questionnaire (BSQ)

- 100-item parent-report questionnaire
- Assesses temperament in 3-7 year-olds
- 6-point response set (almost never to almost always)
- 9 dimensions:
  - Activity
  - Rhythmicity/Predictability
  - Approach/Withdrawal (reaction)
  - Adaptability
  - Intensity of Reaction
  - Mood
  - Distractibility
  - Persistence
  - Threshold of Responsiveness

# Procedures

Administered in sleep laboratory:

- Children's Sleep-Wake Scale (CSWS Total)
- Children's Sleep Hygiene Scale (CSHS Total)
- Behavioral Style Questionnaire

# Temperament and Sleep Quality

Correlation Coefficients (r)

CSWS Total

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**Activity**                    **-.31\*\***

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**Adaptability**            **-.46\*\***

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**Mood**                    **-.51\*\***

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**Persistence**            **-.27\*\***

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Correlation Coefficients (r)

CSWS Total

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**Approach**                **-.17**

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**Intensity**               **-.12**

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**Distractibility**        **-.06**

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**Threshold**              **-.07**

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\*\* p < .01

# Adaptability and Sleep Hygiene

Correlation Coefficients (r)

Adaptability

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**CSHS Total**      **-.39\*\***

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\*\* p < .01

Items (examples) not associated with adaptability:

Napping, caffeine, consistency of sleep place, sleeping in a dark/quiet room, get out of bed at same time in morning

Correlation Coefficients (r)

Adaptability

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**Relaxing things before bedtime**      **-.22\*\***

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**Activities in bed-awakening**      **-.32\*\***

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**Goes to bed feeling upset**      **-.32\*\***

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**Stays up past usual bedtime**      **.31\*\***

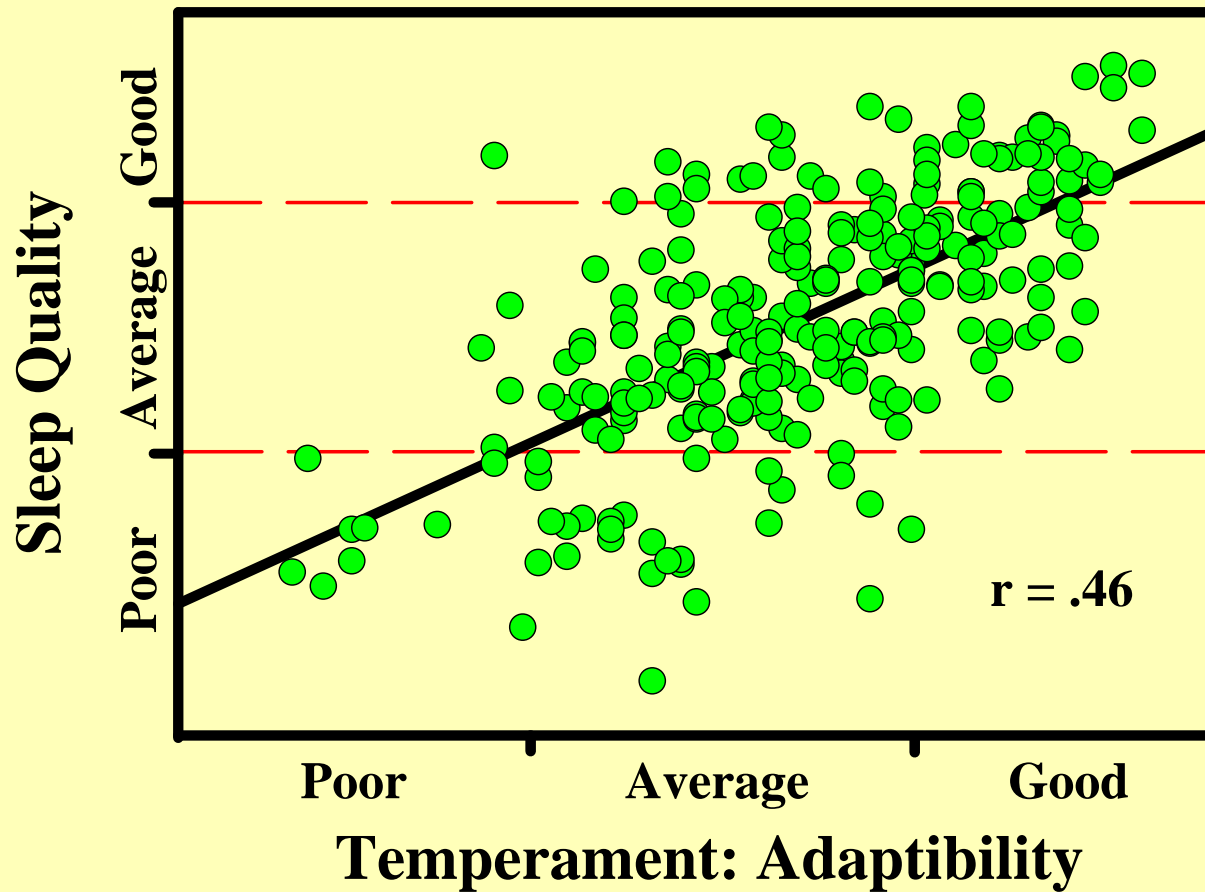
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**Calming bedtime routine**      **-.25\*\***

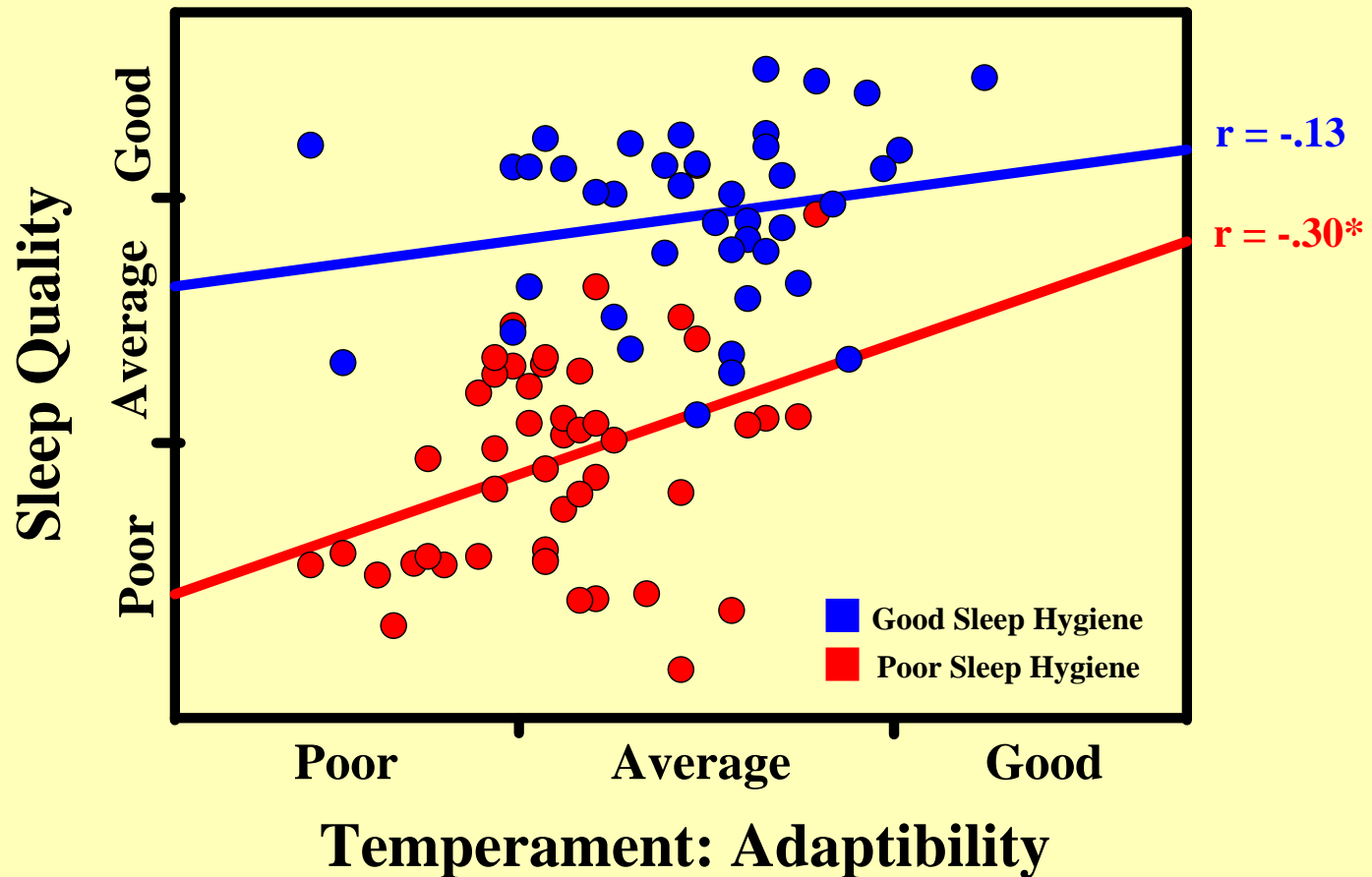
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\*\* p < .01

# Adaptability and Sleep Quality



# Sleep Hygiene as a Moderator



# Summary

- Specific dimensions of temperament (adaptability, mood, activity, persistence) associated with sleep quality
- Adaptive children more likely to have parents who provide regular bedtime routines with calming activities close to bedtime
- Context in which wake-to-sleep transition occurs is important

# Limitations / Future Directions

- Reporter bias – need for multiple methods of assessing sleep / temperament
- Reverse causality? - Poor sleep quality could elevate standing on temperament scale
- Need to further explore parenting strategies surrounding wake-sleep and sleep-wake transitions

# Research Team

## Lab Director / Mentor

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Studies supported by the Lucas Foundation (USM) and the National Science Foundation



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