Objectives:
1. Describe problematic sleep patterns within specific college populations.
2. Discuss types of sleep health promotion programs.
3. Describe the efficacy of sleep programs implemented on two campuses

Outline:
1. Why we Sleep
2. Consequences of Sleep Deprivation
3. Challenges of College Student Sleep
4. Demographics of Poor Sleep ACHA – NCHA-II
5. Intervention Strategies & Examples
6. Macalester College- Nap Promotion & First year seminar education programs
7. University of St. Thomas Sleep Squad
   1. Self-Assessments
   2. Customized Motivational Talk
   3. Sleep Hygiene Tools
8. Recommendations

Sleep Professional Practice Gap
80-90% of chronically sleepy students aren’t getting help from their college. Improving student sleep is one of the healthy campus 2020 goals. Only 26% of students report receiving information about sleep from their college, but over 50% report wanting that information. Most counselors, psychologists, PA’s and family physicians don’t feel adequately trained in diagnosing and treating sleep concerns.

Challenges of College Student Sleep
1) Stress & time management
2) Irregular Schedules (highly inconsistent bed times & wake up times)
3) Electronics use before (and during!) sleep
4) Psychoactive drugs (caffeine, alcohol, psychostimulants, anti-depressants, marijuana)
5) Poor control over living environment (noisy, too hot, too much light, roommates)

National College Health Assessment-II Factor Analysis
Eleven sleep questions are in the current ACHA-NCHA-II:
1. Last 12 months diagnosed/treated: Insomnia
2. Last 12 months diagnosed/treated: Other sleep disorder
3. Last 12 months difficult to handle: Sleep difficulties
4. Academic performance negatively affected by sleep difficulties
5. Last 7 days: Enough sleep to feel rested
6. Last 7 days: Problem with sleepiness
7. Last 7 days: Awakened too early
8. Last 7 days: Felt tired/sleepy during the day
9. Last 7 days: Gone to bed because could not stay awake
10. Last 7 days: Extremely hard time falling asleep
11. Ever - Felt exhausted
These form three clusters: A) Sleep Disorder Diagnosis (5% of students); B) Excessive Sleepiness (40% of students); C) Problems with sleep timing / maintenance (waking up too early, sleep onset insomnia) (20 – 30% of students). 25% of students say sleep difficulties are “difficult to handle”.

Sleep Disorders: Most sleep disorders are undiagnosed in this age group. Often students will have lived with symptoms for years, and just think that excessive sleepiness, morning headaches, paralyzing dreams, or restless legs are normal. Most common disorders to be on the lookout for are Sleep Disordered Breathing (including apnea), Delayed Phase Syndrome, Restless Leg Syndrome, and Narcolepsy. www.sleepfoundations.org can be a great resource.

Measures to Assess Sleep
- Pittsburgh Sleep Quality Index (scores of 6 or above indicate poor sleep quality)
- Epworth Sleepiness Scale (scores over 9 indicate clinically concerning levels of excessive daytime sleepiness).
- We are piloting a College Sleep Screening evaluation (n > 490)

Who’s Not Sleeping Well? Insights from NCHA-II (data not yet published)
By far, the students with the worse sleep are those with psychiatric diagnoses, chronic illnesses, transgendered students, those with ADHD and other learning disabilities. Black and multi-racial students tend to have more sleep problems than Latino, white and Asian students. Males, married students, athletes, and International students tend to have the best sleep quality.

Consequences of Poor Sleep
Experimental data has shown that fragmented and/or insufficient sleep has major negative consequences on almost all aspects of health including decision making, mood, anxiety, reaction time, immune function, cardiovascular function, glucose metabolism, and weight management. Correlational data from the ACHA-NCHA-II show that students with worse scores on sleepiness and sleep timing problems have lower grades, higher alcohol and prescription drug abuse, higher rates of depression, anxiety, stress, suicidal ideations, sexually transmitted infections, colds, flu, strep throat, and migraines. Second only to whether or not one is in an abusive relationship, problems with sleep are the best predictors for academic impediments. Many of these relationships are complex and bidirectional. E.g., anxiety increases pre-sleep cognitive arousal, nightmares, and sleep disruption, and sleep deprivation enhances anxiety. Problems in sleep timing are the biggest predictor of academic problems, accounting for over 20% of the variance in impediments to academic success.
Sleep Health Promotion Strategies

- **Public Awareness Campaign** - Highlight consequences of poor sleep, train student life and health professionals to be aware of sleep problems
- **Social Norming Campaign** - not much is known about what students think ‘normal’ sleep is.
- **Sleep Hygiene Education** - distributing information about healthy sleep habits and sleep tools (eye masks, ear plugs, lavender pillow spray)
- **Schedule enforcement & Zeitgeber control** - limit library, gym, on campus activity hours, class times, wireless server time. Enforce lights out and quiet times. (Guaranteed not to be liked to students or administrators!)
- **CBT for anxiety and stress**, specifically providing tools to promote relaxation

Macalester College: Nap Project & First Year Seminar Study

**Study 1: Nap project.** Surveys revealed GPA negatively correlated with daytime sleepiness, most students who napped were doing so for too long and at the wrong time of day. Nap awareness campaign focused on how to nap, when to nap, where to nap.

**Study 2: First year seminar Healthy Sleep Promotion.** Faculty invited Health Promotions staff in to class 2-3 times during the semester to briefly talk about the benefits of healthy sleep. Compared to classes that didn’t get this information, students receiving the health sleep information reported more knowledge of healthy sleep behaviors, more frequent napping, and less frequent negative sleep behaviors at the end of the semester.

University of St. Thomas Sleep Squad

The Sleep Squad is a sleep intervention program that uses students’ intrinsic interests to encourage them to invest in sleep. The Sleep Squad tailors a presentation about the importance of sleep to particular small group students (e.g., sports teams, student clubs, specific courses). The Sleep Squad then 1) assesses individual sleep health markers and impediments to sleep, 2) provides students with resources to help with their particular problems, 3) provides three weeks of follow-up resources and supportive messaging, and 4) assesses sleep behaviors after the program’s conclusion with an online survey for pre-post comparisons. Post surveys show improvements in mood, specific sleep behaviors, and knowledge of healthy sleep three weeks after the program presentation.
Recommended Readings: