

# Later School Start Times

The Impact of School Daily Schedule  
On Adolescent Sleep...Why Okaloosa  
Needs a Change

# What You Will Learn Today

- Biology of Adolescent Sleep-Awake Cycle
- Consequences of Sleep Deprivation
- School Start Time Initiatives and Outcomes
- School Start Time Issue in Okaloosa County
- School Start Time Initiative for Okaloosa County

# Circadian System and Sleep

## **Sleep patterns of elementary students**

- 10 to 12 hours of sleep necessary each night.
- Bedtimes can be set by parents.
- Early to bed and early to rise is natural.
- Little need for parental wake up calls or alarms.

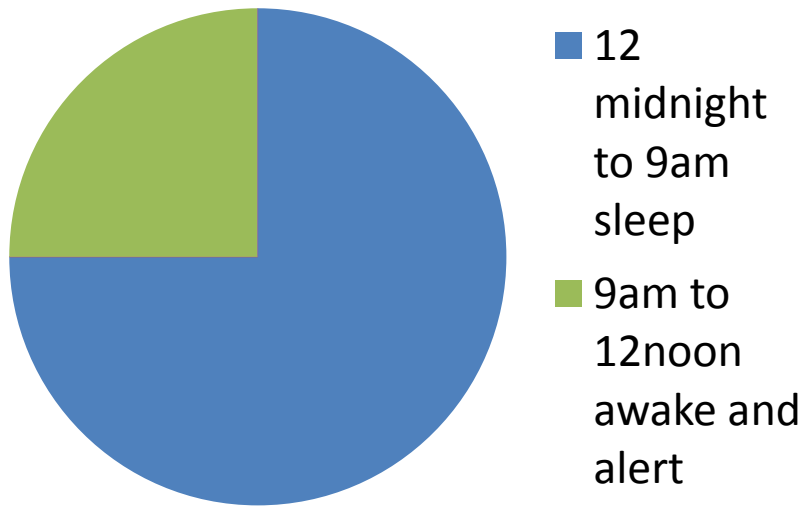
## **Sleep patterns of adolescent students**

- 8 to 9.5 hours of sleep necessary each night.
- Melatonin secretion starts later, inducing sleepiness near midnight.
- Difficult to fall asleep before 11pm and difficult to wake up and be alert earlier than 8am.
- Sleep pattern is similar in developed countries world wide. We are not a nation of “lazy” teens.

# Adolescent sleep and awake pattern

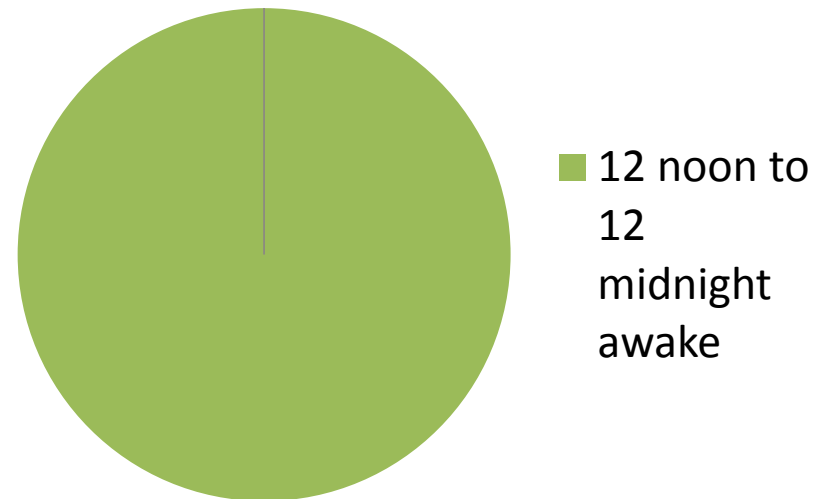
## 12 midnight to 12 noon

9 hours sleep and 3 hours awake



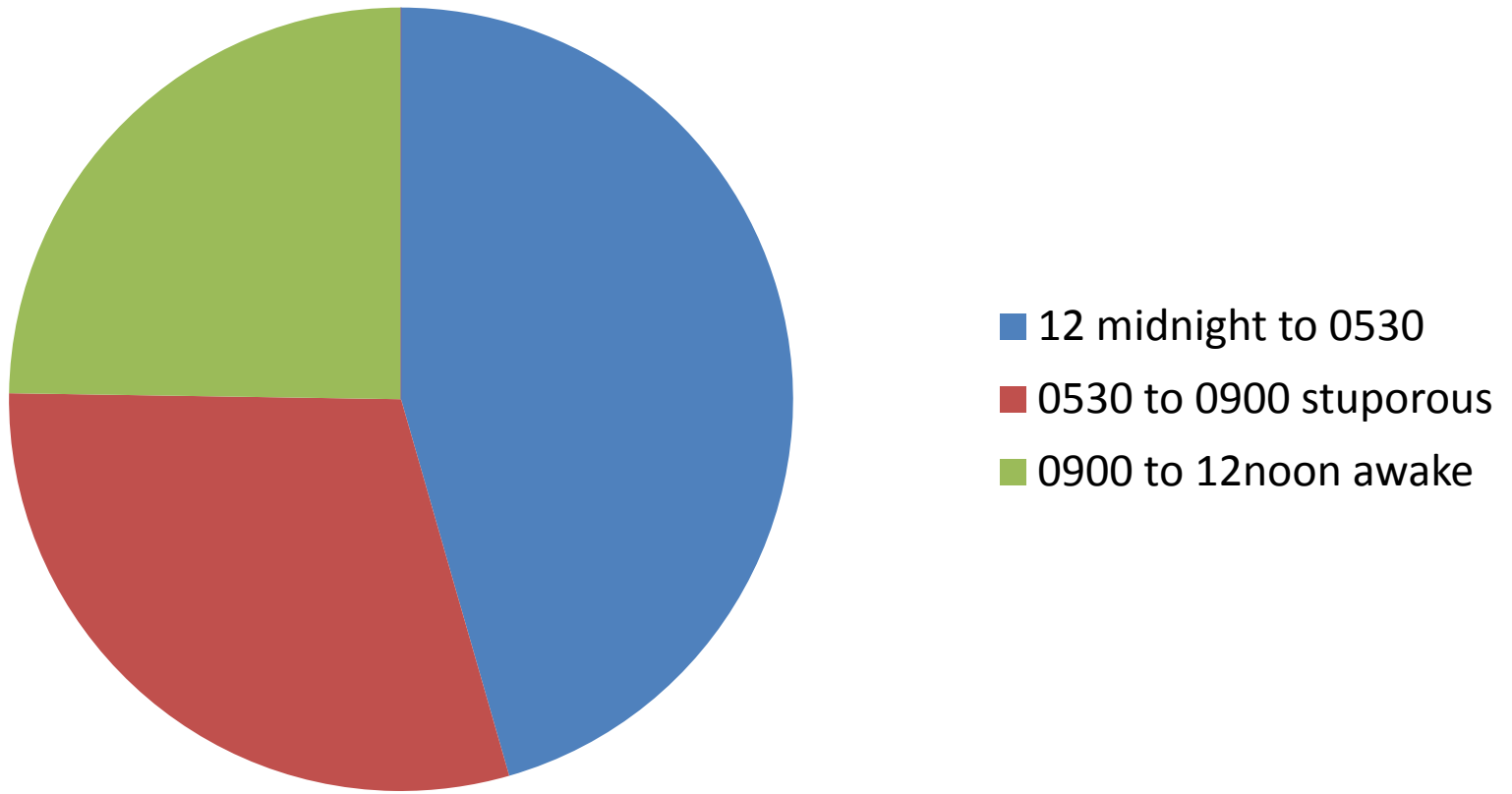
## 12 noon to 12 midnight

12 hours awake and alert



# Early school start time interrupts the circadian sleep phase shift

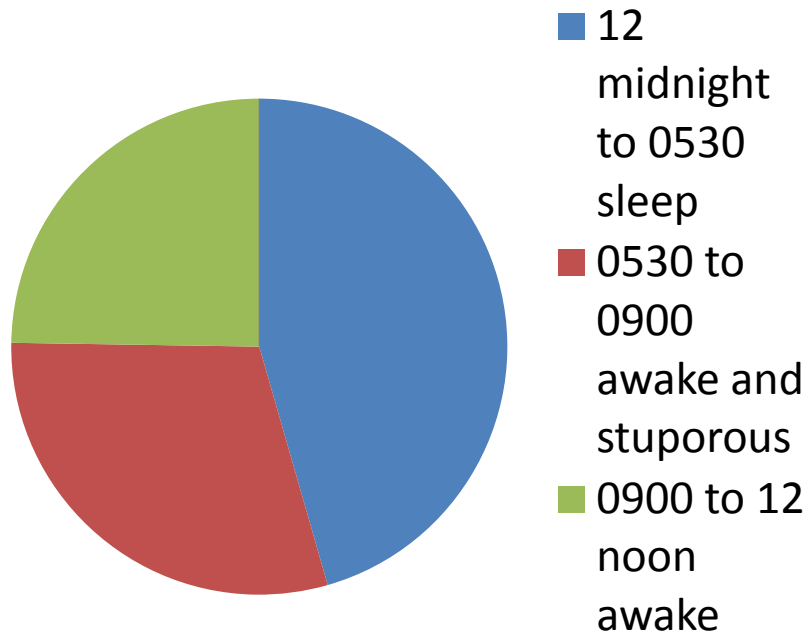
5.5 hours of sleep followed by 6.5 hours of awake time



# The combination of circadian phase shift and early school start time leads to sleep deprivation

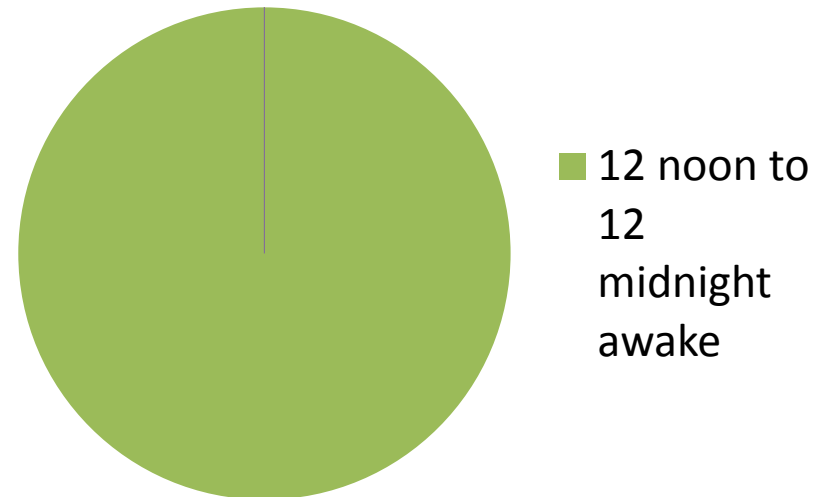
## 12 midnight to 12noon

5.5 hours of sleep and 6.5 hours awake



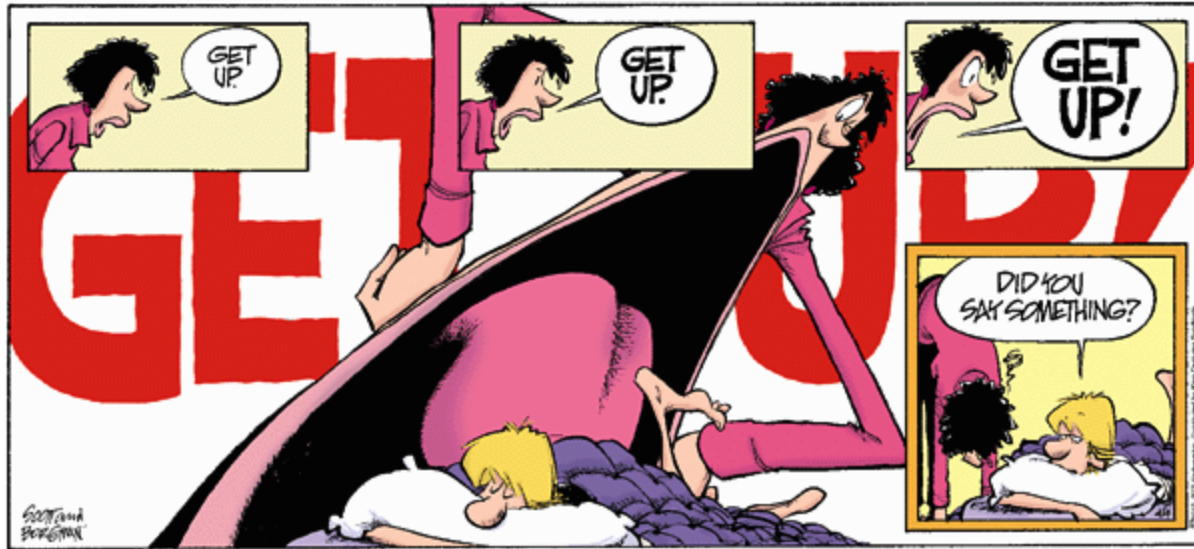
## 12 noon to 12 midnight

12 hours awake



ZITS

BY JERRY SCOTT AND JIM BORGMAN



# Consequences of Sleep Deprivation

- Mental / Neurocognitive
- Behavioral
- Safety
- Mood Disturbances
- Physical Health



# Mental/ Neurocognitive

- Alertness and vigilance become unstable and unreliable. Cognitive capabilities slow down.
- Sleep debt affects teens' ability to think, learn, perform and react appropriately. This results in memory deficits, impaired information processing and reduced creativity.
- Tired students have trouble retaining learned materials. The more you learn during the day, the more sleep you need at night for neuron synapses to connect, which is necessary for encoding memory.



# Behavioral

- Less motivated to do their best at school
- More likely to drop out of school

# Safety

- Tired teen drivers are more prone to accidents caused by drowsy drivers sleeping at the wheel.
- Sleep deprived teens are more vulnerable to drugs and alcohol and report greater use of tobacco and caffeine.

# Mood Disturbances

- Sleep debt affects mood. Many teens are angry, defiant, and irritable.
- Their moodiness and difficult behavior affects families, teachers, and peers.
- Sleep disruption can cause negative (depressed) mood in adolescents.



# Physical Health

- Sleep deprived teens will choose sleep over eating breakfast.
- Sleepy teens are more vulnerable to drugs and alcohol and are more likely to report use of caffeine and tobacco.
- Disrupted sleep/awake system affects endocrine, thermoregulatory, renal, cardiovascular, and digestive systems.

# Early school start times

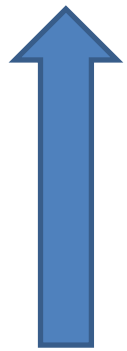
- Early school start times are the most important contributing factors for sleep deprivation among adolescents.
- The school start time sets the rhythm of the day for students, teachers, and the community.
- Okaloosa County has the earliest high school start times in the nation.





# Benefits of Later High School Start Times

- Minnesota: 1997-1998 school year
- 7 HS start times changed from 7:15am to 8:45am
- Education Researchers Univ. of Minn. examined the academic impact on 51,000 students over 3 years



continuously enrolled students

on time students

attendance in 9th and 10th graders

alertness and awake time in class

student motivation to do his best in school

# Benefits of Later School Start Times

- After school athletic and activity practices were shortened, with students arriving home later. However, no decrease in participation.
- No decrease in after school job participation.
- Coaches reported less tired athletes.
- Parents reported kids were “easier to live with” with fewer confrontations and more conversations and “connecting time” in the morning.



# High School Teacher Response to Later School Start Times

- Teachers reported more alert students during first 2 periods.
- Fewer students sleeping at their desks.
- Teachers enjoyed more team planning time in the morning.
- Fewer referrals to disciplinarian.

# Santa Rosa County Schools

- Third year of later school start times. All high schools start between 0900 and 0925
- Change was made due to implementation of a “ 3- tier” bus system and cost savings in 2007.
- Increased graduation rate, decreased delinquency rates.
- Superintendent, Assistant Superintendent, and Bus Transportation Director personally report success and positive outcomes and would like us to follow their lead.
- Community has adjusted. School Athletics remain competitive. Traffic on 98 and Hwy 90 to Pensacola improved.

# Okaloosa School Start Times and Buses

- “3-tiered” bus system with high schools on the first tier. This “3 tiered” system is most economical.
- K-12 school’s students ride together
- An approximate 2-hour minimum is necessary between the first and last drop-off times within a busing zone.

# 2009-2010 Okaloosa School Start Times

- 7:00am  
FWBHS, CHS, NHS, CHS  
Lewis MS, Davidson MS, Meigs MS (7:10am)
- 7:30-8:00am  
Baker K-12, Laurel Hill K-12 , Bruner MS, Pryor MS, Ruckel MS  
Bob Sikes, Elliott Point, Longwood, Northwood, Shalimar
- 8:15-8:30am  
Shoal River MS  
Destin Elem., Edge, Edwins, Eglin, Mary Esther, Plew, Walker,  
Wright
- 8:45-9:00am  
Destin MS  
Antioch, Bluewater, Florosa, Kenwood (8:40), Riverside,  
Valparaiso



# Current Bus Stop Schedule

- 5:30am: Crestview High School, FWBHS, Davidson MS
- 5:40am: Laurel Hill K-12, Bob Sykes Elem.
- 5:55am: Baker K-12 , Choctaw, NHS, Meigs MS
- 6:10am: Lewis MS
- 6:45am: Bruner MS
- 6:48am: Ruckle MS

# Proposed Change for Okaloosa County School Start Times

- All High Schools and both K1-12 schools are on the third tier of buses, with start times between 8:50am and 9:20am.
- Remaining schools are divided between the first and second tier (7:20am and 8:45am) as works best for the bus transportation department.

# How would athletes be affected?

- Practices start close to 4pm and finish close to 7:30pm.
- Students return home, eat dinner, shower, tackle homework and then text between 7:30 and 12 midnight.
- Sleep from 12midnight to 8:00am, getting adequate rest before the next school day.
- Coaches set start times for matches/games.
- Jrs. and Srs. have flexibility 6<sup>th</sup> and 7<sup>th</sup> periods.

# Where Do the Hours Go?

## Early school start time schedule

- Alarm sounds 5:30am
- Bus stop 6:20am
- School 7:00am to 1:50pm
- Return home on bus 2:15pm
- Back to school to travel to away game 4:30pm
- Game 7:00pm to 9:00pm
- Home between 9:45pm to 10:30pm
- Homework 10:30pm to 12:30am
- Bed 12:30 or 1:00am
- Sleep 4.5 to 5 hours

## Late school start time schedule

- Alarm sounds at 7:30am
- Bus stop 8:20am
- School 9:00am to 3:50pm
- Stay at school
- Load buses for travel to away game at 4:30pm
- Game 7:00pm to 9:00pm
- Home between 9:45 pm to 10:30pm
- Homework 10:30pm to 12:30am
- Bed 12:30 am or 1:00am
- Sleep 6.5 to 7 hours

# What about caring for the younger kids after school?

- There will always be a need for daycare due to shorter school day as compared to longer workday.
- Elementary schools and private day care centers offer after school care.
- Jrs. and Srs. have flexibility for 6th and 7<sup>th</sup> periods.
- The community will adjust, just as it has done with current early release days.

# What about students with jobs?

- High Schools with later start times have reported no decrease in student employment.
- Jrs. and Srs. who need to work have flexibility during 6<sup>th</sup> and 7<sup>th</sup> periods.
- If employment is a higher priority than academics, then the school calendar should start after the local tourism season ends on Labor Day.

# Timeline for Time Change

- Parents, students, teachers, and principals desire change.
- Bus Transportation creates routes with zero to minimal cost increase.
- Superintendent Dr. Alexis Tibbetts supports and proposes change to later high school start times.
- School Board Members vote “YES” to accept proposal.

# A wake up call

“Given that the primary focus of education is to maximize human potential, then a new task before us is to ensure that the conditions in which learning takes place addresses the very biology of our learners.”