

School Start and End Times

Brief Summary of Start Time Research and Impacts of Change

Fairbanks North Star Borough
School District

Western Demographics, Inc.
Shannon L. Bingham
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The Study Will Address a Variety of Questions

- Should high school start before 8:30 or after?
- Should middle school start before 8:30 or after?
- Do elementary students sometimes “burn out” because they wake-up early, but don’t start school until 2.5 or 3 hours later – should they start earlier?
- Are elementary students harmed if they walk to school in the dark a few more weeks during the school year if elementary schools start earlier?
- Do students in Alaska have the same Circadian Rhythm (*How Daylight Effects Body Rhythm*) as those in the Lower 48?

School Start Time Options That May Be Considered

Current Order - Fairbanks	Current Order – North Pole	Scenario 1 – Start Order	Scenario 2 – Start Order	Scenario 3 – Start Order	Scenario 4 – Start Order
HS	HS	ES	MS	ES	MS
ES / K8	MS	MS	ES	HS	HS
MS	ES	HS	HS	MS	ES

Other scenarios push starts back 15 minutes to 8:00 instead of 7:45

Potential Issues:

- Walking in the daylight vs. dark
- Students' after school scheduling for:
 - Extra-curricular activities and athletics
 - Student jobs
 - Childcare and supervision of younger siblings

Research Studies

- **Teens and Sleep**
 - Dr. Kyla L. Wahlstrom, University of Minnesota
- **Sleep and Start Times**
 - Dr. Lisa J. Meltzer, National Jewish Health
- **Elementary Early Start Times**
 - Western Demographics, literature review

Teens & Sleep

LINKING DISCOVERY, PRACTICE, AND POLICY

Later School Start Times

Kyla L. Wahlstrom, Ph.D.

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Observed Improvements After Later Start Times (New start times about 1 to 1.5 hours later)

Minneapolis

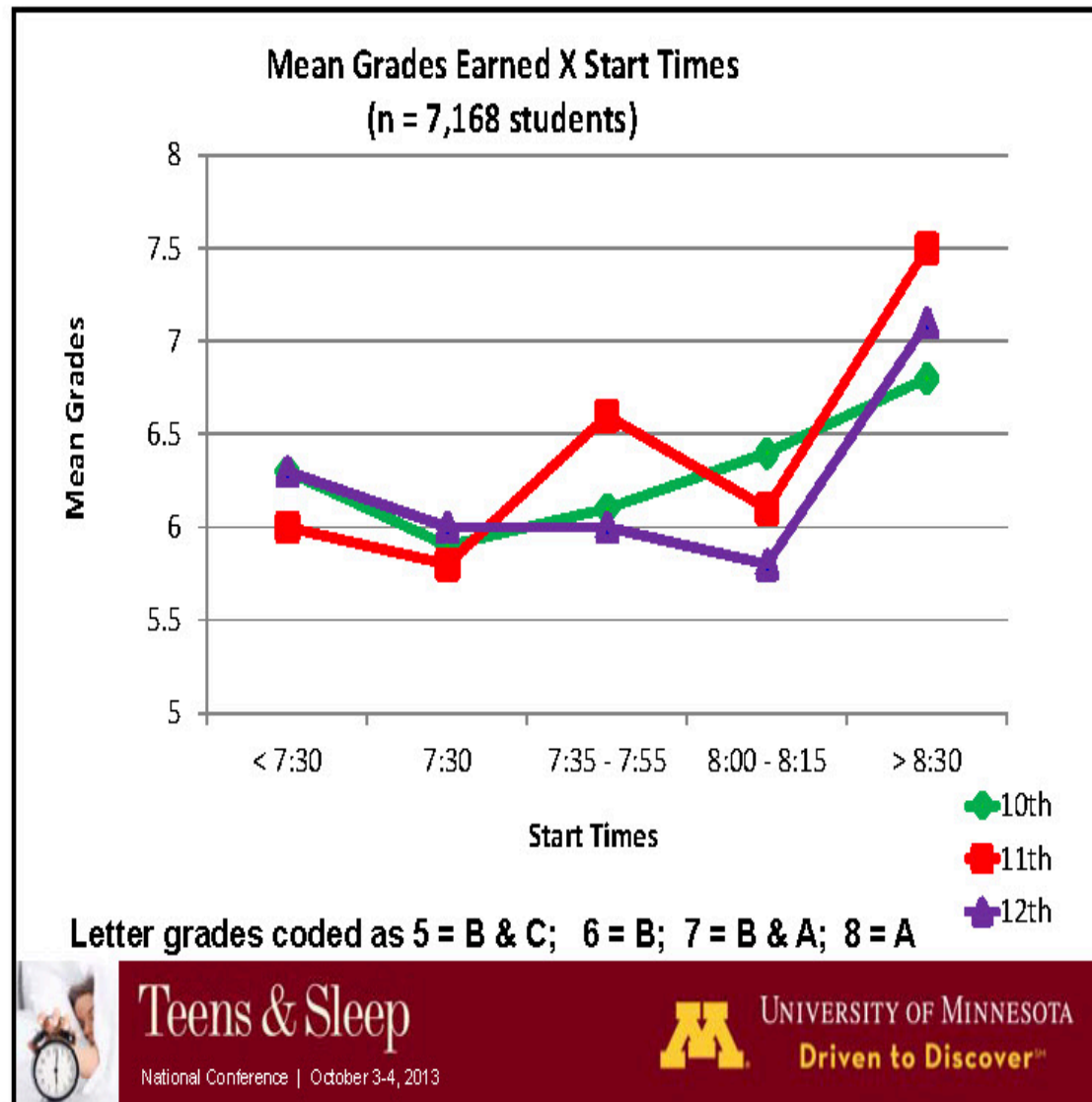
- Attendance rates*
- Graduation rates*
- Grade Point Averages

Edina

- Less depression among students*
- Lower rates of students seeking help for emotional problems & somatic physical complaints
- 92% of parents indicate students “easier to live with”

*Statistically Significant

Grade Improvements for Students Relative to Their School Start Time





Other Studies Show Wellness Improves

- As high school start time moves later the higher the percentage of students who sleep at least 8 hours
- Students receiving at least 8 hours sleep are less likely to:
 - Smoke, use alcohol, use marijuana, be sexually active, report symptoms of depression*, fall asleep in class*, do dangerous things without thinking*



Studies Show Academic Performance and Behavior Improves

- 1st and/or 3rd period GPA improves in core courses*
- Positive increases in state math scores (for two districts)*
- Positive increases in ACT scores (for two of four districts studied)*
- Improved attendance rates for 11th and 12th grades*
- Decrease in tardy reports for 9th to 12th grades*

*Statistically Significant

Sleep and Start Times

Lisa J. Meltzer, Ph.D., CBSM

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Deficient Sleep in Teenagers

- Mood and affect changes
- Behavior problems
 - Non-compliance
 - Aggression
 - Hyperactivity
 - Poor impulse control
- Risk taking behaviors and increased accidents

Beebe (2011); Gruber et al. (2012); Owens et al. (2014)



Weekday Sleep Driven by Wake Time (which is driven by school start times)

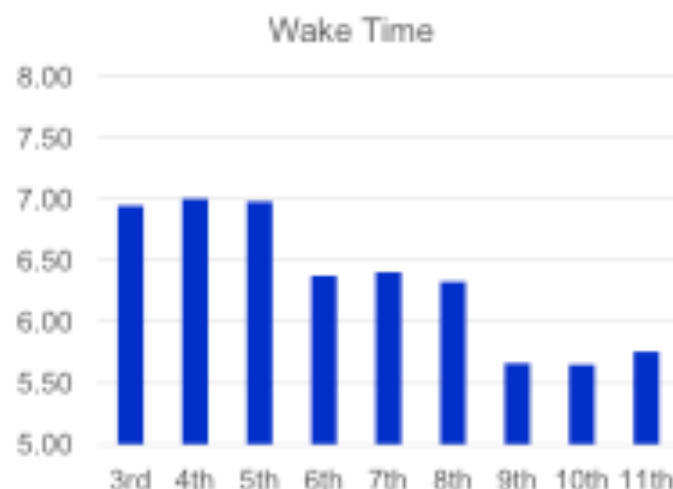
- Bedtimes increase steadily with increasing grade

■ ES → MS: 40 m, MS → HS: 34 m



- Wake times consistent across school level

■ ES: 6:58, MS: 6:33, HS: 5:41



Other Considerations & Research

- Extracurricular Impacts
- Circadian Rhythm (*How Daylight Effects Body Rhythm*)
- Walking vs. Riding with Parents or on Bus
- Collecting Input from the Community

Potential Extracurricular Impacts of Later Release

- Some sports and activities may be impacted by later end times.

Sport	Fall Program End
Football	30-Nov
Tennis	Mid Oct
Soccer	End Oct
Hockey	Limited Effect - Indoors
Track	Spring
Cross country	End Oct
Baseball	Spring - End of Oct
Golf	No Transport
Softball	Mid - Late Oct
Lacrosse	Mid Oct
Band	Friday / Saturday
Field Hockey	Mid Oct

- Other sports may be impacted but are held indoors (such as volleyball).
- Non-sports activities may also be impacted by later end times.

Summary

- Many studies show for adolescents/teens:
 - Negative impact of early start time
 - Benefits for later start times
- Research mixed on elementary start times
 - Some studies show academic achievement *not* effected by earlier start times
 - Some show younger students benefit from later start times
- Circadian rhythm (*How Daylight Effects Body Rhythm*) research for students is limited with little addressing northern latitudes
- Western Demographics is working with Fairbanks-North Star Borough School District, has Initiated a Detailed Study and is Conducting a Stakeholder-involvement Process Addressing the Issue