Sleep and Start Times

Lisa J. Meltzer, Ph.D., CBSM
Associate Professor of Pediatrics
National Jewish Health
Division of Behavioral Health, Department of Pediatrics
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)
Deficient Sleep in Teenagers

- Neurocognitive deficits
  - Attention
  - Memory
  - Executive functioning

- Weight gain
  - Increased caloric intake
  - Increased consumption of fats and carbs

Beebe et al. (2010); Beebe et al. (2013); Gruber, Wiebe et al. (2012); Gruber, Michaelsen et al. (2012); Hart et al. (2013); Sadeh et al. (2003)
Later School Start Time Outcomes

- Multiple studies have demonstrated the benefit of changing to a later school start time...
- Students getting > 8 hours sleep/night
- Better academic outcomes
- Better attendance rates
- Higher graduation rates
- Reduced tardiness
- Less depression
- Less caffeine use
- Fewer car crashes

Boergers et al. (2014); Danner & Phillips (2008); McKeever et al. (2017); Owens et al. (2010); Wahlstrom (2002); Wahlstrom et al. (2014); Wolfson et al. (2007)