

Middle School

Academic Stress and Mental Health

- Multiple factors are shown to predispose children to positive outcomes in the face of adversity: one stable, caring, and supportive relationship with an adult; a sense of mastery over life circumstances; strong executive functioning and self-regulation skills; and the supportive context of affirming faith or cultural traditions.

Source: National Scientific Council on the Developing Child. (2015). *Supportive Relationships and Active Skill-Building Strengthen the Foundations of Resilience: Working Paper 13*.

<http://www.developingchild.harvard.edu>

- SEL programs yield significant positive effects and enhance students' prosocial behaviors, reduce conduct and internalizing problems, and improve academic performance.

Source: Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D. & Schellinger, K. B. (2011).

The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82(1): 405–432.

- The biggest influence of mothers' and parents' time with children may be during adolescence and related to fewer delinquent behaviors and better outcomes.

Source: Milkie, M. A., Nomaguchi, K. M. and Denny, K. E. (2015), Does the Amount of Time Mothers Spend With Children or Adolescents Matter?. *Journal of Marriage and Family*, 7, 355–372. doi: 10.1111/jomf.12170

- School-age children, (5 to 18 year-olds) were shown to have an increase in ER visits for headaches in the fall. The increase in fall headaches may be attributed to a number of factors, including academic stressors, schedule changes and an increase in extracurricular activity. Other common headache triggers include lack of adequate sleep, skipping meals, poor hydration, too much caffeine, lack of exercise and prolonged electronic screen time.

Source: Palaknis, A. & Heyer, G. (2015). Comprehensive Headache Clinic at Nationwide Children's Hospital. Retrieved from: <http://www.nationwidechildrens.org/news-room-articles/more-evidence-supports-that-kids-headaches-increase-at-back-to-school-time?contentid=145757>

- Learning to cope with manageable threats (like failing a test or forgetting one's line's in a play) to our physical and social well-being is critical for the development of resilience.

Source: National Scientific Council on the Developing Child. (2015). *Supportive Relationships and Active Skill-Building Strengthen the Foundations of Resilience: Working Paper 13*.

<http://www.developingchild.harvard.edu>

- Over 17 million children in the U.S. under 18 have or have had a diagnosable psychiatric disorder, 32% of which are anxiety disorders. The median age at which a child is diagnosed with an anxiety disorder is 6 years old.

Source: Child Mind Institute. Children's Mental Health Report. (2015). Retrieved from:

http://www.speakupforkids.org/ChildrensMentalHealthReport_052015.pdf

- Resilience results from the interaction of an intrinsic resistance to adversity AND a strong relationship with important adults in family and community; it is the interaction of biology and environment that helps build the capacity to cope with adversity.

Source: National Scientific Council on the Developing Child. (2015). *Supportive Relationships and Active Skill-Building Strengthen the Foundations of Resilience: Working Paper 13.*

<http://www.developingchild.harvard.edu>

- Over 1,000 teens were surveyed and they report that their stress level during the school year far exceeds what they believe to be healthy. Even during the summer teens reported their stress during the past months at levels higher than what they believe is healthy. 83% of teens reported that school is a somewhat or is a significant source of stress.

Source: American Psychological Association (APA). (2009). *Stress in America.* Retrieved from <http://www.apa.org/news/press/releases/stress/2009/stress-exec-summary.pdf>

- Teens underestimate the impact stress has on their physical and mental health.

Source: American Psychological Association (APA). (2009). *Stress in America.* Retrieved from <http://www.apa.org/news/press/releases/stress/2009/stress-exec-summary.pdf>

- When people are living with high stress, they are less likely to sleep well, exercise and eat healthy foods, which may lead to additional stress.

Source: American Psychological Association (APA). (2009). *Stress in America.* Retrieved from <http://www.apa.org/news/press/releases/stress/2009/stress-exec-summary.pdf>

- 42% of teens say they either are not doing enough to manage their stress or they are not sure if they are doing enough to manage it.

Source: American Psychological Association (APA). (2009). *Stress in America.* Retrieved from <http://www.apa.org/news/press/releases/stress/2009/stress-exec-summary.pdf>

- 37% of teen girls and 23% of teen boys report feeling depressed or sad due to stress.

Source: American Psychological Association (APA). (2009). *Stress in America.* Retrieved from <http://www.apa.org/news/press/releases/stress/2009/stress-exec-summary.pdf>

- 35% of teens report that stress caused them to lie awake at night and for teens who sleep fewer than 8 hours per school night, 42% say their stress level has increased over the past year.

Source: American Psychological Association (APA). (2009). *Stress in America.* Retrieved from <http://www.apa.org/news/press/releases/stress/2009/stress-exec-summary.pdf>

- The quality of adolescents' relationship with their parents plays a critical role in the development of internalizing (i.e., depression) and externalizing (i.e., tobacco, drug, or alcohol use) symptoms.

Source: Kim-Spoon, J., Longo, G.S., & McCullough, M.E. (2012). Adolescents who are less religious than their parents are at risk for externalizing and internalizing symptoms: The mediating role of parent-adolescent relationship quality. *Journal of Family Psychology, 26*(4), 636-641.

- 20% of teens report exercising less than once a week or not at all.
Source: American Psychological Association (APA). (2009). *Stress in America*. Retrieved from <http://www.apa.org/news/press/releases/stress/2009/stress-exec-summary.pdf>
- Among teens who report overeating or eating unhealthy foods because of stress (26%), 33% say they did so because it helps distract them from what was causing them stress.
Source: American Psychological Association (APA). (2009). *Stress in America*. Retrieved from <http://www.apa.org/news/press/releases/stress/2009/stress-exec-summary.pdf>
- 67% of teens who report skipping meals due to stress say it was because of a lack of appetite, and 25% say it was because they did not have time to eat.
Source: American Psychological Association. (2013). Press Release: Stress in America 2013 highlights: Are teens adopting adults' stress habits? Retrieved from <http://www.apa.org/news/press/releases/stress/2013/highlights.aspx>
- Of 1200 children ages 8-17 surveyed, 44% reported that doing well in school was a source of worry.
Source: American Psychological Association (APA). (2009). *Stress in America*. Retrieved from <http://www.apa.org/news/press/releases/stress/2009/stress-exec-summary.pdf>
- 9- to 13-year-olds said they were more stressed by academics than any other stressor—even bullying or family problems (36% said they were stressed out the most by grades, school, and homework).
Source: *KidsHealth KidsPoll, October 12, 2005*. Kids and stress, how do they handle it? Poll questions retrieved June 19, 2009, from the National Association of Health Education Centers (NAHEC) database.
- 70% of Bay Area parents report that their 9- to 13-year-old children experience moderate to high levels of stress. What contributes most? Parents say schoolwork and homework.
Source: Lucile Packard Foundation for Children's Health. (2005). New Poll Highlights Parents' Views on Physical, Emotional Health of Children. Retrieved from: www.KidsData.org
- Academic stressors are associated with increases in both depressive and aggressive symptoms in girls and aggressive symptoms in boys.
Source: Little, S., & Garber, J. (2004). Interpersonal and achievement orientations and specific stressors predict depressive and aggressive symptoms. *Journal of Adolescent Research, 19*, 63 – 84.
- The number of visits by children and adolescents during which depression was reported more than doubled from 1995–1996 (1.44 million) to 2001–2002 (3.22 million). Overall, depression affects 2-8% of all children and adolescents.
Source: Ma J., Lee K-V., & Stafford R. S. (2005). Depression treatment during outpatient visits by U.S. children and adolescents. *Journal of Adolescent Health, 37*(6), 434 – 42.

- In 2009, suicide was the third leading cause of death for young people ages 15–24.
Source: *Suicide: A major, preventable health problem.* (2015). Retrieved from: <http://www.nimh.nih.gov/health/publications/suicide-a-major-preventable-mental-health-problem-fact-sheet/index.shtml>
- A meta-analysis of studies reveals that students from kindergarten through high school who participate in social and emotional learning (SEL) programs not only demonstrate increased social and emotional skills and attitudes but also demonstrate improved academic performance, reflected in an 11-percentile-point gain in achievement.
Source: Durlak, J. A., Weissberg, R. P., Dymnicki, A. B. Taylor, R. D., and Schellinger, K. B. (2011). The impact of enhancing student’s social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405-432.
- A study of 6,294 students at 15 high-achieving schools reveals that some students who work hard in school may be compromising their mental and physical health in the pursuit of top grades. Most students reported working hard, but two-thirds of students reported not regularly being “fully engaged” in their academic schoolwork. Absence of full engagement was associated with more frequent school stress, higher rates of cheating, and greater internalizing, externalizing, and physical symptoms of stress.
Source: Conner, J., & Pope, D. (2013). Not just robo-students: Why full engagement matters and how schools can promote it. *Journal of Youth and Adolescence*, Retrieved from <http://link.springer.com/article/10.1007/s10964-013-9948-y#page-1>

Cheating

- 90% of middle school students admitted to cheating at least once in school.
Source: Galloway, M. K., Conner, J. O., and Pope, D. (2009). *Stanford Survey of Adolescent School Experiences*. Presentation at Challenge Success May Conference, Stanford, CA.
- In an online survey with more than 1,000 teenage students, 35% of teens who had cell phones reported having used them to cheat at least once, and 65% said that they were aware that others in their school cheat by using cell phones. 52% of the students reported that they had cheated using the internet.
Source: Benenson Strategy Group. (2009). Hi-tech cheating: Cell phones and cheating in schools. Retrieved from: <http://www.common sense media.org/hi-tech-cheating>
- A study of 285 students from an urban middle school found that when students perceived an external reward for doing well (for example, they could earn a privilege for doing their work well), they saw cheating as more justifiable and cheated more often. In addition, when students thought that their schools valued performance goals (e.g. grades and test scores) on the whole, they were more likely to both justify and engage in cheating.
Source: Anderman, E. M., Griesinger, T., & Westerfield, G. (1998). Motivation and cheating during early adolescence. *Journal of Educational Psychology, 90*, 84-93.

Homework

- A review of research on homework showed almost no correlation between homework and achievement for elementary school students. There was a 0.7 correlation for middle school students for the first 60 minutes; for any additional times spent by middle school students, little or no correlation was found.
Source: Cooper, H., Robinson, J.C., & Patall, E.A. (2006). Does homework improve academic achievement? A synthesis of research 1987-2003. *Review of Educational Research*, 76(1), 1-62.
- 26% of all students grades 3-12 say homework is just busywork and unrelated to what they are learning in school.
Source: MetLife survey of the American teacher: The homework experience. A survey of students, teachers and parents. (2007). Retrieved from:
http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=ED500012&ERICExtSearch_SearchType_0=no&accno=ED500012
- A 2007 national survey revealed that while 60% of parents think that their children's teachers assign the right amount of homework and an additional 25% think that too little homework is assigned, one-third of parents rate the quality of homework assignments as fair or poor, and 4 in 10 believe that a great deal or some homework is busywork and not related to what students are learning in school.
Source: MetLife survey of the American teacher: The homework experience. A survey of students, teachers and parents. (2007). Retrieved from:
http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=ED500012&ERICExtSearch_SearchType_0=no&accno=ED500012
- Educators of middle school students may have increased homework because they feel pressure to assign more homework to maintain test scores.
Source: Cooper, H. (2007). *The battle over homework: Common ground for administrators, teachers, and parents*. Thousand Oaks, CA: Corwin Press.

Literacy

- Parents are concerned that digital devices are distracting children from reading. Among parents of children in every age group, nearly half (49%) feel their children do not spend enough time reading books for fun – the kind of reading practice that is critical for children to build stamina, fluency, vocabulary and comprehension.
Source: Scholastic. (2012). Kids and Family Reading Report, 4th Edition. Retrieved from:
<http://mediaroom.scholastic.com/files/kfrr2013-wappendix.pdf>
- Among girls, there has been a decline since 2010 in frequent readers (42% vs. 36%), reading enjoyment (71% vs. 66%), and the importance of reading books for fun (62% vs. 56%).
Source: Scholastic. (2012). Kids and Family Reading Report, 4th Edition. Retrieved from:
<http://mediaroom.scholastic.com/files/kfrr2013-wappendix.pdf>

- Compared to 2010, boys are more likely to think reading books for fun is important (39% in 2010 vs. 47% in 2012), but they still lag girls on this measure (47% for boys in 2012 vs. 56% for girls in 2012).
Source: Scholastic. (2012). Kids and Family Reading Report, 4th Edition. Retrieved from: <http://mediaroom.scholastic.com/files/kfrr2013-wappendix.pdf>
- Frequency of reading books for fun is significantly lower for kids age 12-17 than for children age 6-11; frequency for reading books for school is also lower for kids age 12-17 than for kids age 6-11.
Source: Scholastic. (2012). Kids and Family Reading Report, 4th Edition. Retrieved from: <http://mediaroom.scholastic.com/files/kfrr2013-wappendix.pdf>
- The percentage of boys who read 5-7 days a week drops at every age, whereas girls level off in their teens. 47.5% of both cohorts age 6-8 say they read for fun and it decreases to 18% for boys age 15-17 and 30% for girls.
Source: Scholastic. (2012). Kids and Family Reading Report, 4th Edition. Retrieved from: <http://mediaroom.scholastic.com/files/kfrr2013-wappendix.pdf>
- Having reading role-model parents or a large book collection at home has a greater impact on kids' reading frequency than does household income.
Source: Scholastic. (2012). Kids and Family Reading Report, 4th Edition. Retrieved from: <http://mediaroom.scholastic.com/files/kfrr2013-wappendix.pdf>

Media

- On any given day, American teens (13-18) average about 9 hours of entertainment media use, excluding time spent at school or for homework. Tweens (8-12) average about 6 hours of entertainment media daily.
Source: Common Sense Media. (2015). *The common sense census: Media use by tweens and teens*. Retrieved from: https://www.commonsensemedia.org/sites/default/files/uploads/research/census_executivesummary.pdf
- Boys and girls have very different media preferences and habits: boys spend more time than girls playing video games but girls spend more time than boys on social media.
Source: Common Sense Media. (2015). *The common sense census: Media use by tweens and teens*. Retrieved from: https://www.commonsensemedia.org/sites/default/files/uploads/research/census_executivesummary.pdf
- Teens still prefer watching TV and listening to music over spending time on social media.
Source: Common Sense Media. (2015). *The common sense census: Media use by tweens and teens*. Retrieved from: https://www.commonsensemedia.org/sites/default/files/uploads/research/census_executivesummary.pdf

- Highly multipurpose technology, such as mobile phones, can have a negative impact on productivity through distraction. Schools that restrict access to mobile phones subsequently experience an improvement in test scores. Banning mobile phones improves outcomes for the low-achieving students the most and has no significant impact on high achievers.

Source: Beland, L-P. & Murphy, R. (2015). Ill communication: Technology, distraction & student performance. *Centre for Economic Performance, CEP Discussion Paper No. 1350*.

- 92% of teens 13-17 report going online daily, with 24% who say they go online “almost constantly”. 71% of teens use Facebook while 52% and 41% use Instagram and Snapchat, respectively. Additionally, 71% of teens report using more than 1 social network site. Girls are more likely to use visually-oriented social media platforms while boys continue to be more likely to play videogames.

Source: Lenhart, A. (2015). Pew Research Center. *Teen, Social Media and Technology Overview 2015*. Retrieved from:

http://www.pewinternet.org/files/2015/04/PI_TeensandTech_Update2015_0409151.pdf

- Compared to 2010, in 2012 more girls age 12-17 are connecting through technology 5-7 days a week. For girls age 12-14, 61% use a cell phone to text or talk vs. 52% in 2010. However use of a smartphone to go online for girls age 12-14 smartphone usage is at 24%, compared to 21% in 2010. For girls age 12-14, 53% are using social media sites compared to 38% in 2010.

Source: Scholastic. (2012). Kids and Family Reading Report, 4th Edition. Retrieved from: <http://mediaroom.scholastic.com/files/kfrr2013-wappendix.pdf>

- Compared to 2010, fewer boys age 12-14 are playing video games, while more boys age 15-17 are going online via computer, visiting networking sites, and playing video games 5-7 days a week. 47% of boys age 12-14 are going online for fun, vs. 44% in 2010. There was a 10% drop from 2010-2012 for boys age 12-14 playing video or computer games (58% to 48%). There was a slight drop in visiting social networking sites from 29% in 2010 to 27% in 2012 for boys 12-14.

Source: Scholastic. (2012). Kids and Family Reading Report, 4th Edition. Retrieved from: <http://mediaroom.scholastic.com/files/kfrr2013-wappendix.pdf>

- Researchers found that having a bedroom television was a significant predictor of adolescent weight gain, about 1 pound per year, even after accounting for hours of TV watched each day and socioeconomic factors.

Source: Li, Z., Adachi-Mejia, A., McClure, A., & Sargent, J. (2014). Do bedroom televisions contribute to youth obesity? *JAMA Pediatrics*. Dartmouth-Hitchcock Norris Cotton Cancer Center.

- An estimated 75% of teens own cell phones, 54% use their phones for texting, and about 25% log on to social media sites more than 10 times per day. The American Academy of Pediatrics has warned of the dangers of cyberbullying, sexting, Facebook depression, Internet addiction, and sleep deprivation and encourages parents to regularly discuss use of social media with their children and supervise online activities.

Source: O’Keeffe, G.S., et al. (2011). The impact of social media on children, adolescents, and families. *Pediatrics*. 127:800. Retrieved from

http://pediatrics.aappublications.org/content/127/4/800?ijkey=55d8cf4c87f41acca196bbe649ede6a266630149&keytype=tf_ipsecsha

- Parents believe the use of electronic or digital devices negatively affects the time kids, ages 6-17 spend reading books (41%), doing physical activity (40%), and engaging with family (33%).
Source: Scholastic. (2010). 2010 Kids and family reading report. Retrieved from: <http://mediaroom.scholastic.com/research>
- Between 2004 and 2009, the average amount of time 8- to 18-year-olds spent consuming media increased to 7.5 hours of media exposure per day (an increase of 2.25 hours). Factoring in multi-tasking (time spent using more than one medium at a time), today's youth pack a total of 10 hours and 45 minutes worth of media content into those hours. This does not include time spent talking on cell phones or sending text messages (8- to 18-year-olds spend an average of 1.5 hours a day talking, while 7th to 12th graders spend an average of 1.5 hours a day texting.)
Source: Kaiser Family Foundation. (2010). Generation M2: Media in the lives of 8- to 18-year-olds. Retrieved from: <http://www.kff.org/entmedia/upload/Executive-Summary-Generation-M-Media-in-the-Lives-of-8-18-Year-olds.pdf>
- Nearly one in three (31%) 8- to 18-year-olds say that “most” of the time they are doing homework, they are also using one medium or another—watching TV, texting, listening to music, etc.
Source: Kaiser Family Foundation. (2010). Generation M2: Media in the lives of 8- to 18-year-olds. Retrieved from: <http://www.kff.org/entmedia/upload/Executive-Summary-Generation-M-Media-in-the-Lives-of-8-18-Year-olds.pdf>
- In a survey of youth ages 8-18, nearly 1 in 4 said they have felt “addicted” to video games.
Source: Harris Interactive. (2007). Video Game Addiction: Is it real? Retrieved from: <http://www.harrisinteractive.com/NEWS/allnewsbydate.asp?NewsID=1196>
- 71% of all 8- to 18-year-olds have their own television in their rooms (ranging from 54% of 8- to 10-year-olds to 76% of 11- to 18-year-olds). In addition, half have a video game player (50%) or cable TV (49%), and a third have a computer (36%) and internet access (33%) in their rooms.
Source: Kaiser Family Foundation. (2010). Generation M2: Media in the lives of 8- to 18-year-olds. Retrieved from: <http://www.kff.org/entmedia/upload/Executive-Summary-Generation-M-Media-in-the-Lives-of-8-18-Year-olds.pdf>

Playtime, Downtime, Family Time

- Family meals during adolescence were shown to be protective against the development of overweight and obesity in young adulthood.
Source: Berge, J.M., Wall, M., Hsueh, T-F., Fulkerson, J.A., Larson, N., & Neumark-Sztainer, D. (2014). The protective role of family meals for youth obesity: 10-year longitudinal associations. *The Journal of Pediatrics*, 166(2), 296-301.

- How families manage household responsibilities and chores can impact their happiness. Caretakers report more satisfaction and less stress when family members do chores together, rather than getting the chores done by a division of labor.
Source: Galovan, A.M., Holmes, E.K., Schramm, D.G., & Lee, T.R. (in press). Father involvement, father-child relationship quality, and satisfaction with family work: Actor and partner influences on marital quality. *Journal of Family Issues*. Cited in Rende, R. (2014). *The Misperceptions of Chores: What's Really at Stake?* White paper.
- Children are *less likely* to help an adult (e.g., by picking up an object that the adult dropped) if they have been given a *material reward* for doing so in the past. A material reward diminishes the intrinsic motivation to help.
Source: Hepach, R., Vaish, A., & Tomasello, M. (2013). A new look at children's prosocial motivation. *Infancy*, 18, 67-90.
- While parental involvement might be the extra boost that students need to build their own confidence and abilities, over-parenting (helicopter parenting) appears to do the converse in creating a sense that one cannot accomplish things socially or in general on one's own.
Source: Bradley-Geist, J.C. & Olson-Buchanan, J.B. (2014). "Helicopter parents: an examination of the correlates of over-parenting of college students", *Education + Training*, 56(4), 314 -328.
- The percentage of youth aged 12–15 who had adequate levels of cardiorespiratory fitness decreased from 52.4% in 1999–2000 to 42.2% in 2012. Only 1/2 of boys and about one-third of girls aged 12–15 years had adequate levels of cardiorespiratory fitness.
Source: Gahche, J., Fakhouri, T., Carroll, D.D., et al. (2014). Cardiorespiratory fitness levels among U.S. youth aged 12–15 years: United States, 1999–2004 and 2012. NCHS data brief, no 153. Hyattsville, MD: National Center for Health Statistics. 2014.
- In a survey of over 10,000 middle and high school students, 80% chose happiness and achievement as personal values over caring for others (20%). 80% also reported that their parents value personal happiness and achievement over caring for others. Youth were also 3 times more like to agree than disagree with the statement: “My parents are prouder if I get good grades in my classes than if I’m a caring community member in class and school.”
Source: Weissbourd, R., Jones, S., Ross-Anderson, T., Kahn, J. & Russell, M. (2014). The children we mean to raise: The real messages adults are sending about values. *Making Caring Common Project, Harvard Graduate School of Education*. Retrieved from: http://sites.gse.harvard.edu/sites/default/files/making-caring-common/files/mcc_the_children_we_mean_to_raise_0.pdf
- Adolescents who frequently ate meals with their family and/or parents were less likely to engage in risk behaviors when compared to peers who never or rarely ate meals with their families.
Source: Skeer, M. & Ballard, E. (2013). Are family meals as good for youth as we think they are? A review of the literature on family meals as they pertain to adolescent risk prevention. *Journal of Youth & Adolescence*, 42(7), 943-963.
- Frequent family meals are associated with greater consumption of fruits and vegetables and breakfast. Adolescents who frequently shared family meals were also more likely to report that what they ate in the past week was healthier than adolescents who did not.

Source: Utter, J., Denny, S., Robinson, E., Fleming, T., Ameratunga, S., & Grant, S. (2013). Family meals among New Zealand young people: Relationships with eating behaviors and body mass index. *Journal of Nutrition and Behavior*, 45(1), 3-11.

- Family meals were found to offer protection against dangerous disordered eating behaviors and substance abuse in adolescence. Protection of family meals tends to be stronger among girls than boys, regarding disordered eating behavior. Adolescents who eat frequent family meals have higher self-esteem and are less likely to report depressive symptoms, suicidal ideation and attempts compared to adolescents who eat fewer family meals. Eating frequent family meals was found to be associated with lower levels of cigarette smoking, alcohol and marijuana use in adolescents.

Source: Loth, K.A. (2013). The importance of family meals. *Pediatrics for Parents*, 29(3/4), 26-27.

- Teens who have frequent family dinners (at least 5/week) are 1.5 times more likely (than teens who eat less than 3/week) to say their parents know a great deal/fair amount about what's really going on in their lives. Those who say their parents know very little/nothing at all about what goes on in their lives are 1.5 times more likely to have used marijuana and alcohol. Teens who have frequent family meals report having high-quality relationships with their parents. These teens are less likely to use drugs, drink, or smoke. Teens who have frequent family meals are 1.5 times less likely to report high levels of stress and thus, less likely to have used marijuana, alcohol, or tobacco. Teens who have infrequent family meals are less likely to say their parents would be extremely upset to find they had used marijuana and are 3x likelier to say "it's ok for teens my age to use marijuana or get drunk".

Source: National Center on Addiction and Substance Abuse at Columbia University. (2012). The importance of family dinners VIII: A CASAColumbia White Paper. Retrieved from <http://www.casacolumbia.org/addiction-research/reports/importance-of-family-dinners-2012>

- Family mealtime communication was significantly associated with higher positive affect and engagement and with lower negative affect and stress.
- Source:** Offer, S. (2013). Assessing the relationship between family mealtime communication and adolescent emotional well-being using the experience sampling method. *Journal of Adolescence*, 36(3), 577-585.

- In 2002/2003, American children aged 6-17 spent 6-7 hours a day in school, depending on their age/level of schooling. Twenty years prior, in the early 1980s, the time spent in school ranged from 5-6 hours a day in school. The direct result has been less time for extracurricular activities, sleeping, and family time.

Source: Juster, F.T., Ono, H., & Stafford, F. (2004). Changing times of American youth: 1981-2003. Ann Arbor, MI: Institute for Social Research, University of Michigan. Retrieved from http://www.umich.edu/news/Releases/2004/Nov04/teen_time_report.pdf

- The greater the amount of time adolescents report spending in regularly scheduled structured activities, the higher their self-reported level of anxiety tends to be.

Source: Melman, S., Little, S. G., & Akin-Little, K. A. (2007). Adolescent overscheduling: The relationship between levels of participation in scheduled activities and self-reported clinical symptomatology. *The High School Journal*, 90(3), 18-30.

School Culture and Student Engagement

- Research suggests that enjoyment of education as an expression of the ‘affective’ aspects of school engagement has a longitudinal effect on learner identity across the lifespan. In turn, this appears to further influence subsequent education and career choices well into adulthood. These findings highlight the importance of schools providing a rich learning environment inside and outside the classroom, that challenges and rewards effort, and helps to create a mastery goal orientation among students. Active, rather than passive learning styles that engage both mind and body, involving humour, music and movement, and learning activities, which promote interest, concentration, enjoyment and a feeling of accomplishment have been credited with encouraging engagement.

Source: Abbott-Chapman, J., Martin, K., Ollington, N., Venn, A., Dwyer, T., & Gall, S. (2014). The longitudinal association of childhood school engagement with adult educational and occupational achievement: Findings from an Australian national study. *British Educational Research Journal*, 40(1), 102-120.

- The stress that society places on financial success as the “ultimate reward” of learning is counterproductive, partially because it has detrimental effects on mastery-oriented learning. It may be that government and parental attempts to raise the educational aspirations of their children by linking education to increased earning power may not have its desired effect at all; such a focus could very well discourage youths from fully engaging with learning. Additionally, materialistic values are negatively associated with teenagers’ mastery-oriented learning motivation and also resulted in a deterioration of school grades over time.

Source: Ku, L., Dittmar, H., & Banerjee, R. (2012). Are materialistic teenagers less motivated to learn? Cross-sectional and longitudinal evidence from the United Kingdom and Hong Kong. *Journal of Educational Psychology*, 104(1), 74-86.

- Five best flags to predict dropout included: attending school 80% or less of the time during 5th grade, failing math in 6th grade, failing English in 6th grade, receiving an out-of-school suspension in 6th grade, and receiving an unsatisfactory final behavior mark in any subject in 6th grade. This work makes it clear that the vast majority of dropouts, at least in large, high-poverty urban schools, are highly identifiable and predictable before they have entered or spent much time in high school.

Source: Balfanz, R, Herzog, L., & MacIver, D.J. (2007). Preventing student disengagement and keeping students on the graduation path in urban middle-grades schools: early identification and effective interventions. *Educational Psychologist*, 42(4), 223-235.

- In school year 2011–12, some 3.1 million public high school students, or 81%, graduated on time with a regular diploma. Among all public high school students, Asians/Pacific Islanders had the highest graduation rate (93%), followed by Whites (85%), Hispanics (76%), and American Indians/Alaska Natives and Blacks (68% each).

Source: Public high school graduation rates for the 2011-2012 school year compared to past years. (2014, May). U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. Retrieved from: http://nces.ed.gov/programs/coe/indicator_coi.asp

- It is suggested that intelligence (IQ) helps students learn and solve problems independent of formal instruction, whereas self-control helps students study, complete homework, and behave positively in the classroom.
Source: Duckworth, A.L., Quinn, P. D., & Tsukayama, E. (2012). What *No Child Left Behind* leaves behind: The roles of IQ and self-control in predicting standardized achievement test scores and report card grades. *Journal of Educational Psychology*, 104(2), 439-451.
- Student engagement is vital to academic achievement. Engaged students are attentive and participate in class discussions, exert effort in class activities, and exhibit interest and motivation to learn. Disengaged students become disruptive, are less likely to aspire to higher educational goals, have lower grades, and are more likely to drop out of school. This evidence suggests that when teachers create a sense of community, respond to students' needs, and foster positive relationships, academic success likely ensues.
Source: Reyes, M.R., Brackett, M.A., Rivers, S.E., White, M., & Salovey, P. (2012). Classroom emotional climate, student engagement, and academic achievement. *Journal of Educational Psychology*, 104(3), 700-712.
- Middle school students' perception of their school environment influences their academic and psychological adjustment. Perceived emphasis on competition and differential treatment are related to diminished academic values, low self-esteem, and lower academic achievement as well as increases in truancy, anger, and depressive symptoms. Perceived positive teacher regard and emphasis on effort and improvement are associated with increased academic values, academic competence, and academic achievement as well as decreased depressive symptoms, anger, and truancy and increases in self-esteem over time.
Source: Roesler, R. W., & Eccles, J. S. (1998). Adolescents' perceptions of middle school. *Journal of Research on Adolescence*, 8(1), 123-158.
- In a study of 373 7th graders, the belief that intelligence is malleable and can be increased through effort (e.g. "*The more time and effort you put in, the smarter you can get*") predicted an upward trajectory of grades over the two years of junior high school, while a belief that intelligence is unchangeable ("*Some people are smart and others just aren't*") predicted a flat trajectory. An intervention teaching a malleable theory of intelligence to 7th graders (N = 48) promoted positive change in classroom motivation and grades compared with a control group (N = 43), which displayed a continuing downward trajectory.
Source: Blackwell, L., Trzesniewski, K., & Dweck, C.S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, 78, 246-263.
- In the context of high-performing middle and high schools, lack of full engagement is associated with more frequent school stress, higher rates of cheating, and greater internalizing, externalizing, and physical symptoms of stress. "Full engagement" means that students are engaged behaviorally, affectively, and cognitively with their schoolwork.
Source: Conner, J., & Pope, D. (2013). Not just robo-students: Why full engagement matters and how schools can promote it. *J Youth Adolesc*. Retrieved from <http://link.springer.com/article/10.1007/s10964-013-9948-y#page-1>

- Project-based learning methods may help to decrease the gap in achievement between female and male middle school students.
Source: Swan, K., Vahey, P., van Hooft, M, Kratcoski, A., Rafanan, K., Stanford, T., Yarnall, L., Cook, D. (2013). Problem-based Learning Across the Curriculum: Exploring the Efficacy of a Cross-curricular Application of Preparation for Future Learning. *Interdisciplinary Journal of Problem-based Learning*. 7(1).
- Students who were exposed to project-based learning activities prior to directed instruction showed greater learning gains than students who were exposed to only the directed instruction (traditional approach), as measured by changes in scores from pre- to post-tests.
Sources: Geier et al. (2007). Standardized Test Outcomes for Students Engaged in Inquiry-Based Science Curricula in the Context of Urban Reform. *Journal of Research in Science Teaching*. 45(8), 922-39.
Schneider et al. Preparing for Future Learning with a Tangible User Interface: The Case of Neuroscience. (2013). *IEEE Transactions on Learning Technologies*. Volume 6, Issue 2.
Schmidt et al. (1989). Explanatory Models in the Processing of Science Text: The Role of Prior Knowledge Activation Through Small-Group Discussion. *Journal of Educational Psychology*. 81(4), 610-619.
- Implementation of project-based teaching units in Detroit public school science classes resulted in higher scores across all five categories in annual state standardized tests, compared to students who received traditional schooling. This effect was increased for students involved in the program over multiple years.
Source: Swan, K., Vahey, P., van Hooft, M, Kratcoski, A., Rafanan, K., Stanford, T., Yarnall, L., Cook, D. (2013). Problem-based Learning Across the Curriculum: Exploring the Efficacy of a Cross-curricular Application of Preparation for Future Learning. *Interdisciplinary Journal of Problem-based Learning*. 7(1).

Sleep

- During adolescence biological changes dictate both a sleep duration of nine hours and later wake and sleep times. The conflict between social time (social conventions of when school and work days should start) and biological time (actual biological and circadian rhythms of sleep pressure and wakefulness) in adolescence is greater than at any other point in our lives. The level of sleep loss due to this conflict causes impairment to physiological, metabolic and psychological health in adolescents while they are undergoing other major physical and neurological changes.
Source: Kelley, P., Lockley, S.W., Goster, R.G. & Kelley, J. (2015). Synchronizing education to adolescent biology: 'let teens sleep, start school later'. *Learning, Media and Technology*, 40(2), 210-226. DOI: 10.1080/17439884.2014.942666
- Middle school students need 9-11 hour of sleep per night.
Source: National Sleep Foundation. (2014). Children and Sleep. Retrieved from <http://sleepfoundation.org/sleep-topics/children-and-sleep/page/0%2C2/>

- What is sleep’s role in achievement and learning? Too little sleep impairs acquisition of material and leads to irritability, distractibility, and inattention; ability to process input is diminished; it impairs retrieval or ability to access learned information. Sleep allows for consolidation, stabilization, strengthening, and filtering of information.
Source: Carskadon, M. (2013). Biology of Teen Sleep Patterns. Presentation at National Sleep Foundation Conference. Retrieved from: <http://www.cehd.umn.edu/carei/sleepresources.html>
- A healthy sleep cycle promotes the academic and emotional success of adolescents. Bright lights associated with laptops, smartphones and other electronic devices have been found to suppress melatonin, a hormone that helps regulate the sleep cycle. Sleep behavior is highly modifiable with the right support.
Source: Asarnow, L.D., McGlinchey, E., & Harvey, A.G. (2013). The effects of bedtime and sleep duration on academic and emotional outcomes in a nationally representative sample of adolescents. *Journal of Adolescent Health, published online*.
DOI:10.1016/j.jadohealth.2013.09.004
- Teenagers who go to bed late during the school year are more prone to academic and emotional difficulties in the long run, compared to their earlier-to-bed counterparts. Teens who went to bed after 11:30pm on school nights had lower GPA scores, and were more vulnerable to emotional problems than teens with earlier bedtimes. While going to bed late in the summer did not appear to impact their academic achievement, including grades, researchers did find a correlation between later summer bedtimes and emotional problems in young adulthood.
Source: Asarnow, L.D., McGlinchey, E., & Harvey, A.G. (2013). The effects of bedtime and sleep duration on academic and emotional outcomes in a nationally representative sample of adolescents. *Journal of Adolescent Health, published online*.
DOI:10.1016/j.jadohealth.2013.09.004
- Results of a longitudinal study suggest “regardless of how much a student generally studies each day, if that student sacrifices sleep time to study more than usual, he or she will have more trouble understanding material taught in class and be more likely to struggle on an assignment or test the following day.”
Source: Gillen-O’Neel, C., Huynh, V.W., & Fuligni, A.J. (2013). To Study or to sleep? The academic costs of extra studying at the expense of sleep. *Child Development, 84*, 133-142.
- In a study of 2,259 students, aged 11 – 14, those who experience lower levels of sleep at the beginning of sixth grade also exhibit lower self- esteem and grades and higher levels of depressive symptoms at that point. Students who get less sleep over time also experience heightened depressive symptoms and decreased self-esteem.
Source: Fredriksen, K., Rhodes, J., Reddy, R., & Way, N. (2004). Sleepless in Chicago: Tracking the effects of adolescent sleep loss during the middle school years. *Child Development, 75*(1), 84-95.
- A majority of adolescents are averaging 7 hours of sleep per night, and 1/4 are getting 6.5 hours or less.
Source: Wolfe, P. (2005). Advice for the sleep-deprived. *Educational Leadership, 62*(7), 39-40.
- 85% of adolescents are reported to be mildly sleep deprived, and 10-40% may be significantly sleep deprived. Sleep deprivation decreases motivation, concentration,

attention, and coherent reasoning; it also decreases memory, self-control, and increases frequency of mistakes.

Source: Bergin, C. & Bergin, D. (2010). Sleep: The E-Z Z Z Intervention. *Educational Leadership* 67(4), 44-46.

- An estimated 25% of adolescents have some form of sleep disturbance, including nightmares, sleepwalking, waking at night and trouble falling asleep.
Source: Clarke, G., & Harvey, A. G. (2012). The complex role of sleep in adolescent depression. *Child and adolescent psychiatric clinics of North America*, 21(2), 385.

Sports and Extracurriculars

- American teens may not get enough daily exercise which can set them up for a host of chronic diseases including diabetes and heart disease.
Source: Carlson, J.A., et al. (2015). Locations of physical activity as assessed by GPS in young adolescents. *Pediatrics (online)*. Retrieved from: www.pediatrics.org/cgi/doi/10.1542/peds.2015-2430.
- 1.24 million kids were seen in emergency rooms for sports injuries in 2013. 13-15 year olds accounted for 37% of these injuries. 23% of coaches, 28% of athletes, and 31% of parents said they don't do anything to prevent injuries. Fewer than half the coaches surveyed said they had received certification on how to prevent and recognize sport injuries. 54% of youth athletes said they have played injured, and 42% said they have hidden or downplayed an injury during a game so they could keep playing. 53% of coaches said they felt pressure from a parent or player to put an athlete back into a game even if the child had been injured.
Source: SafeKids Worldwide. (2014). *Changing the culture of youth sports*. Retrieved from <http://www.safekids.org/research-report/research-report-changing-culture-youth-sports-august-2014>
- 8 studies about recess time and academic achievement found one or more positive associations between recess and indicators of cognitive skills, attitudes, and academic behavior; none of the studies found negative associations.
Source: Centers for Disease Control and Prevention. (2010). *The association between school-based physical activity, including physical education, and academic performance*. Atlanta, GA: U.S. Department of Health and Human Services.
- 19 studies examining the relationship between participation in extracurricular physical activities and academic performance found one or more positive associations.
Source: Centers for Disease Control and Prevention. (2010). *The association between school-based physical activity, including physical education, and academic performance*. Atlanta, GA: U.S. Department of Health and Human Services.
- Moderate to vigorous physical activity was positively associated with higher GPAs of both males and females.
Source: Bradley, B.J. & Greene, A.C. (2013). Do health and education agencies in the United States share responsibility for academic achievement and health? A review of 25 years of evidence

about the relationship of adolescents' academic achievement and health behaviors. *Journal of Adolescent Health*, 52, 523-532.

- Children who are more physically fit also tend to have higher cognitive functions and academic achievement.
Source: Fedewa, A.L. & Ahn, S. (2011). The effects of physical activity and physical fitness on children's achievement and cognitive outcomes: A meta-analysis. *Research Quarterly for Exercise and Sport*, 82(3), 521-535.
- Adolescent participants in high injury sports (like football and wrestling) had higher odds of NMUPO (non-medical use of prescription opioids) than adolescents who did not participate in these types of sports. There is an increased opportunity for non-injured teammates to get opioids from injured teammates on the pain medication.
Source: Veliz, P.T. (2013). Playing through the pain: Sports participation and nonmedical use of opioid medications among adolescents. *American Journal of Public Health*, 103(5).
- Female 9th-12th grade athletes suffer more overuse injuries than males. Students who play sports all year long had a 42% increased risk of overuse injuries compared to those who played fewer than 4 seasons. Reducing the number of sport seasons played by high school athletes could decrease their rate of overuse injuries with greatest gains potentially achieved by taking at least 1 season off from sports entirely each calendar year.
Source: Cuff, S., Loud, K., & O'Riordan, M.A. (2010). Overuse injuries in high school athletes. *Clinical Pediatrics*, 49(8), 731-736.
- A TBI (traumatic brain injury) is an injury caused by a blow to the head or rapid acceleration – deceleration forces, and such an injury may lead to decreased levels of consciousness, amnesia, neurologic or neuropsychological abnormalities, or other consequences including death. Symptoms and effects are wide-ranging from mild headaches to memory loss to significant neurological deficits. In athletics, individuals who suffer TBI and resume play too soon may be at greater risk of re-injury.
Source: Harvey, H.H. (2013). Reducing traumatic brain injuries in youth sports: Youth sports traumatic brain injury state laws, January 2009-December 2012. *American Journal of Public Health*, 103(7), 1249-1254.
- Sports activities account for an estimate 20% of all TBI's among youths and young adults. Children and young teens are at greatest risk of TBIs and they take longer to heal in part because youths' brains are still growing and developing. Sports associated with TBI include football, hockey, cheer, dance, lacrosse, baseball, and soccer.
Source: Harvey, H.H. (2013). Reducing traumatic brain injuries in youth sports: Youth sports traumatic brain injury state laws, January 2009-December 2012. *American Journal of Public Health*, 103(7), 1249-1254.
- Between 2009-2012 44 states (and DC) enacted 1 or more youth sports TBI laws. 6 states have no TBI laws as of July 2013.
Source: Harvey, H.H. (July 2013). Reducing traumatic brain injuries in youth sports: Youth sports traumatic brain injury state laws, January 2009-December 2012. *American Journal of Public Health*, 103(7), 1249-1254.

- In a study of age-group swimmers, the greater the value placed on the outcome of the swim race by a significant other, the more the race outcome mattered to youth swimmers, whereas if swimmers perceived their parent as being more concerned with the swimmer's mastery of skills, the swimmer also became more intrinsically motivated.

Source: Swain, A.B., & Harwood, C.G. (1996). Antecedents of state goals in age-group swimmers: An interactionist perspective. *Journal of Sports Sciences*, 14(2), 111-124
- 52% of coaches of athletes aged 8-18 describe themselves as “very knowledgeable/well-trained” at recognizing sports injuries, yet 4 out of 10 coaches have had no sports safety training. 47% of coaches said that they had too many responsibilities and not enough time to focus on injury prevention. But 49% of youth sports injuries are treated by a coach or adult on-site. 32% of those injuries were severe enough to require medical treatment.

Source: Toporek, Bryan. (2012). Survey: Many coaches misinformed about youth sports safety risks. *Education Week*. Retrieved from: http://blogs.edweek.org/edweek/schooled_in_sports/2012/04/survey_many_coaches_misinformed_about_youth_sports_safety_risks.html?cmp=ENL-EU-NEWS2
- 39% of coaches of athletes aged 8-18 have been pressured by a parent and 20% have been pressured by an athlete to continue playing an injured young athlete. 31% of young athletes aged 8-18 believe that “good players should keep playing their sport even if they are hurt.”

Source: Toporek, Bryan. (2012). Survey: Many coaches misinformed about youth sports safety risks. *Education Week*. Retrieved from: http://blogs.edweek.org/edweek/schooled_in_sports/2012/04/survey_many_coaches_misinformed_about_youth_sports_safety_risks.html?cmp=ENL-EU-NEWS2