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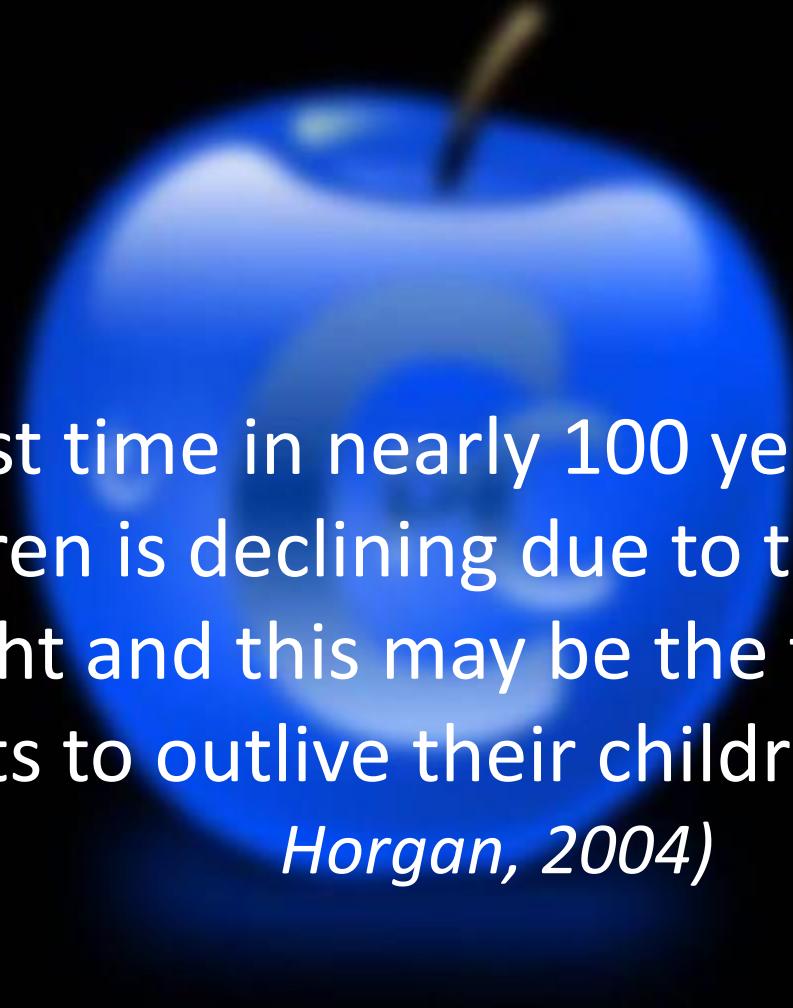
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“For the first time in nearly 100 years the lifespan of children is declining due to the increase in overweight and this may be the first generation of parents to outlive their children.” (*Brownell & Horgan, 2004*)



# Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory

## Exclusion Criteria Used Beginning with 2011 BRFSS Data

*Records with the following were excluded:*

- Height: <3 feet or  $\geq$ 8 feet
- Weight: <50 pounds or  $\geq$ 650 pounds
- BMI: <12 kg/m<sup>2</sup> or  $\geq$ 100 kg/m<sup>2</sup>
- Pregnant women



# **Prevalence\* of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2013**

## **Summary**

- No state had a prevalence of obesity less than 20%.**
- 7 states and the District of Columbia had a prevalence of obesity between 20% and <25%.**
- 23 states had a prevalence of obesity between 25% and <30%.**
- 18 states had a prevalence of obesity between 30% and <35%.**
- 2 states (Mississippi and West Virginia) had a prevalence of obesity of 35% or greater.**
- The prevalence of obesity was 27.0% in Guam and 27.9% in Puerto Rico.<sup>+</sup>**

<http://www.cdc.gov/obesity/data/prevalence-maps.html>

\*Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

<sup>+</sup> Guam and Puerto Rico were the only US territories with obesity data available on the 2013 BRFSS.



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# Think Pair Share Walk



# Prevalence\* of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2013

State	Prevalence	Confidence Interval	State	Prevalence	Confidence Interval
Alabama	32.4	(30.8, 34.1)	Missouri	30.4	(28.8, 32.1)
Alaska	28.4	(26.5, 30.4)	Montana	24.6	(23.4, 25.8)
Arizona	26.8	(24.3, 29.4)	Nebraska	29.6	(28.4, 30.7)
Arkansas	34.6	(32.7, 36.6)	Nevada	26.2	(24.0, 28.6)
California	24.1	(23.0, 25.3)	New Hampshire	26.7	(25.3, 28.3)
Colorado	21.3	(20.4, 22.2)	New Jersey	26.3	(25.1, 27.5)
Connecticut	25.0	(23.5, 26.4)	New Mexico	26.4	(25.1, 27.7)
Delaware	31.1	(29.3, 32.8)	New York	25.4	(24.2, 26.6)
District of Columbia	22.9	(21.0, 24.8)	North Carolina	29.4	(28.1, 30.7)
Florida	26.4	(25.3, 27.4)	North Dakota	31.0	(29.5, 32.5)
Georgia	30.3	(28.9, 31.8)	Ohio	30.4	(29.2, 31.6)
Guam	27.0	(24.4, 29.8)	Oklahoma	32.5	(31.2, 33.9)
Hawaii	21.8	(20.4, 23.2)	Oregon	26.5	(24.9, 28.1)
Idaho	29.6	(27.8, 31.4)	Pennsylvania	30.0	(28.9, 31.2)
Illinois	29.4	(27.7, 31.2)	Puerto Rico	27.9	(26.4, 29.5)
Indiana	31.8	(30.6, 33.1)	Rhode Island	27.3	(25.8, 28.8)
Iowa	31.3	(29.9, 32.7)	South Carolina	31.7	(30.5, 33.1)
Kansas	30.0	(29.2, 30.7)	South Dakota	29.9	(28.0, 31.8)
Kentucky	33.2	(31.8, 34.6)	Tennessee	33.7	(31.9, 35.5)
Louisiana	33.1	(31.1, 35.2)	Texas	30.9	(29.5, 32.3)
Maine	28.9	(27.5, 30.2)	Utah	24.1	(23.2, 25.1)
Maryland	28.3	(27.0, 29.5)	Vermont	24.7	(23.4, 26.1)
Massachusetts	23.6	(22.5, 24.8)	Virginia	27.2	(25.9, 28.5)
Michigan	31.5	(30.4, 32.6)	Washington	27.2	(26.0, 28.3)
Minnesota	25.5	(24.1, 26.8)	West Virginia	35.1	(33.6, 36.6)
Mississippi	35.1	(33.5, 36.8)	Wisconsin	29.8	(28.0, 31.6)
			Wyoming	27.8	(26.2, 29.5)

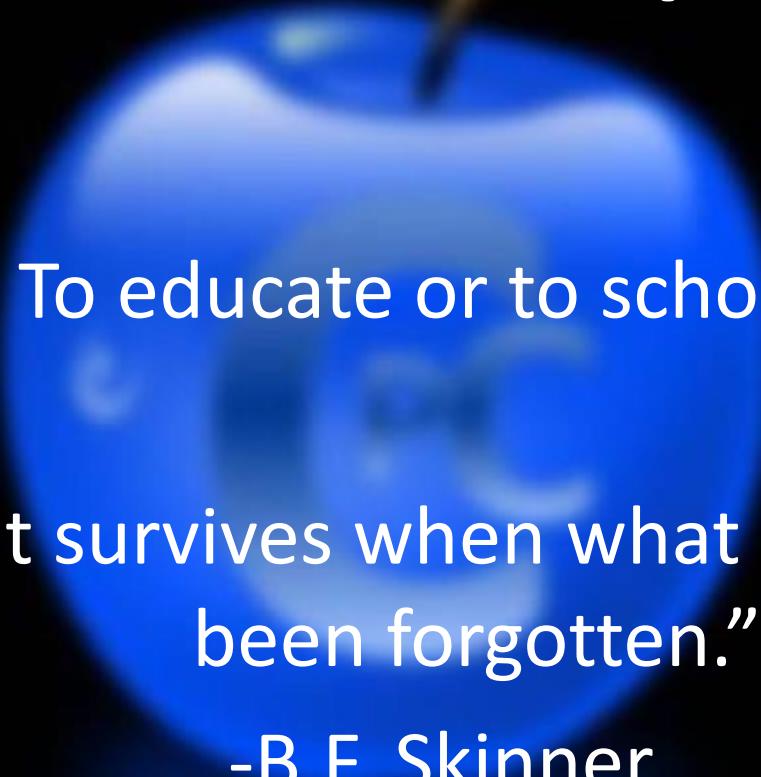
Source: Behavioral Risk Factor Surveillance System, CDC.

\*Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

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# What is our Purpose?



To educate or to school?

“Education is what survives when what has been learned has been forgotten.”

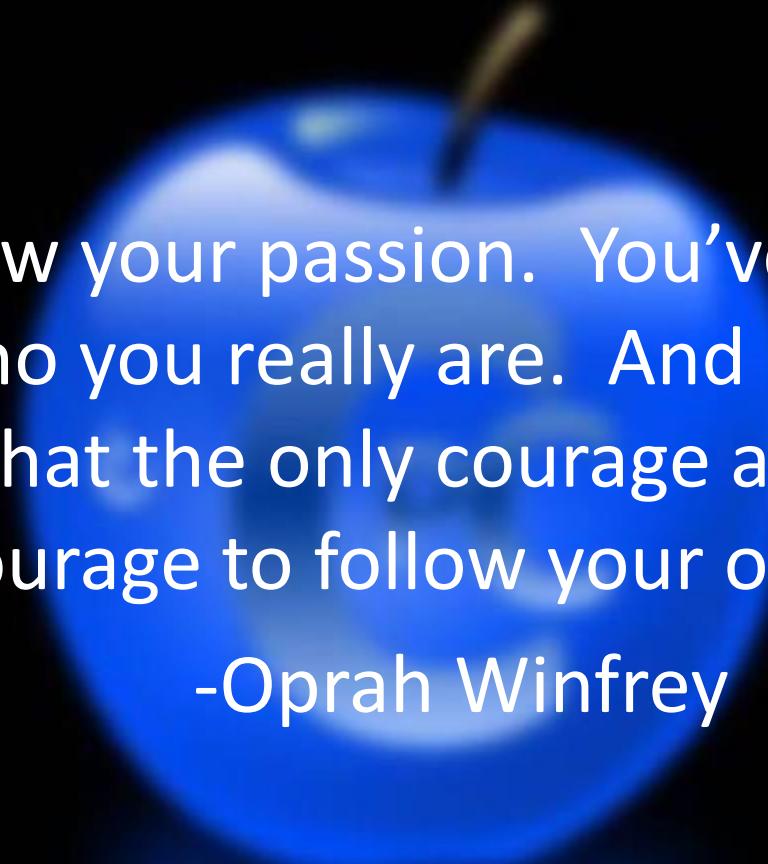
-B.F. Skinner





**Burn the Boats**





“You’ve got to follow your passion. You’ve got to figure out what it is you love- who you really are. And have the courage to do that. I believe that the only courage anybody every needs is the courage to follow your own dreams.”

-Oprah Winfrey



# Major Barriers Existing in 2019

- **Parents:**  
School role vs. Home role
- **Teachers:**  
Not their role or lack of program involvement
- **Teachers and Principals:**  
Loss of instructional time and negative impact on test scores



# Major Barriers Existing in 2019

- Principals: Financial loss
- Coaches/Clubs/PTAs: Financial loss
- District Food Services: Financial loss
- Local Boards of Education:  
Limited research opportunities due to  
privacy concerns



# Major Barriers Existing in 2019

- **Students:**  
Food choices
- **Parents and families:**  
Poverty, time and awareness issues
- **Successful programs:**  
Sustaining positive results



# Removing the Barriers

1. Local school board and superintendent approval
2. Strong instructional school leadership and support from the Principal
3. School faculty and staff participation and instructional involvement
4. Provide an approach or program which removes fear for loss of time
5. Classroom, school and out-of-school components and support for students

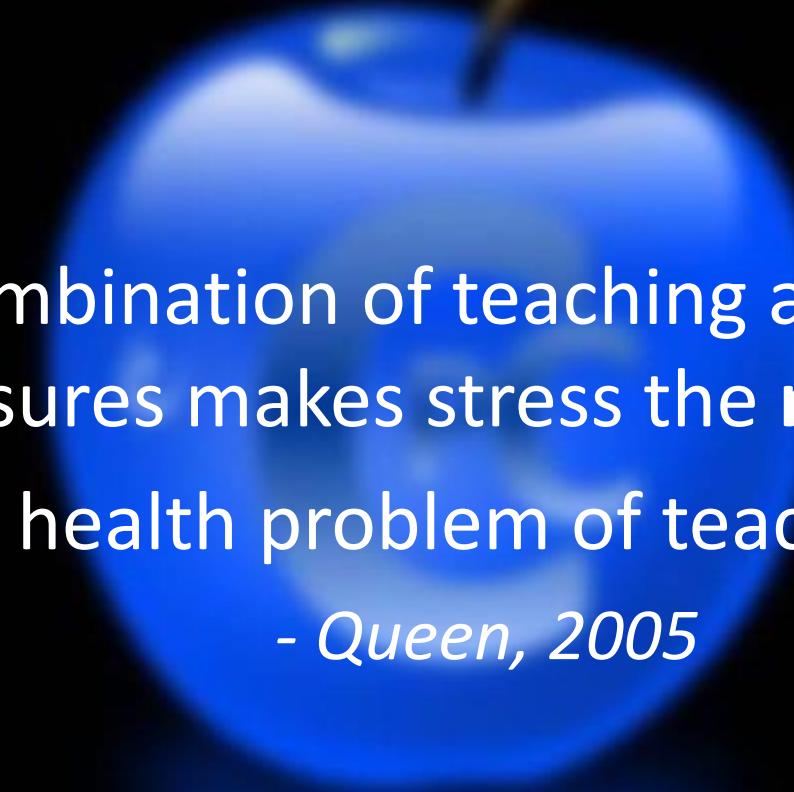


# Definition of the Problem for Teachers

- Education is considered to be a “high-stress” profession
  - Prolonged exposure to high levels of stress without learning to cope effectively can lead to a myriad of health problems, not limited to:
    - Tachycardia, hypertension, asthma, abdominal pain, headaches, and other somatic complaints
- Queen, 2005



# Definition for Teachers Continued...



The combination of teaching and personal pressures makes stress the **number one** health problem of teachers

*- Queen, 2005*



# Definition of the Problem for Students

- Overweight children are more likely to be overweight adults.
- Successfully preventing or treating overweight in childhood may reduce the risk of adult overweight.
- This may help reduce the risk of heart disease and other diseases.
  - *American Heart Association, 2005*



# Definition of the Problem for Students

In a study completed in 1999:

It was determined that 60% of children ages 5 – 17 had at least one factor for heart disease (high blood pressure, overweight, high HDL) and that 25% of those in the study had two factors

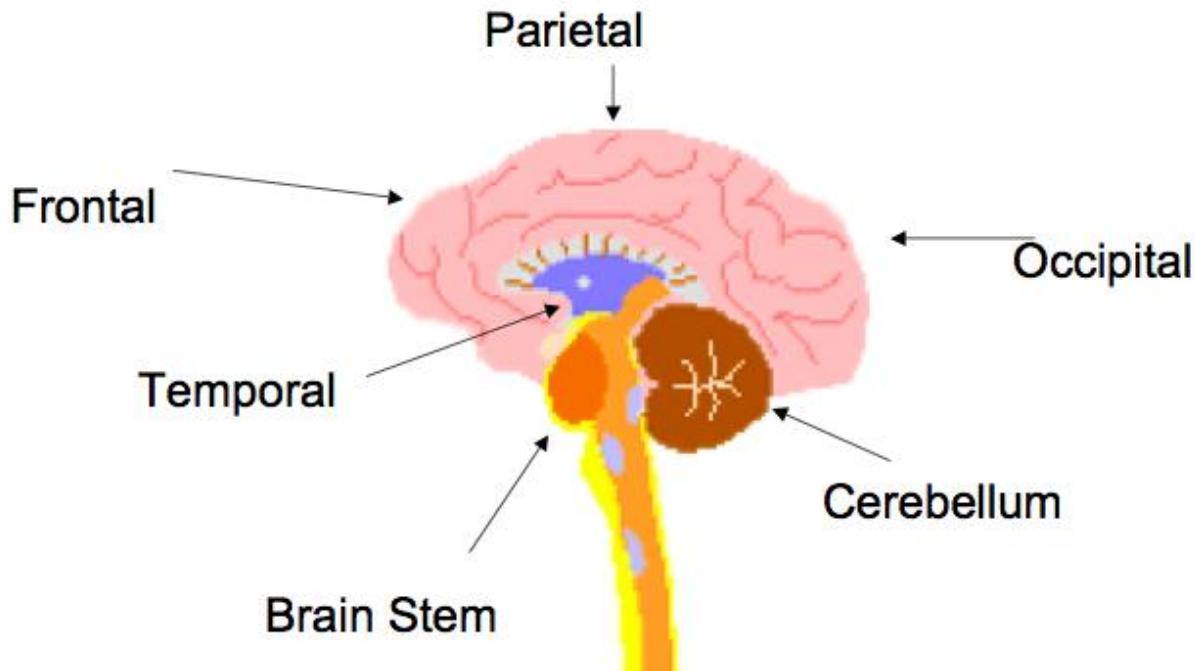
*- Puska, 1993; Freedman, Dietz, Srivivasan, Berenson; 1999*



# Definition of the Problem for Students

- Researchers in New York studied students involved in the Healthy Start project and found that in 2-5 year olds involved in the program, 38% had elevated total cholesterol and 21% had low levels of HDL cholesterol.  
- *Williams, 1998*



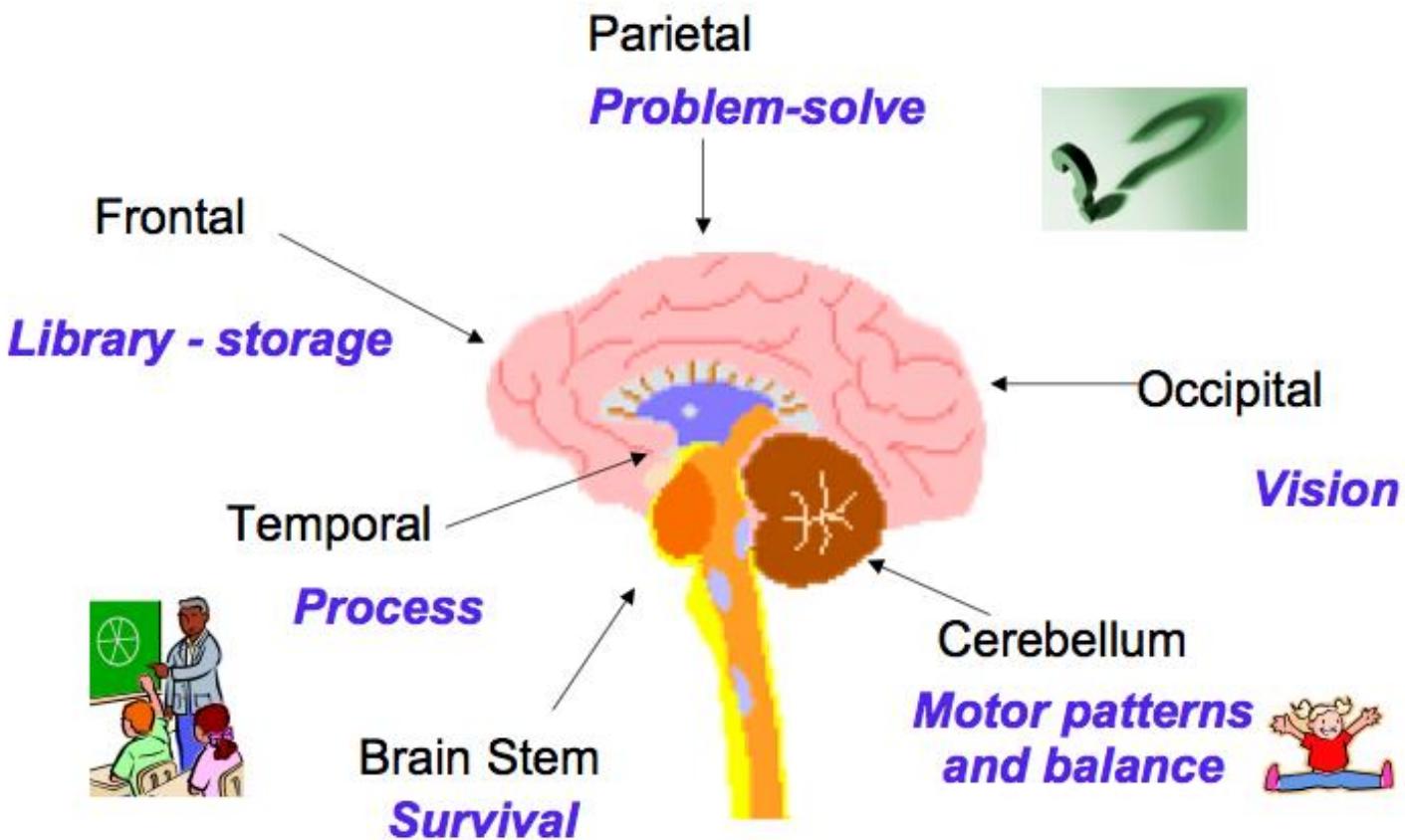


Kymm Ballard, Physical Education Consultant

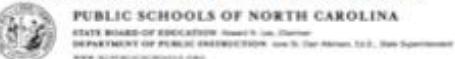


PUBLIC SCHOOLS OF NORTH CAROLINA  
STATE BOARD OF EDUCATION, David K. Holt, Chairman  
DEPARTMENT OF PUBLIC INSTRUCTION, 100 N. Dealey Avenue, P.O. Box 19000  
www.ncdoe.org/ncdoe/doe/ncdoe





Kymm Ballard, Physical Education Consultant



PUBLIC SCHOOLS OF NORTH CAROLINA  
STATE BOARD OF EDUCATION James W. Evers, Chairman  
DEPARTMENT OF PUBLIC INSTRUCTION Lori M. Garver, State Superintendent  
[www.ncpublicschools.org](http://www.ncpublicschools.org)

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# Crossing the Midline

- Increases blood flow to brain
- Improves hand-eye coordination
- Increases brain alertness
- Juggling, throwing, and the grapevine step are all examples of crossing the midline.

Thanks to Kymm Ballard, NCDPI

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# Lateral Movements

- Assist in accurately reproducing:
  - Shapes (O)
  - Numbers (123)
  - Letters (ABC)
- Slide steps (L to R), tag, and jumping jacks are all examples of lateral movement.

Thanks to Kymm Ballard, NCPDI

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# Serotonin

- Too much serotonin (>)
  - Produces a manic-depressive response—these students may lock up and shut down on learning.
- Too little serotonin (<)
  - Produces violent and even aggressive behavior (often characteristics of ADHD).
  - Possible want to develop chaos where they are comfortable.
- EXERCISE and DIET are natural and effective ways to balance serotonin without medication.
- 

*Thanks to Kymm Ballard, NCDPI*



# Endorphins

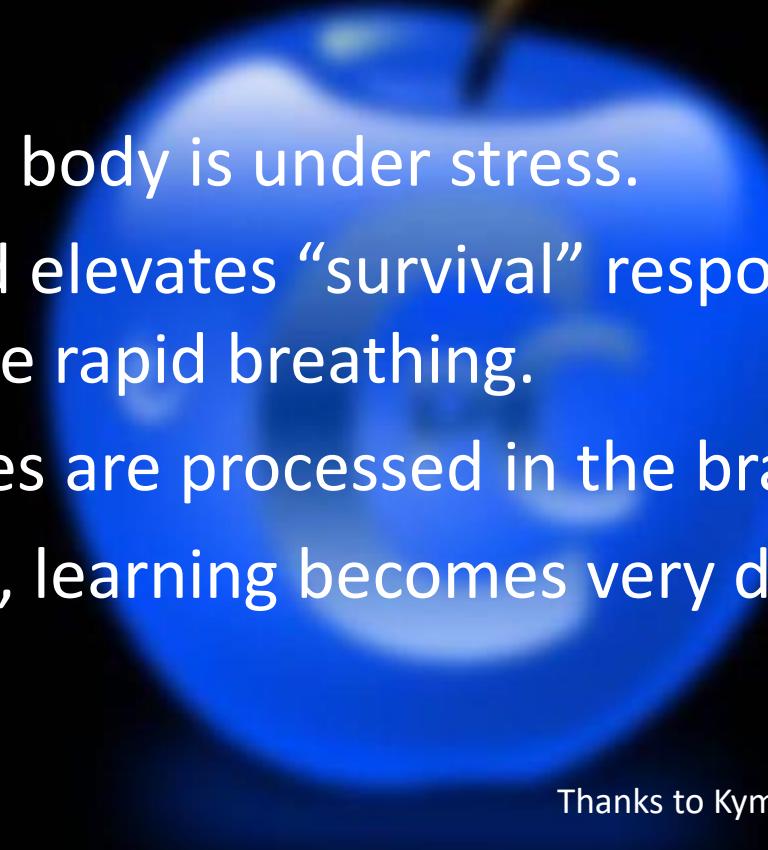
“Feel good” chemical

- Positive touch, social interaction, movement and creating a “no fault zone” can increase Endorphins

Thanks to Kymm Ballard, NCDPI



# Cortisol



- Released when the body is under stress.
- Blocks learning and elevates “survival” responses such as increased heart rate and more rapid breathing.
- “Survival” responses are processed in the brain stem.
- When under stress, learning becomes very difficult.

Thanks to Kymm Ballard, NCDPI



# CRS ACTIVITY

- C = Criss Cross - like scissors
- S = Slide - side to side
- R = Run in place

Variations:

- Cross your arms
- Move arms left to right: “Raise the roof”



1	2	3	4	5
C	R	S	R	C
6	7	8	9	10
R	S	C	R	S
11	12	13	14	15
R	C	R	S	C

1	2	3	4	5
C	S	R,	c	S
6	7	8	9	10
R	c,	R	S	C
11	12	13	14	15
R	C,	S	R	c

# Texas Study

- Released in 2009 – 2.44 million children
- Data adjusted to remove influence of SES
- 78% of 4<sup>th</sup> graders achieved healthy fitness zone for cardiovascular fitness as indicated by FITNESSGRAM®
- 20% of 12<sup>th</sup> graders achieved healthy fitness zone for cardiovascular fitness as indicated by FITNESSGRAM®
- *Source: Dr. Kenneth Cooper, Cooper Institute captured from [www.ourkidshealth.org](http://www.ourkidshealth.org)*



# Texas Study

Statistically significant associations were found between cardiovascular fitness and:

- Academic Achievement
  - School Attendance
  - School Incidents
- 
- *Source: Dr. Kenneth Cooper, Cooper Institute captured from [www.ourkidshealth.org](http://www.ourkidshealth.org)*



# What We Did – NC 2006-2007

- Required 60 minutes of physical activity into every school day for every child grades K-8.
- Integrated health and wellness into the curriculum on a daily basis.
- Provided staff with support and health and wellness information.
- Threw all junk out of the cafeteria



# How We Did – NC 2006 - 2007

- 3 years of academic growth in a 2 year time period.
- Moved from borderline low performing to the top 10% of schools in NC.
- Decreased staff absence by 27%
- Decreased BMI of students on every grade level, decreased cholesterol, lipids, and weight of participating staff members.





What Does an Integrated Lesson Look Like?





Grades 4 - 8



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# Deer Valley Middle School

- First Healthy Active School in Arizona
- Board and State Recognition
- Gallup Poll went from 43% - 83% in Student Hope and Engagement
- C to B+ Letter Grade in 2 years
- Significant decrease in referrals
- Improved Promotion Rate
- 2 Teacher of the Year Awards
- DVMS to ASU – The Why The Gift and The Journey



# What We Did

## Harmon Elementary, AZ 2007-2010

- Required 45 minutes of physical activity everyday for every child.
- Integrated lessons weekly
- Improved cafeteria options
- Changed the culture



# How We Did

## Harmon Elementary, AZ

### 2007-2010

- Moved from borderline Low Performing to Performing Plus in 2 years.
- Decreased staff turnover – 65% to 12%
- Improved parental and family involvement
- Received \$75,000 grant to have HOPSports in every elementary school in the district.



# Stanfield Elementary

- 30 minutes of physical activity everyday
- PE for all k-5 students at least 4 times a week
- PE for all middle grades students everyday
- Improved offerings in cafeteria
- Met criteria for Gold with Distinction recognition in HUSSC via the USDA.
- Academic achievement is beginning to improve
- Winner of \$100,000 Fitness Center



# Flexible Scheduling / Priorities

- Lunch
- Recess
- PE
- RFP for FSMC
- Brain Breaks





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# The 4 Minute Mile

- 1956 – Medically impossible
- 1957 – Roger Bannister – First to break 3:59.4 seconds
- By the end of 1957, 16 people had broken the mark, new record of 3:57.9
- Current record of 3:43.13



Now, go run that 4 minute mile!



ting

