

# Physical Activity and Health: Family Fitness, Meals and Conversations



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# Physical Activity and Health: Family Fitness, Meals, and Conversations

## Goals today:

1. Understand the **importance and the long-term health benefits** of **physical activity and movement** (for ourselves and our children).
2. Examine some of the **prominent health challenges** we face while sheltering in place (managing tech), and how we can address those health risks – now is a optimal time to re-examine our daily health practices
3. Discuss how to take advantage of this time together by building stronger family bonds through **meals** together and engaging in mealtime **conversations** (again) and learn about the benefits.



# Physical Activity: Movement

- For the past 2 centuries, the most **dominant model** for formal learning: “sit and get”
- “Moving is moving” and “thinking is thinking,” but the two are **different/antithetical**.
- Research: **strong connection** between (1) **movement**, (2) **physical activity**, and **cognitive enhancement**. Movement and learning are somewhat correlative.
- A frill or fundamental? Physical activity can be an effective cognitive strategy for (1) strengthening **learning**, (2) improving **memory and retrieval**, and (3) boosting learner **motivation**.



# Physical Activity: Movement

- Pre-Covid-19: Only **1/3** of K-12 students took part in **daily physical exercise** (lower for schools with a high % of at-risk students; and a lower % engaged in daily exercise as one moves from K to 12<sup>th</sup> grade).
- Why should we be concerned?
- We know **exercise fuels the brain** with oxygenated blood, and delivers **neurotrophins** (high-nutrient chemical “packages”) → increases the number of connections between neurons → learning.
- A liability suffered by students who don't exercise





# Physical Activity: Exercise

- Today's children are the **first generation** to have a **shorter life expectancy** than their parents (*Nike Design to Move, 2014*)
- 2 out of 3 students do not meet recommended **PA guidelines** (CDC, 2014)
- 10 million *more* Americans lead **sedentary lifestyles** than a decade ago (PAC)
- **31.8%** of our children and adolescents are **overweight or obese** (FRAC, 2015)





# Physical Activity: Obesity

## Causes?



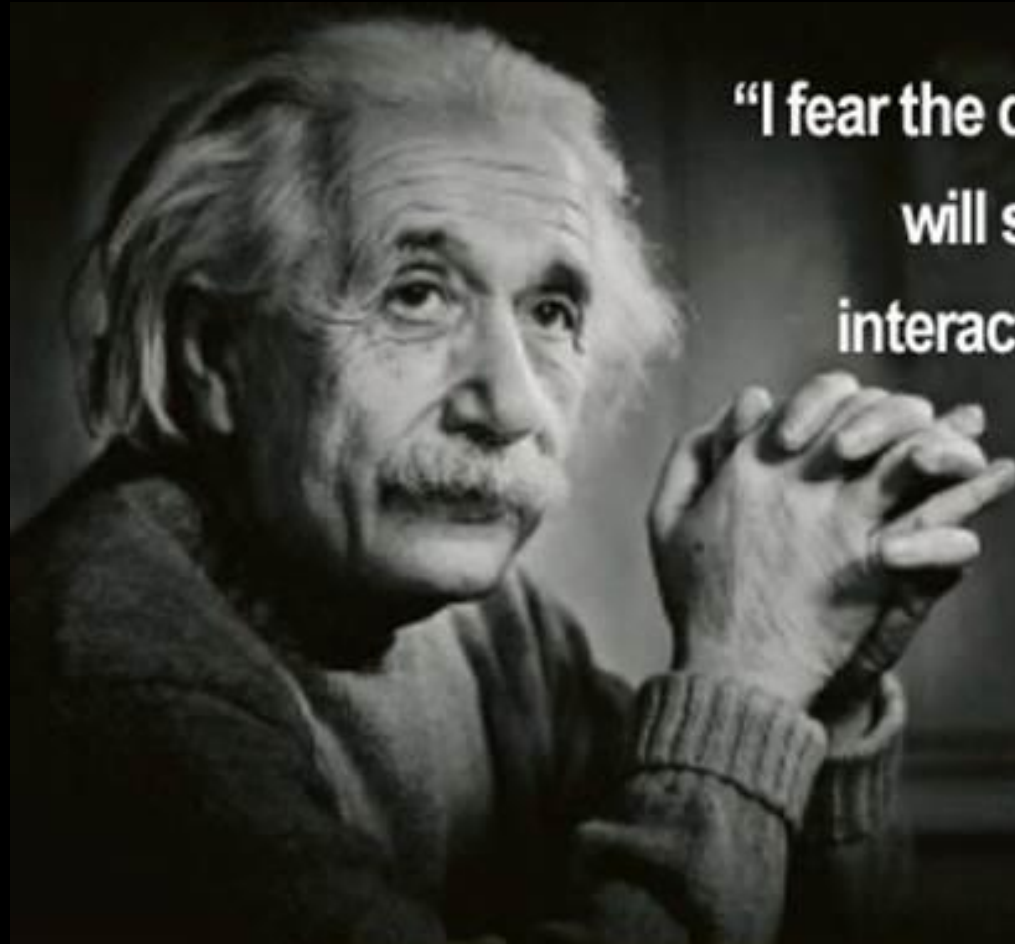
- A **sedentary** (inactive) lifestyle = among the top risk factors for developing obesity and/or heart disease. At any age **regular exercise** ↓ the probability of developing obesity or heart failure
- Downside to **technology** – for communication, work, school, fun, etc., → inactivity (consuming calories, but not burning them off while and sitting, laying down, etc.)











**“I fear the day that technology  
will surpass our human  
interaction. The world will  
have a generation  
of idiots.”**

*Albert Einstein*



# Physical Activity: At-home Learning

Among the **negative effects of technology on mental health...**

- ***Internet Addiction Disorder*** is a newly recognized as a **mental health disorder** in the DMS-V (Diagnostic and Statistical Manual of Mental Health Disorders)



- An **uncontrolled over-usage** of technology often **results** in (1) excessive weight gain, (2) lost muscle tone, (3) skin pores, (4) low physical flexibility, and (5) blood clots. All of these are consequences of ↓ physical movement.



# Physical Activity: At-home Learning

## *The negative effects of technology on mental health*

- **Computer Vision Syndrome**
  - The burning irritation in the eyes from staring at a computer screen for extended periods of time, and often doing so without blinking (Ebben, 2012)
  - Ergonomic problems with the back, neck and shoulders





# Physical Activity: At-home Learning

## The effects of technology on mental health

1. Sleep patterns disrupted
2. Depression (6X)
3. Addiction (4X)
4. 24/7 stress: computer at work → drive home with cell phone  
→ at home on the computer again (no “downtime”)
5. FOMO – the “Fear Of Missing Out”
6. Isolation – connect by *personal tech*, not by *personal touch*
7. Incivility – on-line rudeness, bullying → school shootings
8. Insecurity – “others are doing more, having more fun than me” (“glamour shots” compared to our “daily routine”)
9. Anxiety – “I’m not glamorous, creative, well-connected, talented, etc.”



(Owen, 2014)



# Physical Activity: Obesity

## *The negative effects of technology on physical health*

- Most obesity **begins** to occur between the ages of **5 and 6**, and peaks again during adolescence (onset of puberty).
- Children who become **obese** at these **early ages** have an **80%** chance of becoming obese as adults and remaining obese for a **lifetime**.





# Physical Activity: Obesity

## Causes of obesity

- **Food** -- for pleasure, comfort, enjoyment, to fix problems, but **not exclusively for sustenance**
- ↓ 1% of childhood obesity is caused by **physical or medical-related** problems -- most are just **consuming** more calories than they burn.
- **Heredity and family lifestyle:** children with **one obese parent** have a 45-50% chance of becoming obese; **two obese parents** = an 80% chance of becoming obese





# Physical Activity: Obesity



## *The health risks of obesity*

- Obese individuals are prone to encounter **one or more of the following** health complications:
  - **toddler** obesity: linked to low IQ and **cognitive delays**.
  - increased risk of **heart disease** (CVD) or other serious cardiac illness (which cause more deaths in Americans of both sexes, and across all racial and ethnic lines than any other condition).
  - There is a significant **health disparity**: women and people of color are **treated at a lesser rate** for **heart disease** than Caucasian men; African-Americans received **lower quality healthcare** than our white counterparts, even when we have **comprehensive health insurance plans**.

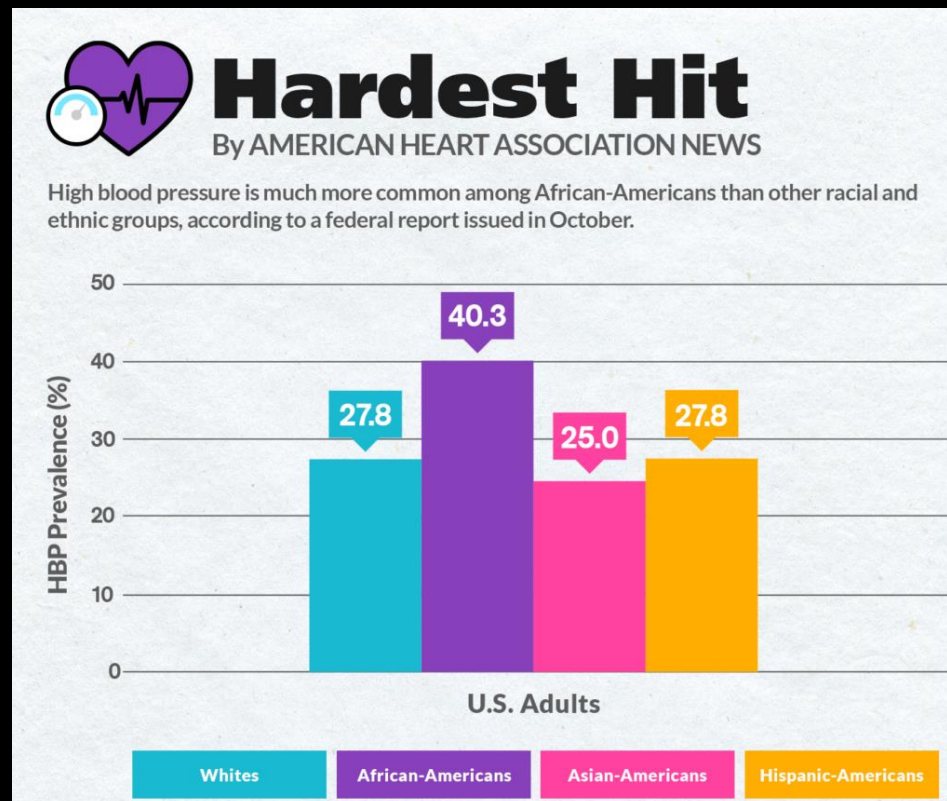




# Physical Activity: Obesity

## *Health risks of obesity (at any age)*

- High blood pressure (**hypertension**) - African-Americans are more likely to have high blood pressure than any other ethnic group. (Genetic or sociological? - required to navigate institutional racism on a 24/7 basis.)





# Physical Activity: Obesity

## *Health risks of obesity*

- African-Americans are 8X more likely to develop **kidney failure** than whites - the **adrenal glands** that produce **cortisol**, the stress hormone, are located on the top of each kidney.



Why do some people *lose their appetite* when depressed, while other people eat significantly more?



# Physical Activity: Obesity

## *Health risks of obesity*

- Black men and women **develop symptoms of heart failure** at an **earlier age** than other Americans, and die from heart failure more frequently. African-Americans are more likely (**2½ X**) to have **high blood pressure** than any other ethnic group.



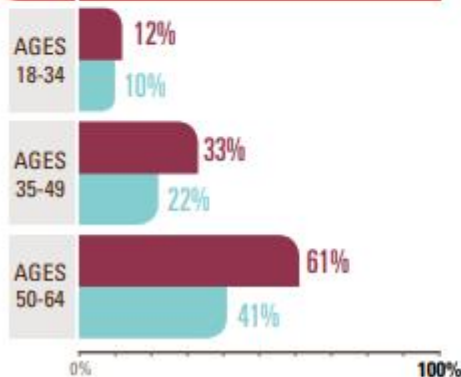
# Physical Activity: At-home Learning

## Problem:

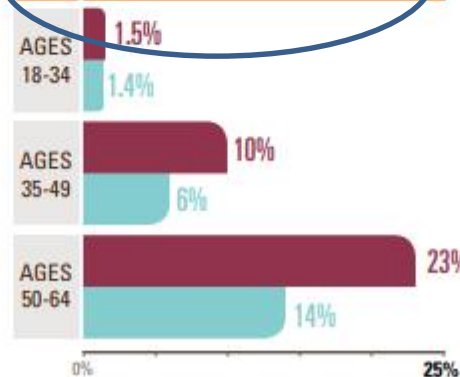
Young African Americans are living with diseases more common at older ages.



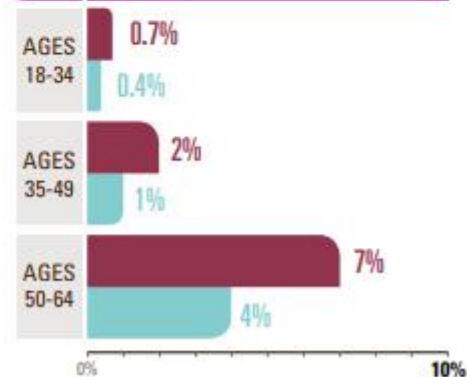
### High Blood Pressure



### Diabetes



### Stroke



African American

White

African Americans and whites include Hispanic and non-Hispanic origin.

SOURCE: Behavioral Risk Factor Surveillance System, 2015.



# Physical Activity: Obesity

## *Health risks of obesity*

- Among the highest rates, by age group, for **diabetes**.
- **A-A females** have higher rates of the risk factors for heart disease including diabetes, hypertension, obesity, physical inactivity, and metabolic syndrome than their female Anglo counterparts.
- **Latinas** are more likely to be diabetic, physically inactive, overweight, and obese compared to Anglo-American women.
- 1/3 of women fail to recognize the risk of heart disease





# Physical Activity: Obesity

The most **common causes of adolescent obesity** are –

- Lack of **exercise** (temporary physical inactivity or habitually sedentary lifestyle) - **brain volume** increases with **exercise**, decreases with physical inactivity (Ratey, 2006)
- Overeating or “**binging**” (on unhealthy foods)
- **Stressful** events or changes (foods that are sweet and salty become “comfort food”) – *Covid-19*
- **Low self-esteem** → “comfort food”
- **Depression** – “stress eating”; attempts at eating your negative emotions away





# Physical Activity: Obesity

## *What can be done to combat obesity?*

- #1: a medical evaluation with a pediatric physician or GP
- If there is no *physical* causation → closer look at eating habits
  - Consume fewer calories
  - Learn to **enjoy healthier foods** – Copenhagen:  
**Physical education** was added to the school day **every morning** which included hip-hop dance, running, aerobics, spinning, indoor rowing. **All junk food was removed** and the food served was **only healthy foods.**





# Physical Activity: Obesity

*What can be done to combat obesity?*

Copenhagen, Denmark:

➤ **Results:**

- **absenteeism** ↓ by 30%
- **concentration** improved by 33%
- an average 1.5 GPA improvement
- an increase in **positive classroom behaviors**
- ↓ in **referrals** to the principal/headmaster's office







# Physical Activity: Exercise

## The benefits of physical activity for your child/students

- Physically **active academic lessons** improved standardized test scores by **6%** (Donnelly, 2011)
- Incorporating **movement** leads to a significant decrease in out-of-seat behavior and off-task b's (Jensen, 2000)
- **85% of children are naturally kinesthetic learners** (Hannaford)
- **Students need at least 60 minutes of moderate/vigorous PA/day**





# Physical Activity: Exercise

## Exercise

- ❑ ↑ **circulation**
- ❑ ↑ **oxygenated blood** going to the brain which ↑ **cognition**, decision-making, learning and memory
- ❑ ↑ **muscle tone** and strength
- ❑ ↑ **endurance and energy** (decreasing the need to consume more calories) - more relaxed
- ❑ a ↓ **body fat** → ↑ **self-esteem** and self-image → ↓ **obesity** → ↓ **stress, tension, anxiety, and depression** (look fit and feel healthy) → positive social feedback/compliments





# Physical Activity: Exercise

## The benefits of physical activity for your child/students

- School performance is correlated with being in good physical condition (Grissom, 2005)



Napier, IL

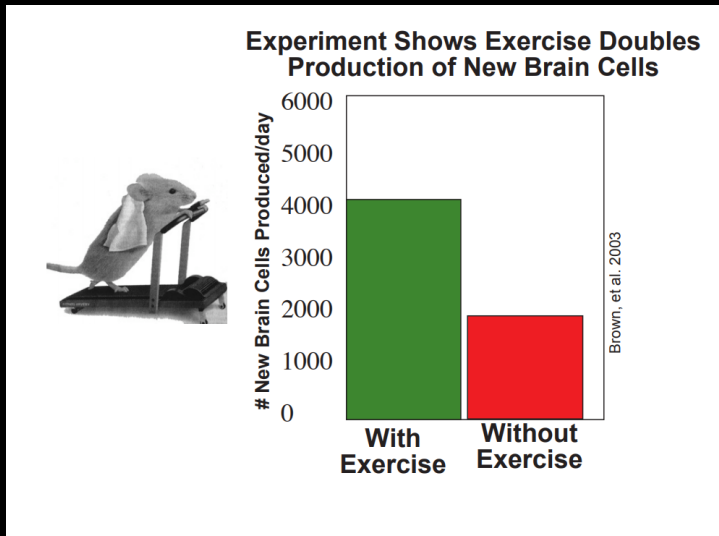
- All things being equal, a physically active child has an **advantage in learning** over an inactive learner (Hesslow)



# Physical Activity: Exercise

## The benefits of physical activity for your child/students

- Movement ↓ restlessness among “antsy” kids → less “hyper”
- Sleep more soundly at night



↑ angiogenesis  
↑ neurogenesis



# Nutrition, Health and Cognition



## Nutrition Can Support Better Cognition and Behavior

- Lean proteins
- Vitamin/Mineral supplements
- Complex carbohydrates
- Nibbling diets (manage glucose)
- Decrease simple sugars
- Colorful fruits/vegetables
- Increase plant fats
- Omega 3 oils
- Decrease animal fats
- Avoid high fructose corn syrup





# Meals and Conversations: The Value of Family Time





# Meals and Conversations: The Value of Family Time

- Our earliest human **ancestors** walked 12 - 14 miles/day in search of food. (“hunters and gatherers”)
- With the advent of **communal living**, humans share the game brought back by hunters.
- Food was typically **scarce**, but when food was **plentiful**, it became the **centerpiece** of a tribal/communal **celebration** (the rare times when humans would actually overeat) – *Thanksgiving*
- When we celebrate, **food still plays a major role** (promotion, graduation, anniversary, etc.)





# Meals and Conversations: The Value of Family Time

- Today - no scarcity of food. Mealtime is seldom a “**shared experience**” – we dine **alone and hastily**
- For many, family mealtime gets lost in our **over-scheduled lives** (school schedules, work schedules and extracurricular activities).
- Difficult to find time to eat together → most of us go days or weeks without sitting down as a family to share a meal - where we can **celebrate life** together.
- However, a **family meal** should be considered a **daily requirement**.







# Meals & Conversations: The Value of Family Time

## *Family meals together*

- Families that eat together are healthier and happier. Psychologists: families should **cook together, eat together, talk together**, and make **mealtime** a “family time.”
- Help your child **make healthy choices** regarding **food** and **exercise**  
- ↓ the **risk of obesity** in children and teens
- Family meals are **more nutritious**. A Harvard study: families who eat together are 2X as likely to eat their 5 servings of **fruits and vegetables** than families who don't eat together.
- Kids who eat family meals tend to **eat a wider variety of foods** and become less “picky eaters.”





# Meals & Conversations: The Value of Family Time

## *Family meals together*

- Family meals **prepared at home** are usually **more nutritious** than meals eaten when dining out. Take-out dinners seldom have the same **nutritional value** as a **home-cooked meal**, since restaurant food tends to be higher in **fat, salt, and sugar**.
- Encourages **healthy eating** once your children are in **college** or living on their own
- Eating at home **saves** the family **money**. It is cheaper to cook meals at home than it is to dine out (and better company).

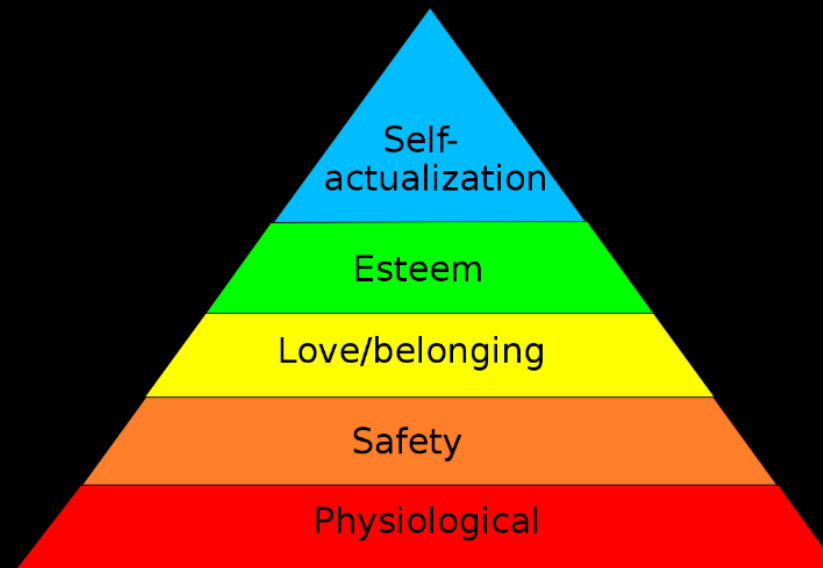




# Meals & Conversations: The Value of Family Time

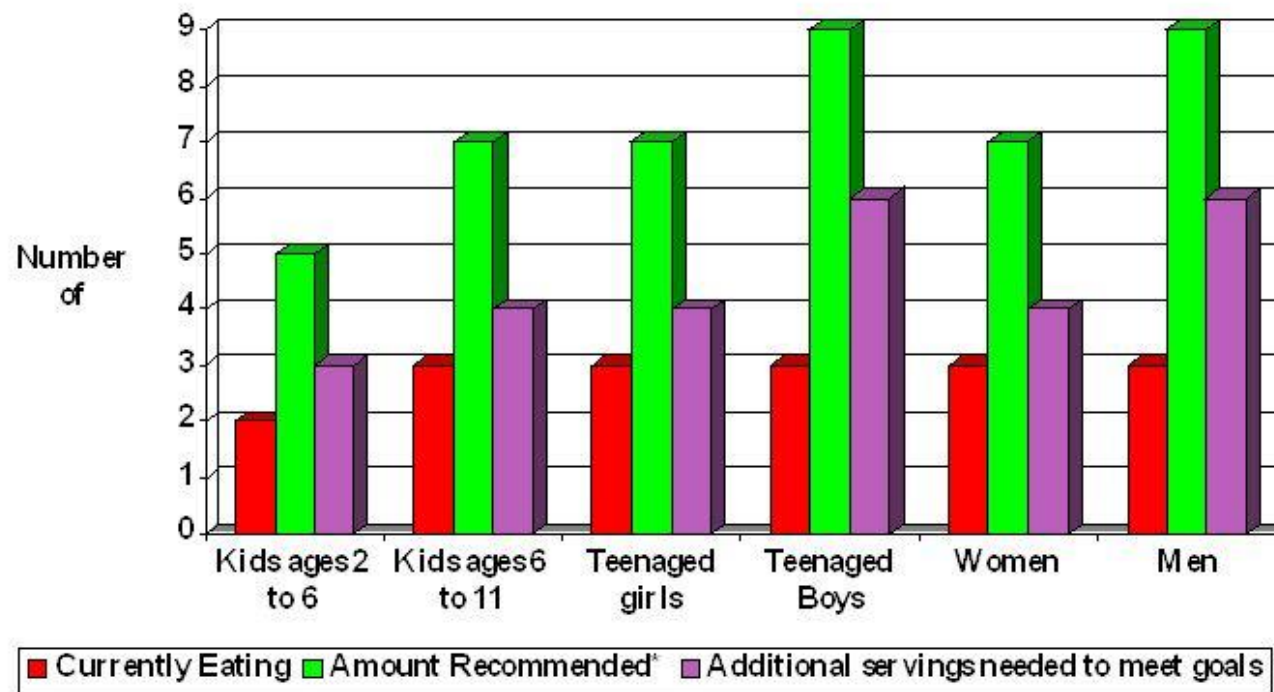
## *Family meals together*

- Family meals allow time for family members to **strengthen ties and build better relationships**. They build a **sense of belonging** → better self-esteem. Eating with your child gives them a **sense of security**.



# Most African Americans Need to Eat More Fruits and Vegetables Every Day\*

Over 75% of all African American adults and children aren't eating enough fruits and vegetables to keep them healthy



\*Daily servings of fruits and vegetables recommended as part of a healthy, active lifestyle.



# Meals & Conversations: The Value of Family Time

## *Family meals together*

- Family meals offer parents a chance to be **role models**. They can **set an example of healthy eating and table manners.** (corporations)
- Children learn correct **portion sizes, food groups,** and nutrition when eating with their family. Let the children learn by **serving themselves** at dinner -- take **small amounts at first**, “take more if you are still hungry.”





# Meals & Conversations: The Value of Family Time

## *Recommendations for family meals together:*

- Make family meals **a priority**. Focus on the importance of **being together** as a family more than on making an elaborate meal.
- **Relationships**- Eating together helps **build close parent-child relationships**.
- It gives everyone in the family **a chance to learn more about each other**. Use dinner time to **talk, connect, and make memories** together - lessons your children will use in life. (Conversations and storytelling make family dinners fun and memorable. Your children will soon **forget what they ate**, but **will not forget the family stories.**)





# Meals & Conversations: The Value of Family Time

## *Recommendations for family meals together:*

- Teach **responsibility**: Share the tasks of “dinner-making”. Grocery shopping, menu planning, cooking, serving and cleaning up -- make it all a **family event**. Occasionally, reexamine, agree upon, and reassign the tasks.
- **Dinner is enhanced for everyone** when **everyone contributes** and by no single member **feels resentful or overburdened**. **Young children** can sprinkle a seasoning, rinse vegetables, set and clear the table, pour drinks, etc. → compliment one another
- Work as a family afterwards to **clean up**.





# Meals & Conversations: The Value of Family Time

## *Recommendations for family meals together:*

- Turn off the TV and put away the cell phones.
- Research suggests that kids tend to consume more calories and fewer vegetables and fruits when the TV is on.
- Eating family dinners in front of the TV interferes with the pleasures and benefits of family stories and conversation.
- Turn off the TV and do not answer the phone during mealtime.







## Meals & Conversations: The Value of Family Time

**Research suggests that family meals together lowers the chance of children engaging in high risk behaviors such as substance use/abuse and violence, and they have fewer psychological problems in life.**





## “Reflect and Connect”

Why is it important for parents and educators to re-focus on health practices while students are sheltering in place? What was the **most valuable** idea that *you learned* this afternoon?

- Please write down 2 “I will statements”:  
How will you use the information shared today at home or with your students who are all on-line now?



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