

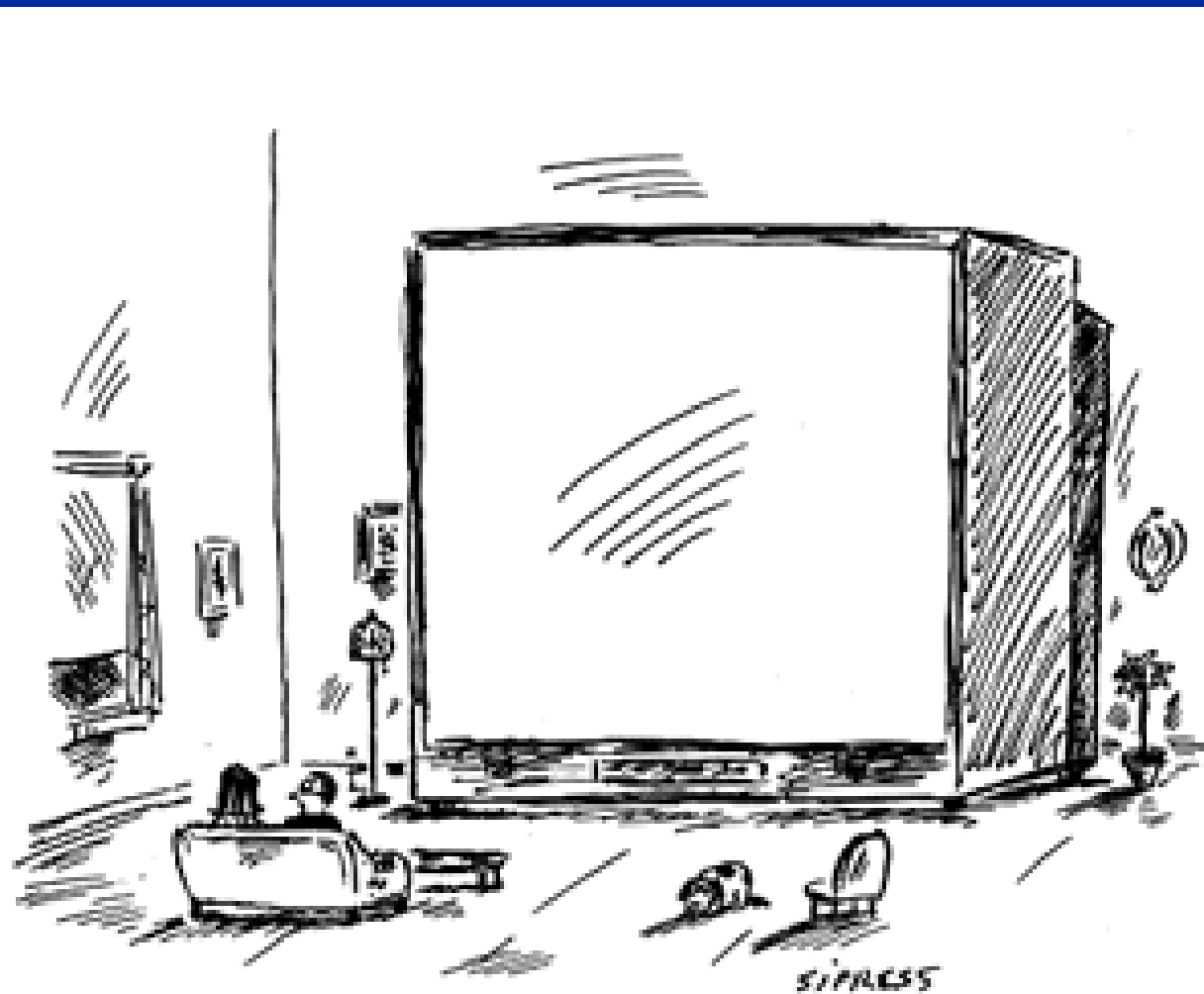
Focusing on Media as a Public Health Issue

Dimitri A Christakis, MD MPH

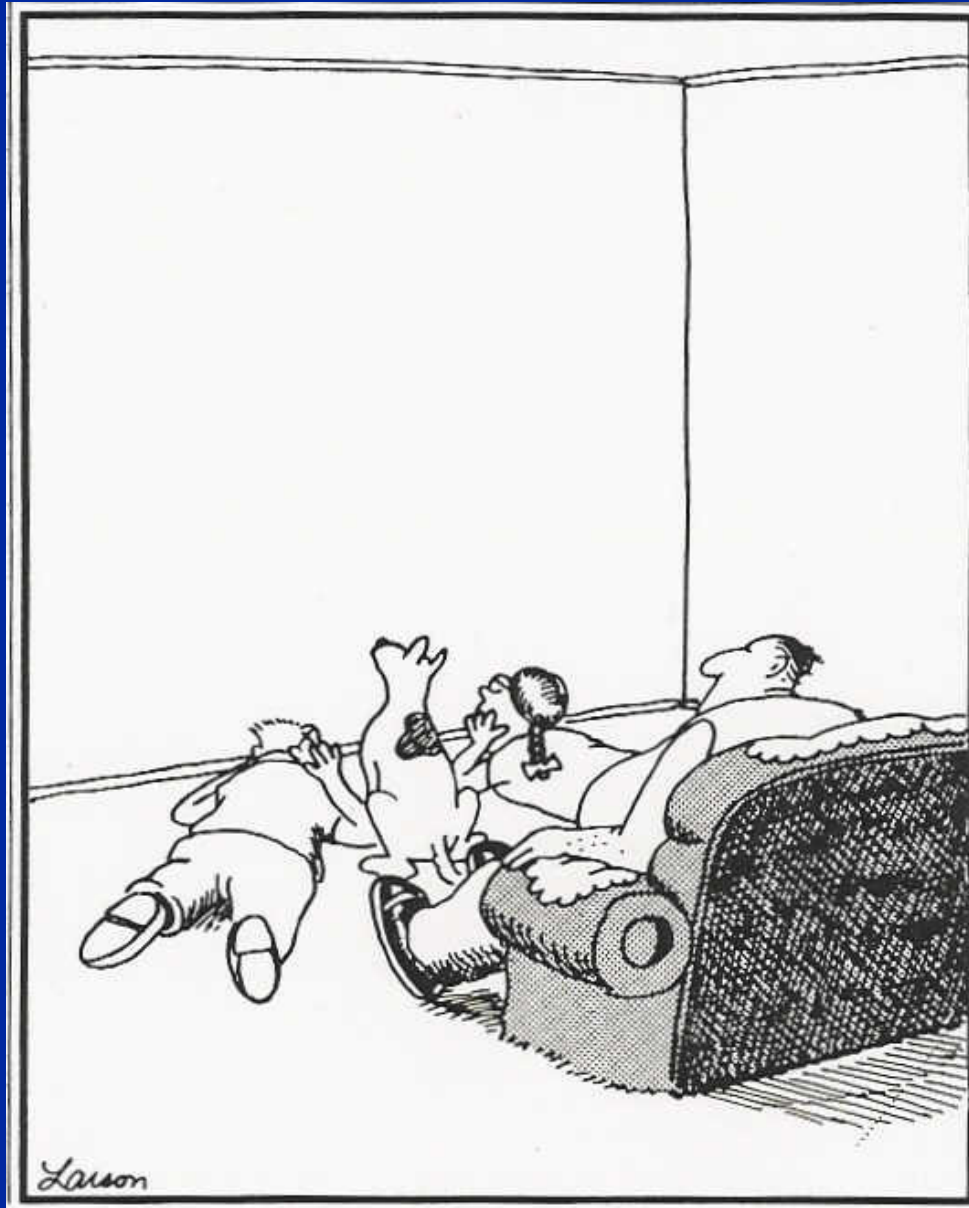
Children's Hospital & Regional Medical Center

Child Health Institute

University of Washington



"I don't know, boney. What do you feel like doing?"



In the days before television

Three “take home” points

- 1) Media is a real, powerful influence
- 2) Media should be a tool, not a crutch
- 3) Don't feel bad or guilty about using it, but use it wisely

Effects across the age spectrum

- Infants (Attention Spans)
- Preschoolers (Behavior)
- School age (Obesity)
- Adolescents (Alcohol)

Rise of TV:
From Promotion to Mass Market

Promotional Period (1949-1955)

- 1950:
 - » 85 children's programs/week
 - » ~40% with NO advertising
 - Howdy Doody (1947)
 - Small Fry Club (1947)
 - Kukla Fran and Ollie (1948)
 - Mr. Wizard (1951)
 - Captain Kangaroo (1955)

Mass Marketing Era (1956-pres)

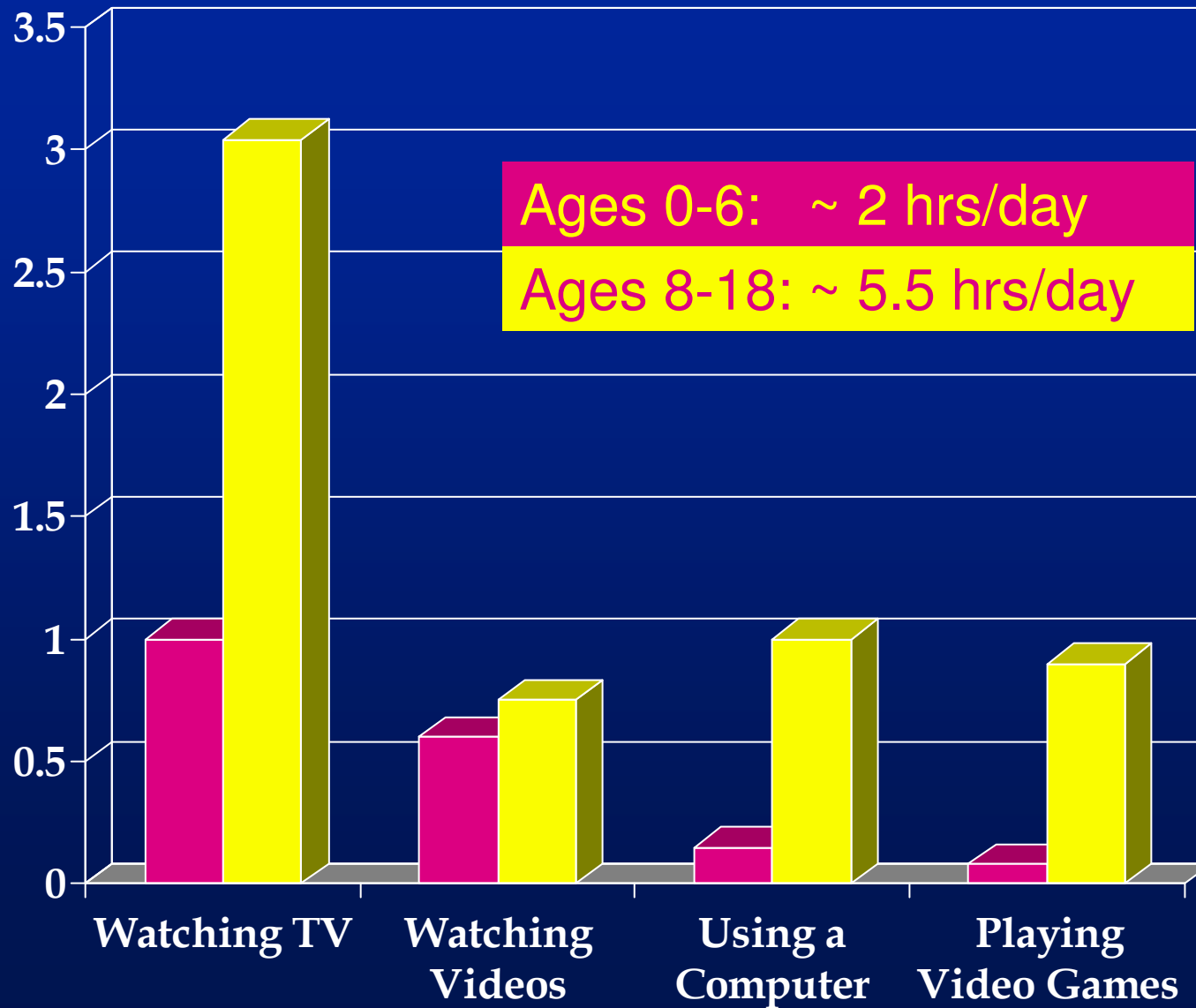
- By 1956
 - » 75% of households had televisions
 - » Trying to sell TV sets → Trying to sell ads
 - » Adults (18-49 years) preferred demographic

- 1959
 - » 25 prime time kid shows/week (80 in 1950)
- 1960's
 - » Rise of Sat morning cartoons
- 1970
 - » 75% of all children's programming on weekends (from 30% 1960)

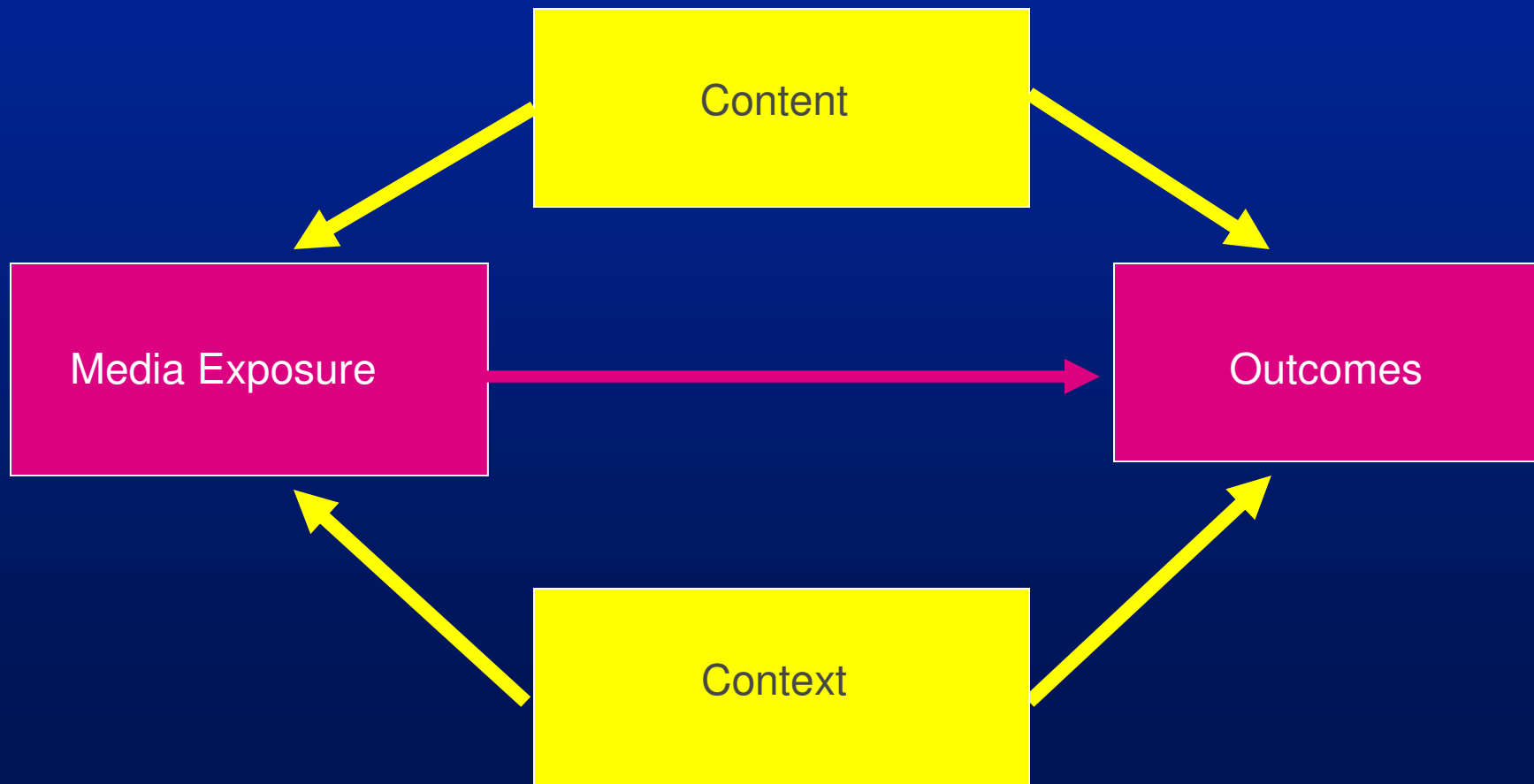
Today

- 24/7 programming for children
- Multiple platforms (DVD, computer, IPOD, cell phone)
- Multiple locations (car, airport, shopping cart)

Time children spend each day with screen media



Conceptual Model



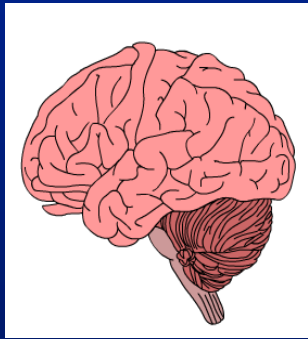
Staying in Focus

Television and Attention Problems



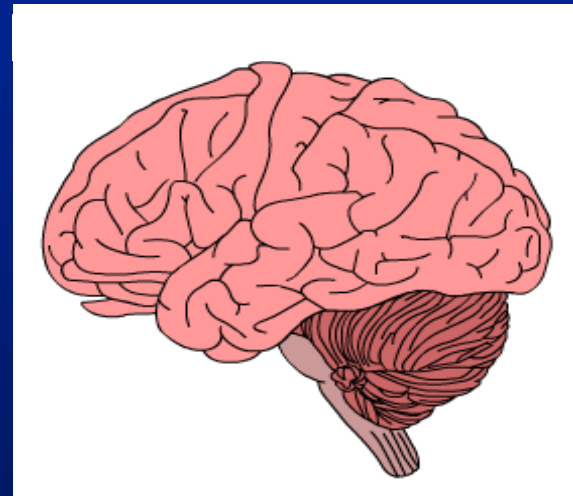
NICK ANDERSON
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Why Early Media Matters



Newborn Brain

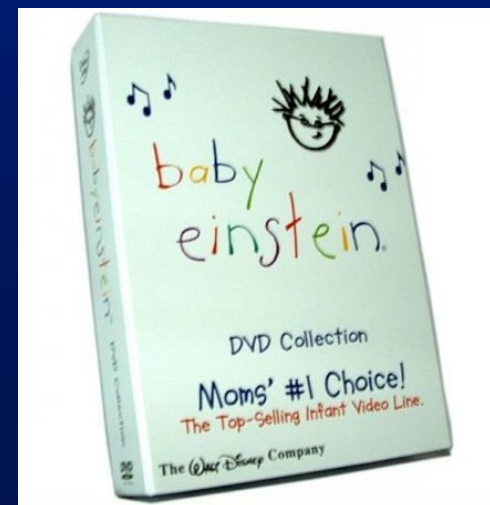
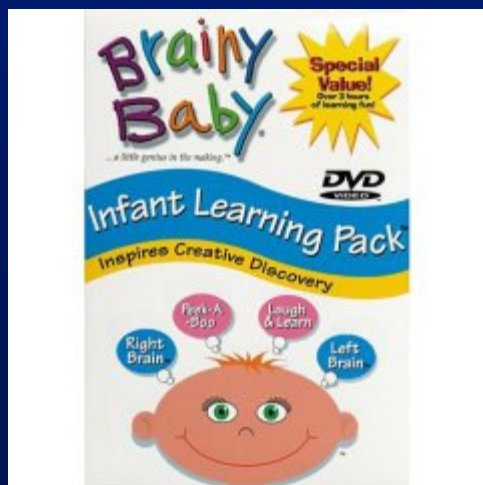
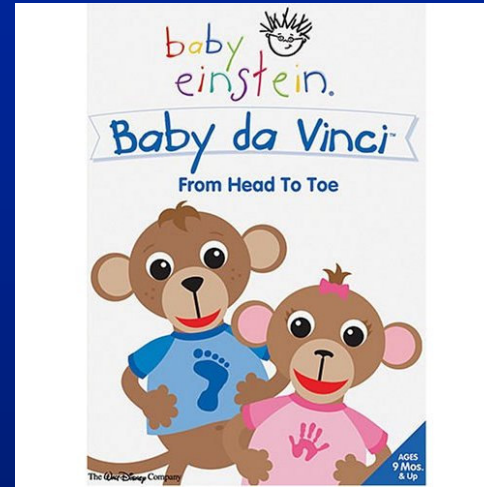
Average wt. 333 grams



2 Year Olds' Brain

Average wt. 999 grams

So Many Choices!





- FAQ
- News
- Shop
- DVD's
- Videos
- Articles
- About Us
- Cat Vision
- Happy Cats

Cat DVD's

DVD's for Cats



Kitty Show®



["The Bugs DVD"](#)



["The Birds DVD"](#)

All Kitty Show Cat DVD's are **Continuous** Play.
Kitty Show Cat DVD's will play **worldwide** on **any** format.

Kitty Show developed & produced the Worlds **first** DVD for Cats.

Filmed using the highest quality Broadcast TV cameras and editing suites using the extremely high bit-rate encoding.

Please click on each DVD to see more information.

CONTACT INFO

Kitty Show
P.O. Box 6345
Burton, SC 29903
milo@KittyShow.com

843.524.7928

FAX: 843-524-0663

“This video will teach your child about language and logic, patterns and sequencing, analyzing details, and more”

Brainy Baby, *Left Brain*, package

“Introduces age-appropriate spelling words to enhance reading readiness.”

V-smile website

Reasons for infant viewing

Most Important Reason	% Citing
Teaches them or is good for their brain	29%
Is something they really enjoy	23%
Time for me to get things done	21%
Time spent together with sibling	9%

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Deconstructing “Edutainment”

- Fun is *fun* but education is different
- We can objectively determine if children learn
- Children look at the screen, but do they learn?

Connection?



“The point is that there is so much education in this video as well as interesting images. Some of the images are so interesting they seem to hypnotize.”

Baby Einstein Parental Testimonial

Orienting Response

- **First described by Pavlov (1927)**
- **“What is it reflex”**
- **Individuals stop what they are doing and tune in new stimulus**



baby 
einstein.

Baby MacDonald

A Day On The Farm

A fun-filled
introduction to
the sights and
sounds of a farm



The Walt Disney Company

AGES
9 Mos.
& Up

Our Hypothesis

Prolonged exposure to rapid image change during critical period of brain development



Precondition mind to expect high levels of stimulation



Inattention in later life

Early Television and Attentional Problems

- 1356 children studied
- At 1 & 3 years, asked how much television they watched
- At 7 years, asked about their attentional abilities

What we found

- 1) More TV before age 3 → More likely to have attention problems at age 7
- 2) More cognitive stimulation before age 3 → Less like to have attention problems at age 7

Summary

- No proven benefit to infant viewing
- Best evidence suggest possible harm
- Minimize viewing during infancy

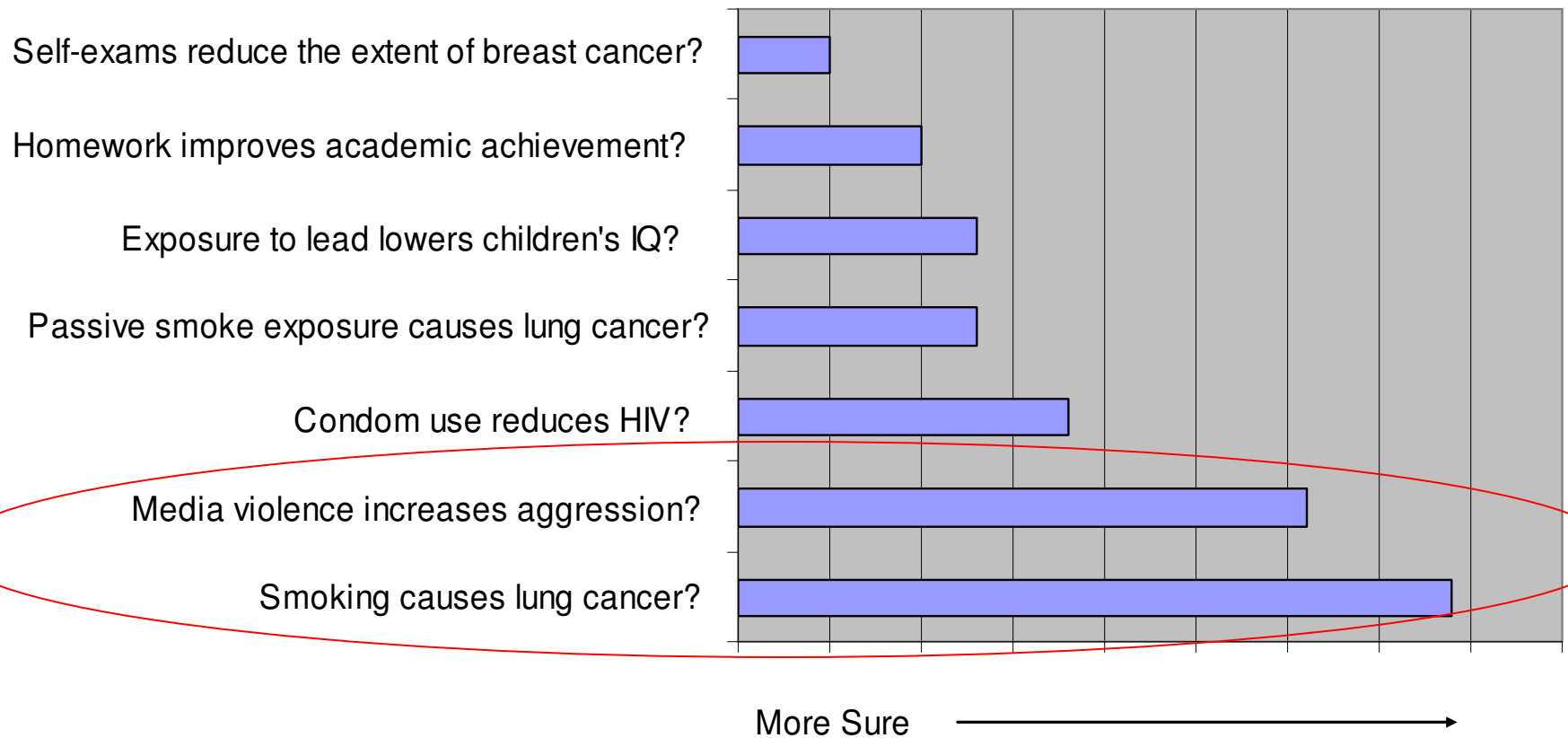
Naughty or Nice

TV Viewing and Preschool
Behavior

TV and Aggression

- Debate in scientific circles about media and violence is over
- Alive and well in the public arena
 - » 3rd person effect

How sure are we that:



Violence Risk Factors

- Likeable perpetrators
- Realistic depictions
- Lack of consequences
- Co-occurrence of violence and humor

What screen violence does

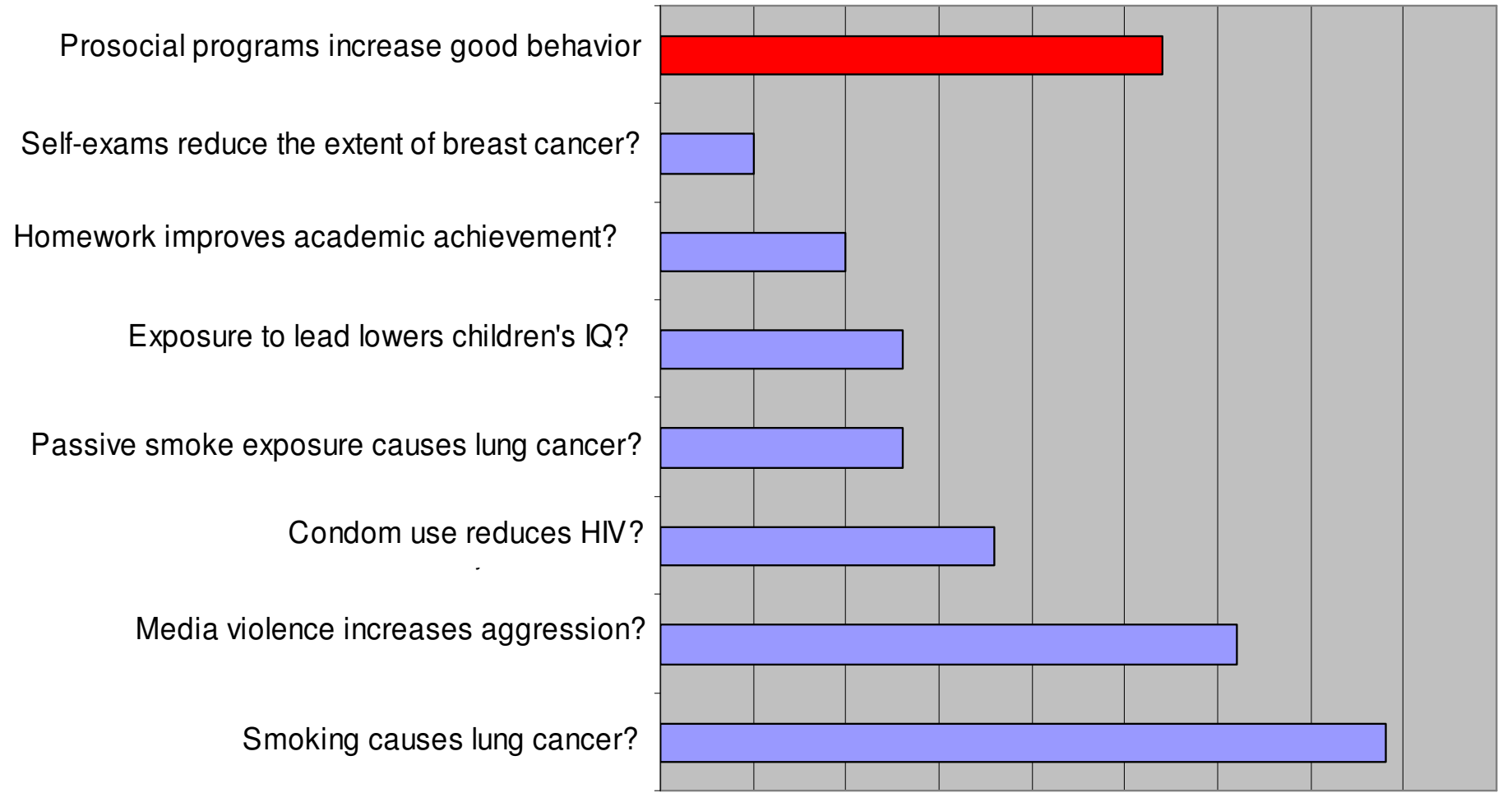
- Desensitizes
 - » The more they see, the less it bothers them
- Induces aggression
 - » Might makes right
- Instills fear
 - » World is scary and dangerous

What to do?

- Violence Mediation
 - » Are some characters sad, mad, or scared?
 - » Who might be hurt? How do they feel now?
 - » How does their mommy, daddy etc feel now?
 - » What could you have done instead without hurting anyone?

The Mister Roger's Effect

- News isn't all bad
- Prosocial programs can actually help



Summary

- Behaviors (good and bad) on the screen are mirrored in real life
- Find good ones
- Mediate bad ones

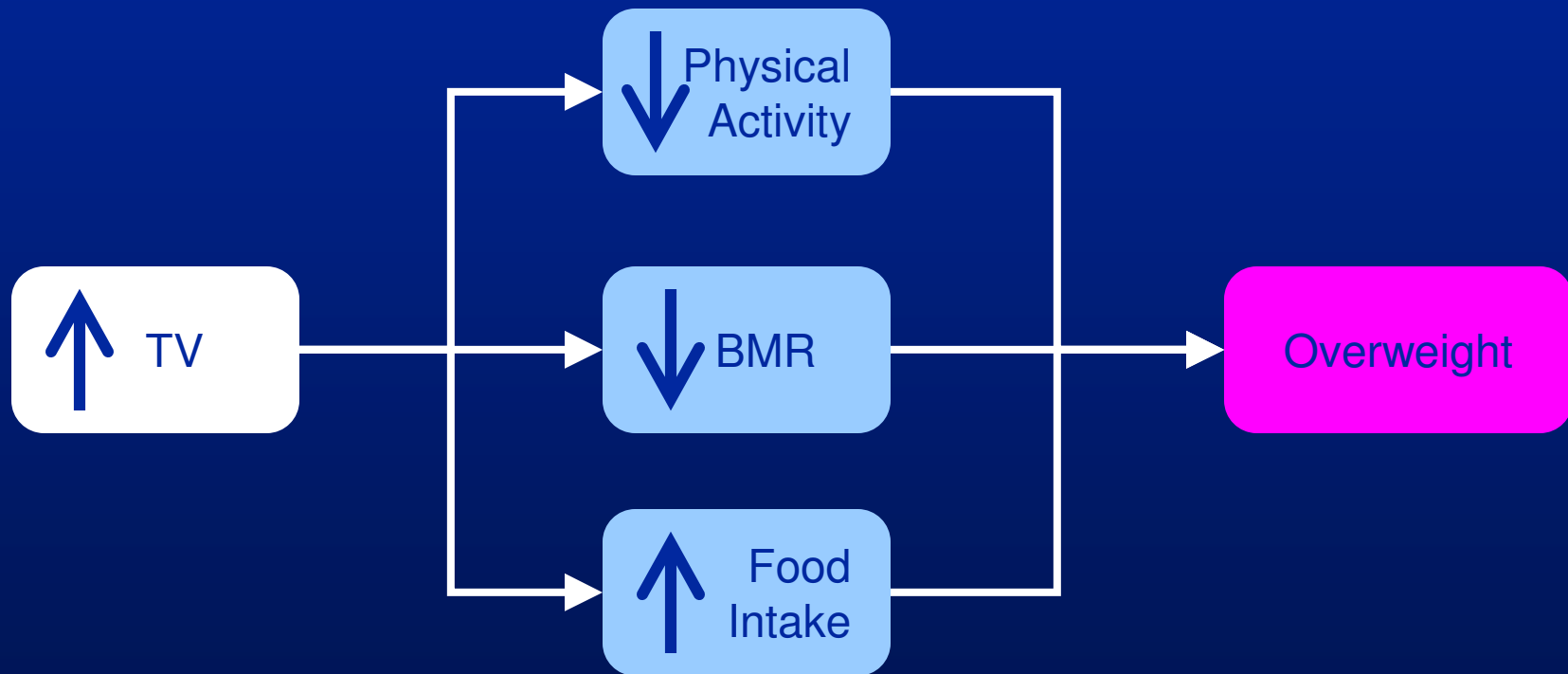
Mashing the Couch Potato Theory

TV's Role in Childhood Obesity

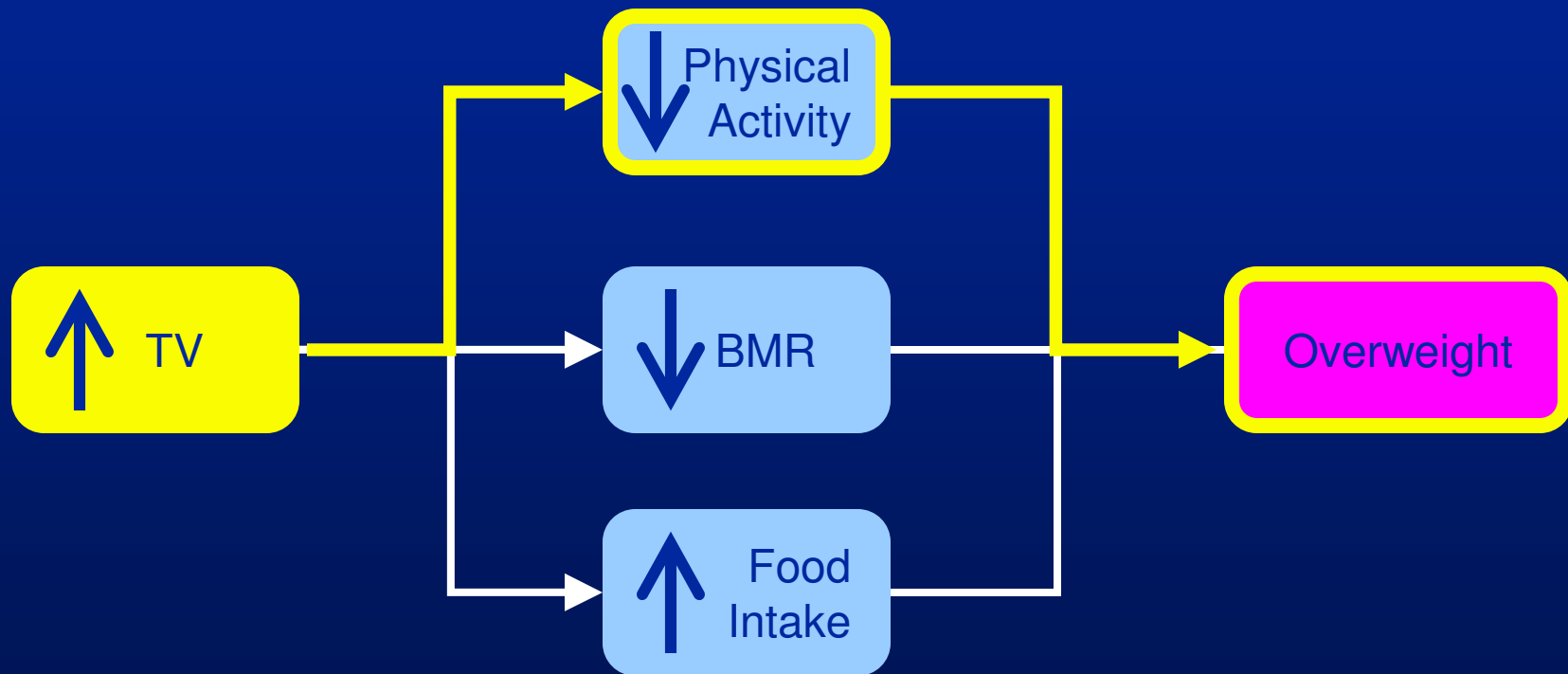
What we know about TV & obesity

- Reducing television viewing reduces excess weight gain (Robinson)
- May be genetic effect modification (Vandewater)
- We do not know what *mediates* the effect of television on weight gain

How might TV increase weight?



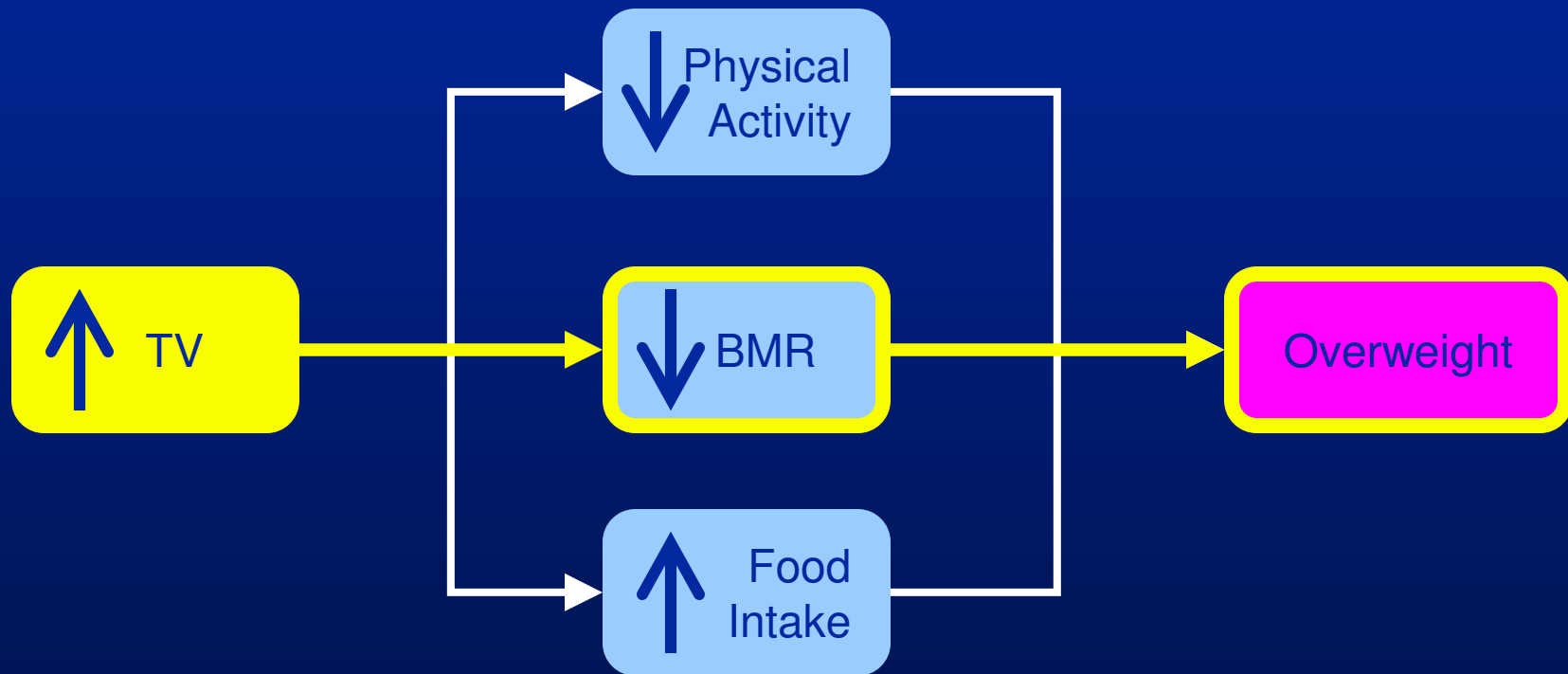
How might TV increase weight?



TV & ↓ Physical activity

- No evidence from observational studies
 - » TV displaces other sedentary activities
- No evidence from experimental study
 - » Reducing TV did not increase PA

How might TV increase weight?



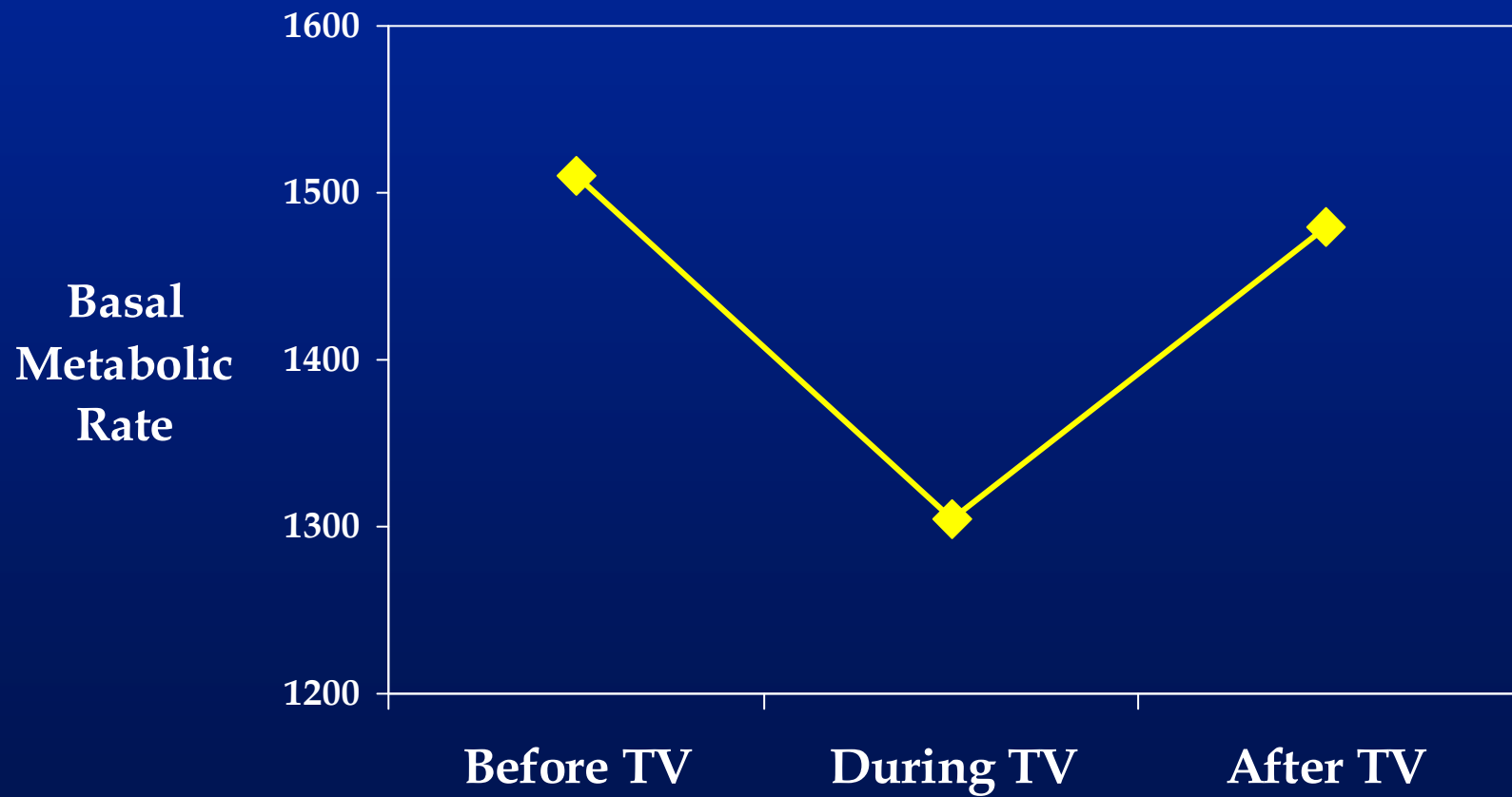
TV and ↓ BMR

- 20 minutes of vigorous exercise increases BMR for 24-48 hours
- Might TV do the opposite?

Klesges et al

- 31 kids ages 8-12 years
- Laid in bed
- Then watched *Wonder Years*
- Then laid in bed
- BMR calculated before, during, after TV viewing

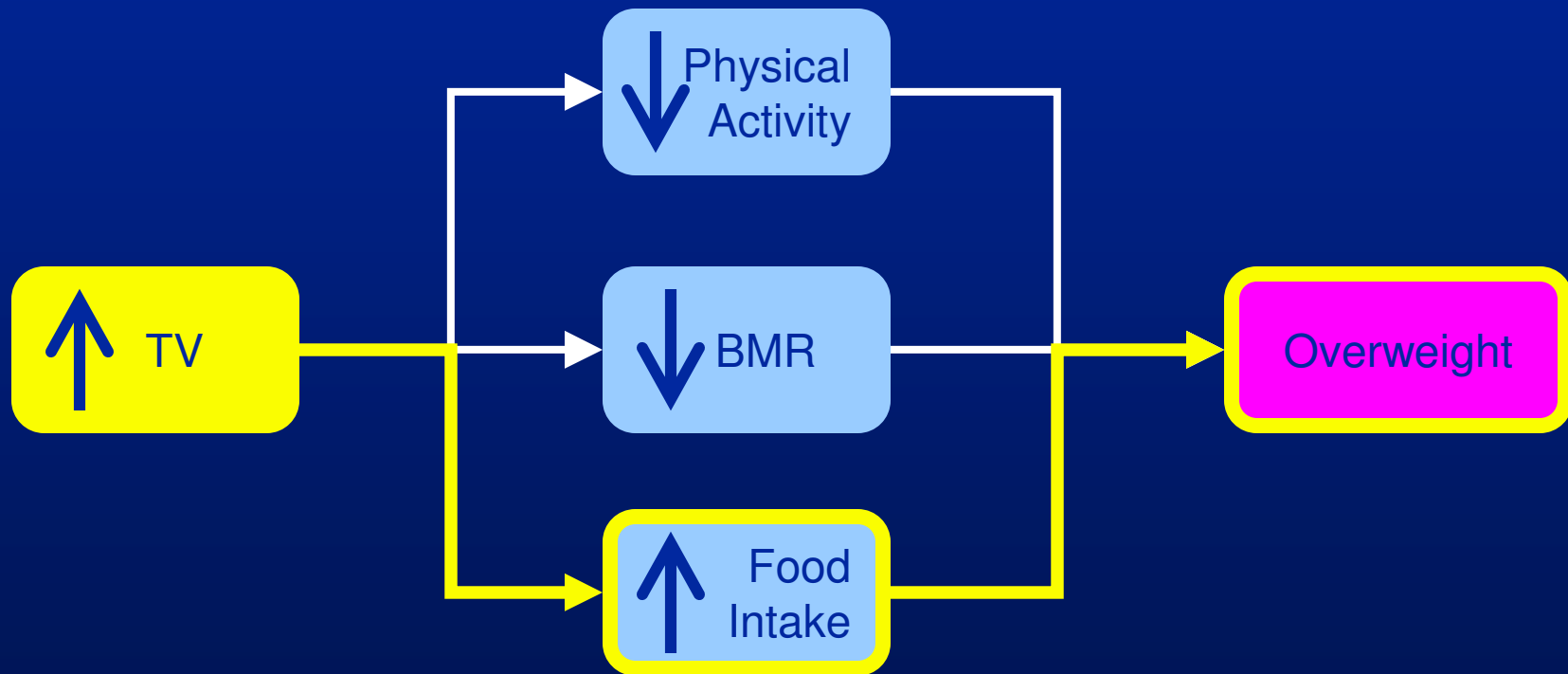
TV and ↓ BMR



TV and ↓ BMR

- Initial excitement but no corroboration

How might TV increase weight?



How much intake does it take?

- Not much!
- 100 excess calories per day for 1 year → 10 lb excess weight gain in adults

2 Pathways to ↑ Intake

- (1) Intake *while* viewing
- (2) Intake overall (poor choices)

Intake While Viewing

- Swanson executive Gerald Thomas' Turkey Problem (1953)
- 270 Tons of left over Thanksgiving turkey
- No room in corporate refrigerators
 - » Trains criss-cross country

- Thomas visits Pan Am Airlines food production site
- Impressed with food trays
- Eureka!



*“Television was the talk of the day.
Television was something that if you
had one, you were contemporary. If it
were today, we’d probably call it the
digital dinner...”*

Gerald Thomas AP

TV dinners take off

- 5,000 dinners made in first run
- 10 million sold that year
- 1 year later, 25 million TV dinners served *in front of* the TV

Eating in front of TV is normative

- ~30-50% of Households do so
- TV snacks are an industry

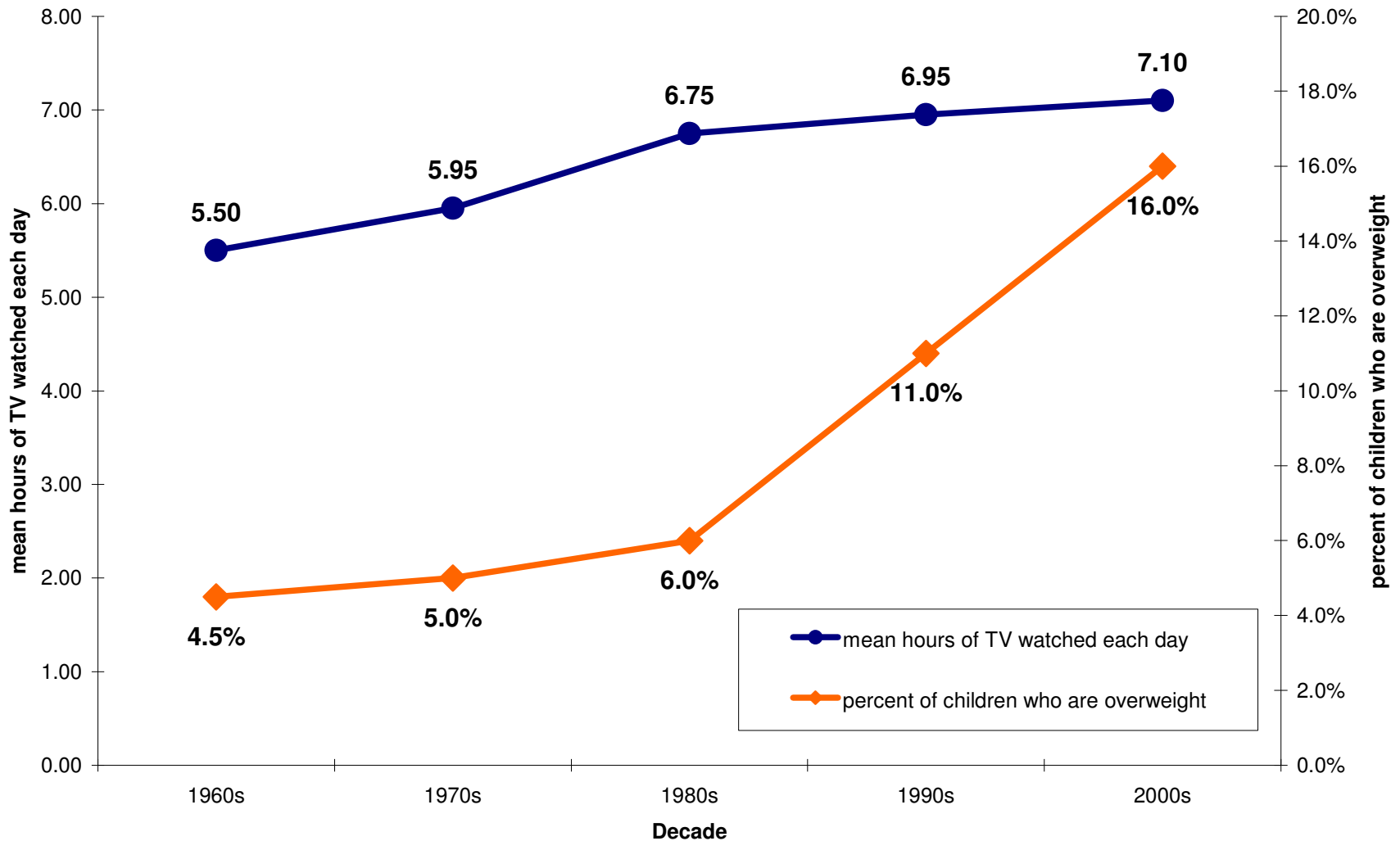


'Chef' adds, "I guarantee you'll get hooked on it!"

670 calories!

Intake overall

40 years of TV and Weight Gain



What has changed?

- 1980's deregulation increased options
- More Channels, More Ads
 - » More targeted → greater potency



What's in your area?



The kids shows you trust and your kids love.

Now playing whenever you decide.

Introducing PBS KIDS Sprout on Comcast Digital Cable with ON DEMAND, the first round-the-clock television destination for pre-schoolers and their parents. PBS KIDS Sprout offers all your kid's favorite programs whenever you want them all at the touch of a button. Play, pause, stop, rewind, fast-forward. With PBS KIDS Sprout on Comcast ON DEMAND you're in complete control of the shows you've come to know and trust.



Spend more time with your child anytime as they learn and grow. Only with PBS KIDS Sprout. Only on Comcast Digital Cable with ON DEMAND.

> Don't have Comcast Digital Cable?

Get ON DEMAND and PBS KIDS Sprout FREE when you subscribe to Comcast Digital Cable. [Click here](#) to find out what's available in your area.

Already have Comcast Digital Cable?

Accessing PBS Kids Sprout is easy. Just choose ON DEMAND from your on-screen menu and select Kids/Family, then "PBS Sprout."



available shows

Sesame Street
Sagwa the Siamese Cat
Bob the Builder
Thomas & Friends
Barney & Friends
Angelina Ballerina
Boobah
Teletubbies
Caillou
Jay Jay the Jet Plane

more about...

Comcast Digital Cable with ON DEMAND

What else is playing ON DEMAND this month

Other Comcast products and services

PBS Kids Sprout is brought to you in partnership with your local PBS KIDS station

Not available in all areas. ON DEMAND is available to residential customers in Comcast Digital Cable wired and serviceable areas only. ON DEMAND programming is limited and subject to change. All programs are not available in all areas. ON DEMAND requires subscription to a qualified Digital Cable package. A digital cable box and remote control are required. Service is subject to terms and conditions of Comcast Cable subscriber agreement. The PBS KIDS logo is a registered trademark of the Public Broadcasting Service. ©2005 reserved. Sesame Workshop®, Sesame Street® and associated characters, trademarks and design elements are owned and licensed by Sesame Workshop. Bob the Builder ©2005 HIT Entertainment, PLC and Keith Chapman. Barney ©2005 Lyons Partnership, L.P. Thomas the Tank Engine ©2005 Guilane (Thomas) Limited. Angelina Ballerina ©2005 Helen Craig Ltd. and Katherine Holabird. All rights reserved.

Why are kids so vulnerable

- <~7 do not recognize “ads” as such
- Disclosures incomprehensible (by design)
 - » *Batteries not included*
 - » *Some assembly required*
 - » *Each part sold separately*
 - » *Part of a balanced breakfast*

Marketing Food to Children and Youth

“Among the various environmental influences, none has more rapidly assumed central socializing roles for young people than the media, in its multiple forms. With its growth in variety and penetration has come a concomitant growth in the promotion of branded food and beverage products in the marketplace.”

Institute of Medicine (2006)

Ad factoids

- US children see ~40,000 TV ads/yr
- 70% of ads during children's shows are for high sugar cereals, candy bars, & junk food
- Amount of time increased
 - » 16 minutes of a one hour prime time show

Ad Revenue Sources

- **Primary market, (\$8 billion)**
 - » Discretionary spending
- **Influence market, (\$300 billion)**
 - » Pester power
- **Future market (unmeasurable)**
 - » “Adult” consumers

“Children are often the key decision makers concerning where a family goes to eat. Although the parents decide when to go out, the children many times “decide” where to go. Remember, children exert a phenomenal influence when it comes to restaurant selection. This means that you should do everything you can to appeal to children’s love for Ronald and McDonalds.”

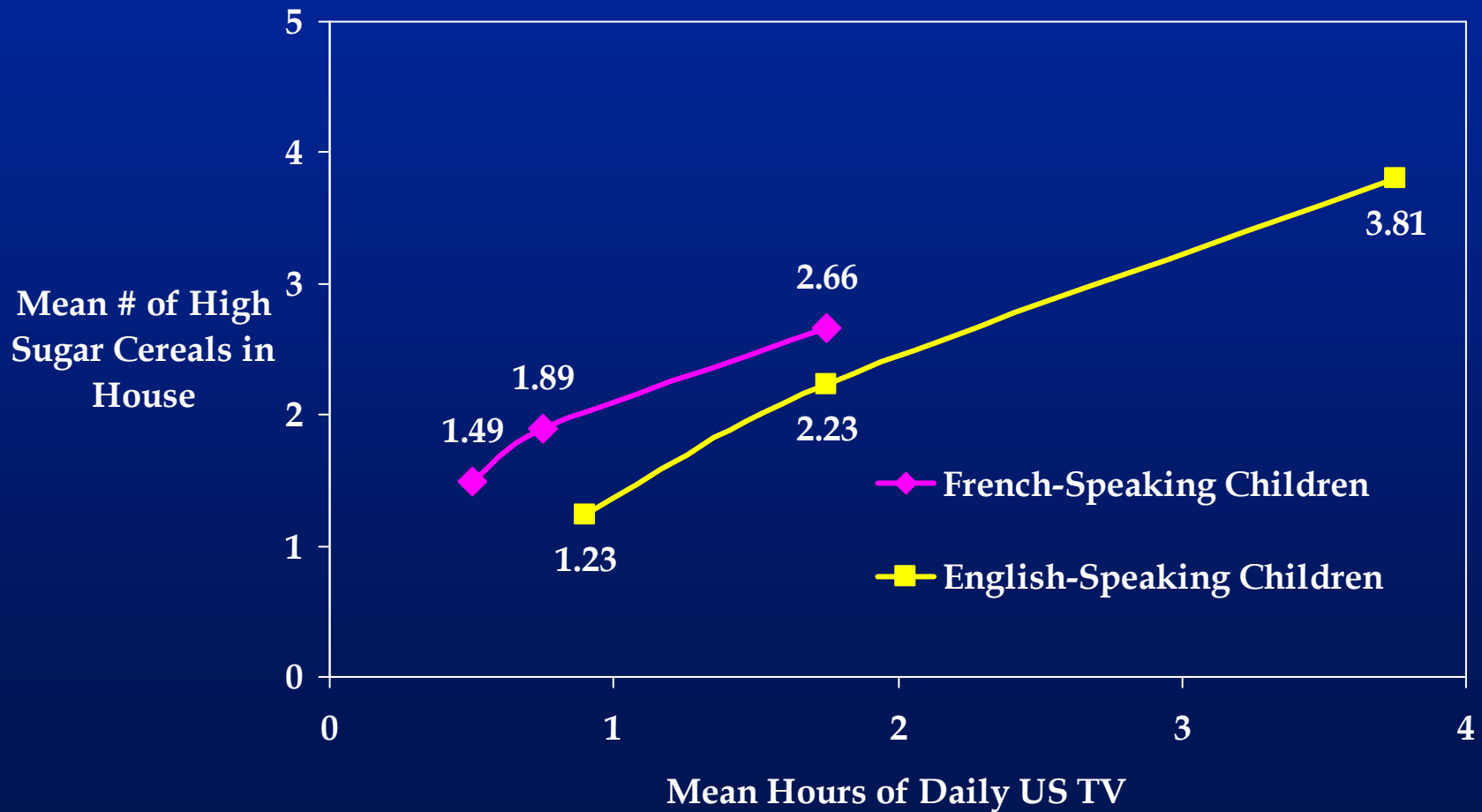
TV and Food Choice

Gorn & Goldberg

- 1980 Quebec outlawed advertising to children
- US Networks unaffected
- Quebec Bilingual (English & French)

- 9-12 year olds
- Compared English to French speaking kids
 - » Similar demographics
 - » Similar amounts of television (22 hrs/week)
- Children circled high sugar cereals they owned

TV and Food Purchases



TV and Caloric Intake

Wiecha et al

- Longitudinal Study
- 5 Public Schools in Boston
- 548 Middle School Kids (11.7 yrs)
- Assessed
 - » Total Energy Intake
 - » Intake of foods commonly advertised on TV

- Each Additional hour of TV watched
 - » 167 calories/day ($p < .0001$)
 - » Controlling for foods advertised on TV eliminated association

TV while eating

Stroebele

- 78 undergraduate students
- Media and food diaries kept for 1 week
- Also recorded meal hunger (1-7 scale)

Results

- 3 1/2 vs 2 3/4 meals on TV vs no TV days
- 1900 vs 1737 calories ingested
- Less hungry pre-meal on TV days

Conclusions

- TV and eating go together
- Advertising to children is effective
- Advertisements are the hidden hand in the childhood obesity epidemic

Implications

- Discourage eating while viewing
- Limit advertising to children
- Promote Media Literacy
 - » Parents and children

Risky Business

TV and Alcohol Use

Teenage brain-- Still a work in progress

- Higher functioning (CEO center) last area of brain to develop
- Planning, impulse control and judgement aren't fully developed during adolescence
- Peaks at 12 years, not done till early 20's
- Talk about poor timing!



Happy?

Sad?

Curious?

Angry?

The teenage brain under the fMRI

- Adults and teenagers shown faces with particular emotion
- Teenagers used “emotional” parts of brain in responding
- Adults used “rational” parts
- 100% vs 50% correct!

TV provides “scripts”

- Developed, tested, and adjusted
- Sources include peers and TV
- 50% of 10-13 year olds think that alcohol commercials depict real life
- Average teen sees 7 alcohol ads/week
- Each ad ↑ alcohol intake by 1%

Summary

- Know what your kids watch
- Seize opportunities for discussion

Similarities to Tobacco

- Not everyone who smokes gets cancer
 - » Not every young child who watches TV is harmed by it
- Not every cancer victim smoked
 - » Not every child with a health or behavior problem watched TV when young
- Smoking is not the only factor that causes cancer, but it is a *major* factor
 - » TV is not the only factor that causes health and behavior problems, but it is a major factor

- Tobacco industry pushes back
 - » So does the media industry
- Surgeon general issued warning re tobacco
 - » Media ratings systems pale in comparison

Public Misconceptions

- A. TV is harmless
- B. TV is harmful

In fact, ...

TV viewing is a social phenomenon that can be harmful or beneficial depending on how it is used.

Top 10 pitfalls

- (10) Feeling guilty about media usage
- (9) Eating in front of the set
- (8) Focusing too much on quantity
- (7) Giving in to pester power
- (6) Letting kids watch alone

Top 10 pitfalls (cont)

- (5) Underestimating commercials
- (4) Missing teachable moments
- (3) Setting a bad example
- (2) TV in bedroom
- (1) Mindless Viewing

MAKE TELEVISION WORK
FOR YOUR KIDS

THE
ELEPHANT
IN THE
LIVING ROOM

DIMITRI A. CHRISTAKIS, MD. MPH
AND FREDERICK J. ZIMMERMAN, PhD
DIRECTORS OF THE CHILD HEALTH INSTITUTE
AT THE UNIVERSITY OF WASHINGTON

