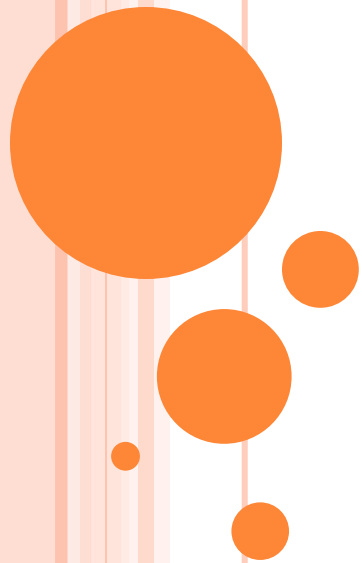


THE ADOLESCENT BRAIN

A WORK IN PROGRESS



???



BRAIN FACTS

- Brain weighs approximately 3 pounds
- Brain has approximately 100 billion neurons and 1 trillion supporting cells
- Neurons grow and organize themselves into efficient systems that operate a lifetime
- Brain controls ALL activities
- Emotion and cognition are intertwined
- Neurons can re-route circuits
- Brain and environment involved in delicate duet
- Brain never stops adapting and changing



CAVEATS

- New discoveries — research is still in its infancy
- Do NOT over-interpret or interpret too simplistically
- Research is **not** to the point that it can inform causal models
- Behavior is the result of **complex interactions** among individual, environment, genetics, situation, cultural expectations, and numerous other factors



Brain is not fully developed until **mid twenties**

- The brain develops from back to front.
- Emotional area of the brain.



Adolescent Brain

- Most adolescents should have a sign on their heads:

Caution: MIND
UNDER
CONSTRUCTION



PRUNING

- Critical Phases: In utero, 0-3, 10-15
 - These 3 critical phases are quickly followed by a process in which the **brain *prunes and organizes* its neural pathways**
 - **LEARNING** is a process of creating and strengthening frequently used synapses (brain discards unused synapses)
 - Brain keeps only the most efficient and “strong” synapses
 - Children/teens need to understand that they decide which **synapses flourish and which are pruned away** (Geidd, 1999)
- 

PRUNING

- “**USE IT OR LOSE IT**”— Reading, sports, music, video games, x-box, hanging out—whatever a child/teen is doing— **these are the neural synapses that will be retained**
- How children/teens spend their time is **CRUCIAL** to brain development since their activities guide the structure of the brain (Geidd, 1999)



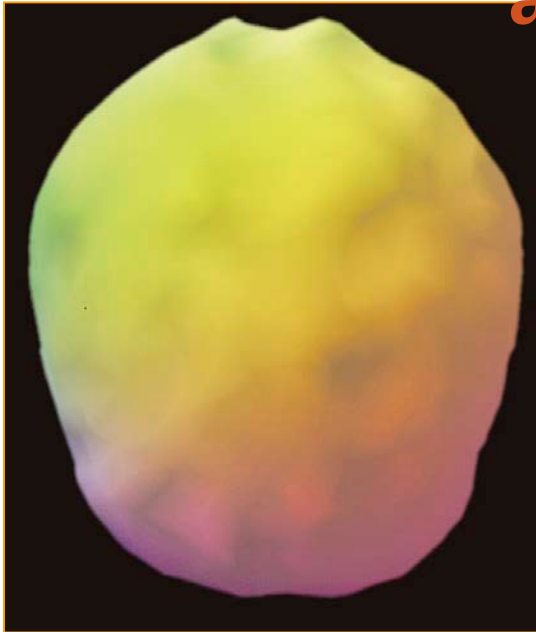
TEENS AND ALCOHOL

- Teen drinking can program the brain for alcoholism
- 67% of teens who drink before 15 will try other illicit drugs
- 40% of kids who begin drinking before the age of 15 will become alcohol-dependent

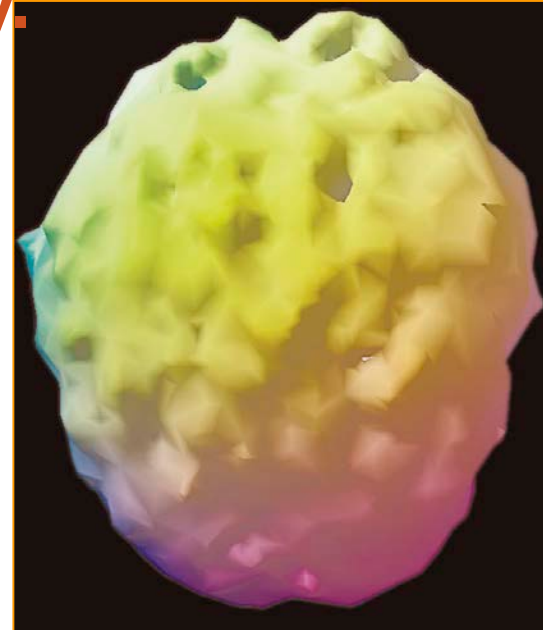


SPEC IMAGES - BRAIN

The “holes” indicate areas of reduced brain activity.



HEALTHY, NON-DRINKER'S ACTIVITY LEVELS



SOBER 21-YEAR-OLD WITH 4-YR HISTORY

Drinking alcohol during times of peak plasticity can seriously damage brain wiring!



Adolescent and Sleep

- Need more sleep(9-10 hours)
- Most get 6-7 hours
- Biological clock, circadian rhythms, is set differently than adults.
- Take longer to shut down for sleep

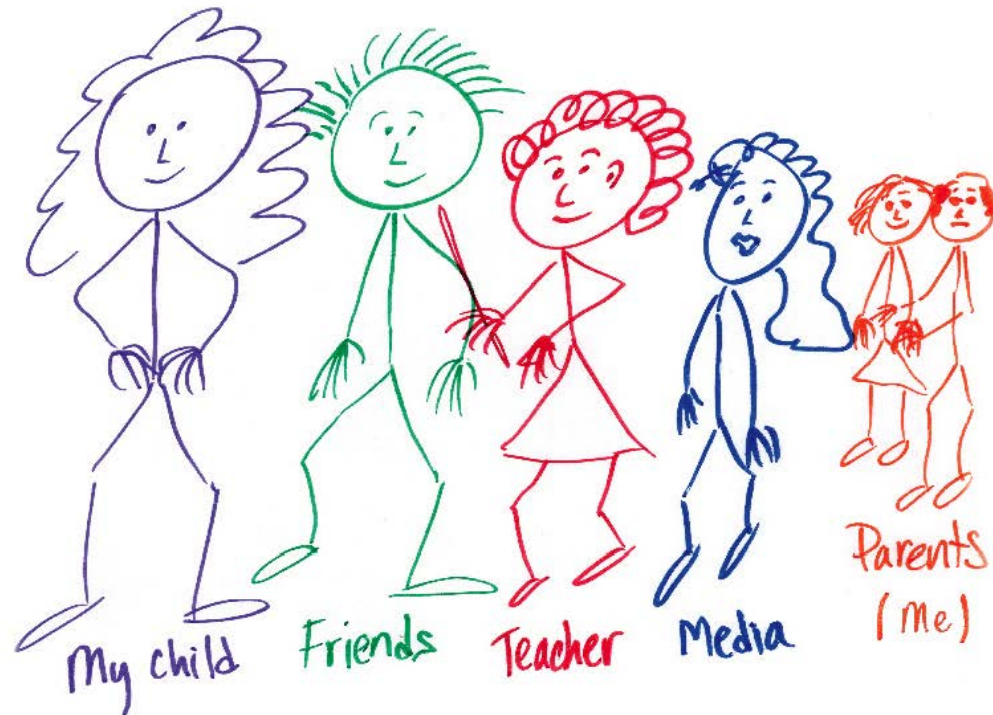
Brain implication:

- Brain cells replenish during sleep
- Connections are strengthened Myelin coating white matter
- Effect on learning and memory



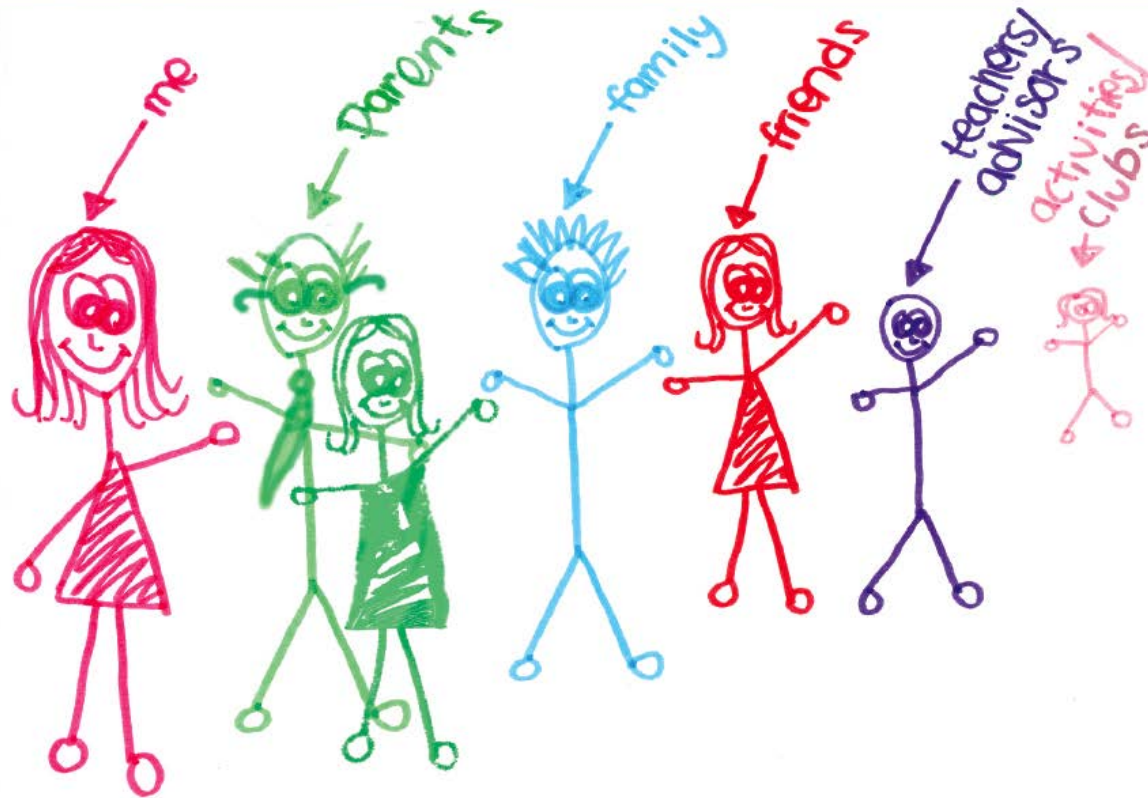
Who Influences Teens

Greatest Influences – Parents



Who Influences Teens

Greatest Influences – Teens



What factors have the most influence on children

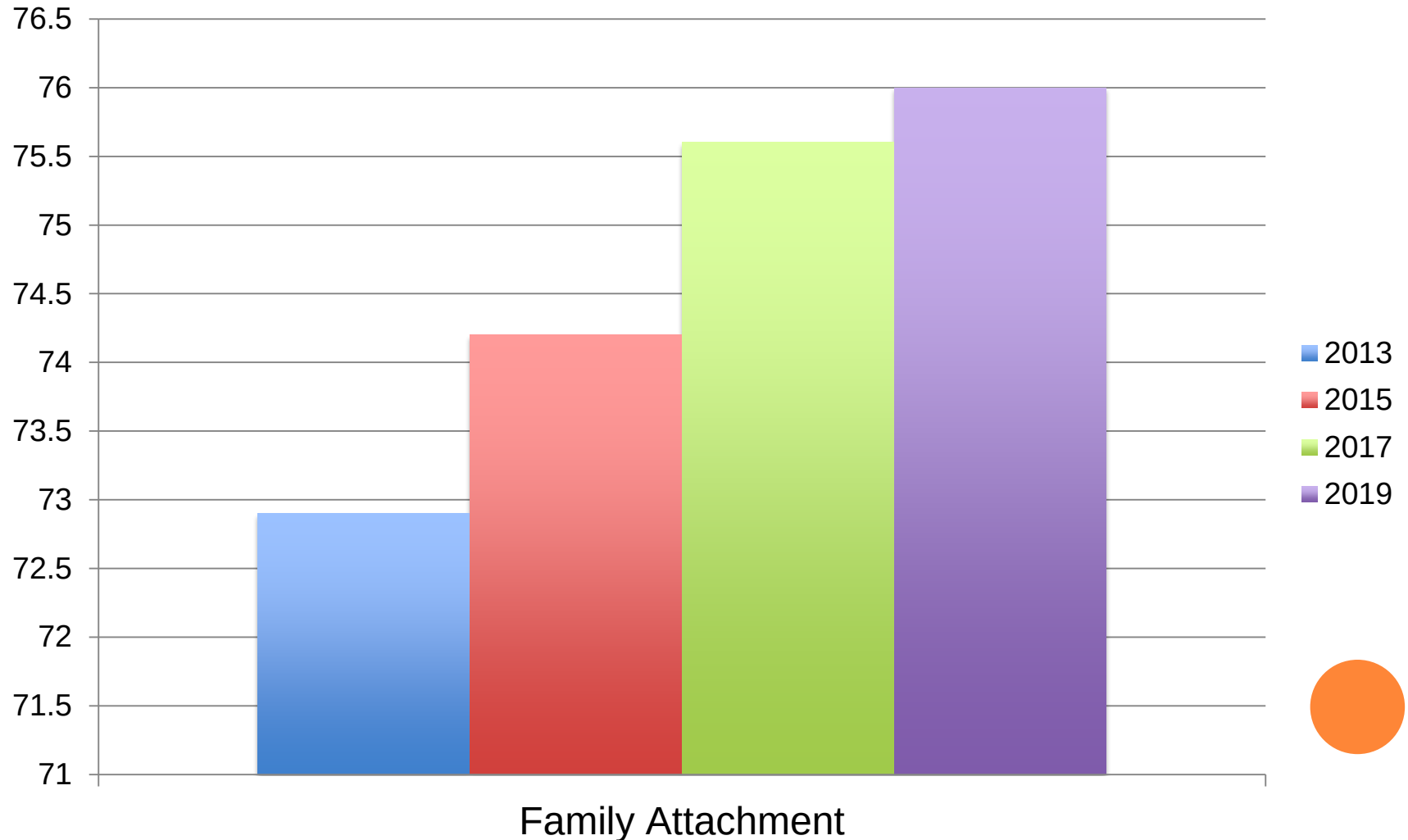
Protective Factor: Family Attachment (Bonding)

Most important factor for teens to feel validated was for their PARENTS TO HUG them.

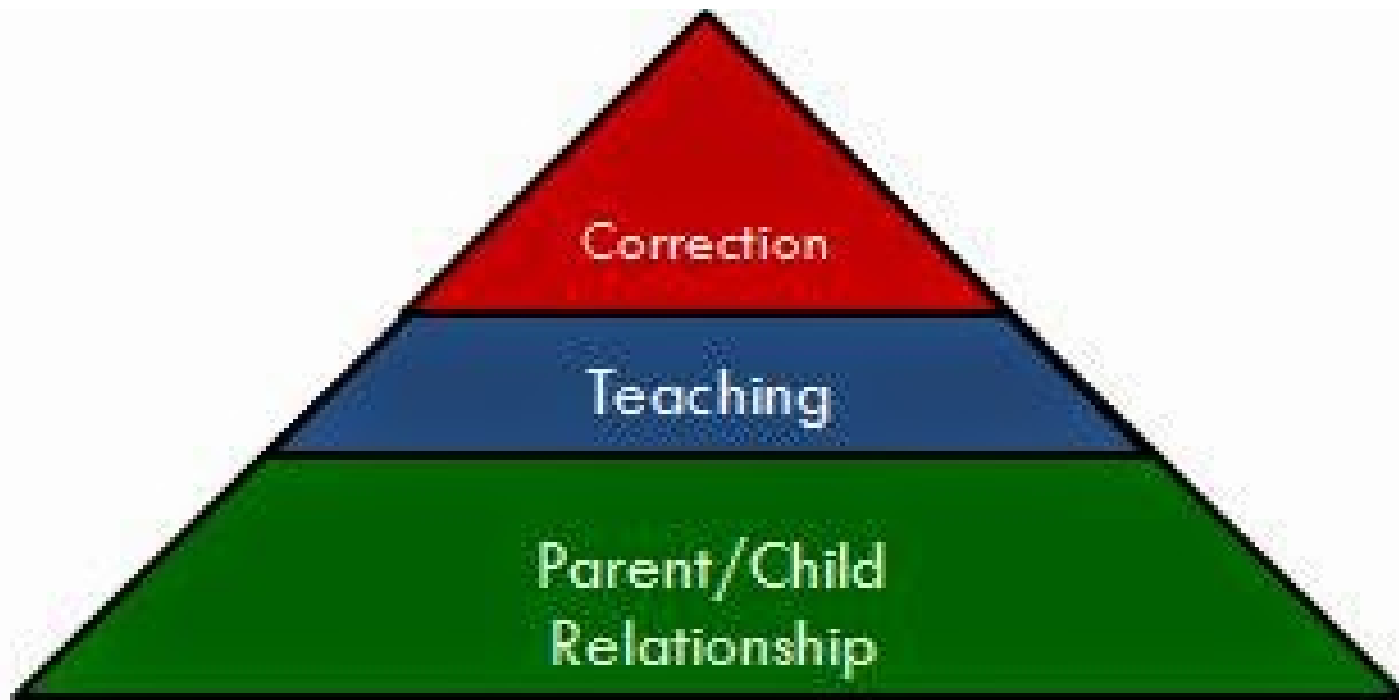
- Listening and talking was the second key to the psychological, physical, and spiritual growth of the child.
- Parents need to show the child love no matter what the child has done.



Family Protective Factor Sharp Survey



Bonding



Bonding Strategy

Make Time For 9:

- 9 meaningful touches
 - Fist bump, high five, hug, etc.
- 9 minutes that matter
 - 3 minutes after waking up
 - 3 minutes after coming home for the day
 - Last 3 minutes before going to bed
- 9 minutes of face-to-face talk time



Teens in BRHD

- Most teens in our area are making good healthy choices.
- Most of these pre-teens and teens have clear goals and ways to attain these goals.
- Parents have been and continue to be the greatest influence in their decisions to make, set, and obtain these goals.



SET BOUNDARIES

Parents need to set clear rules and expectations.

Boundaries are the rules and expectations that define what parents expect their children to do or not to do. Unclear rules and expectations leave kids vulnerable



SET BOUNDARIES

- Set rules early
- Be clear and consistent
- Remind kids regularly
- Parental disapproval is the number one reason teens don't drink

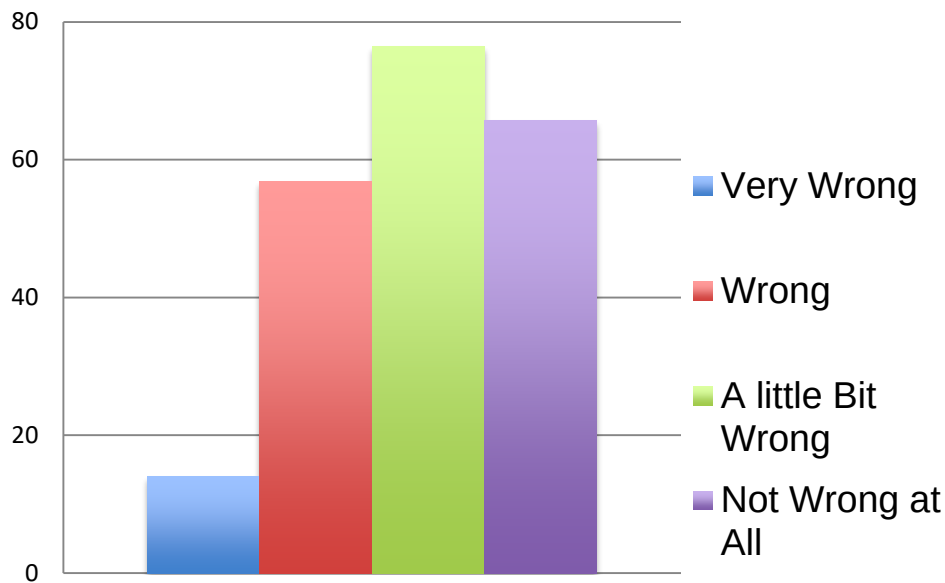


BRAIN DEVELOPMENT, RULES AND CONNECTION

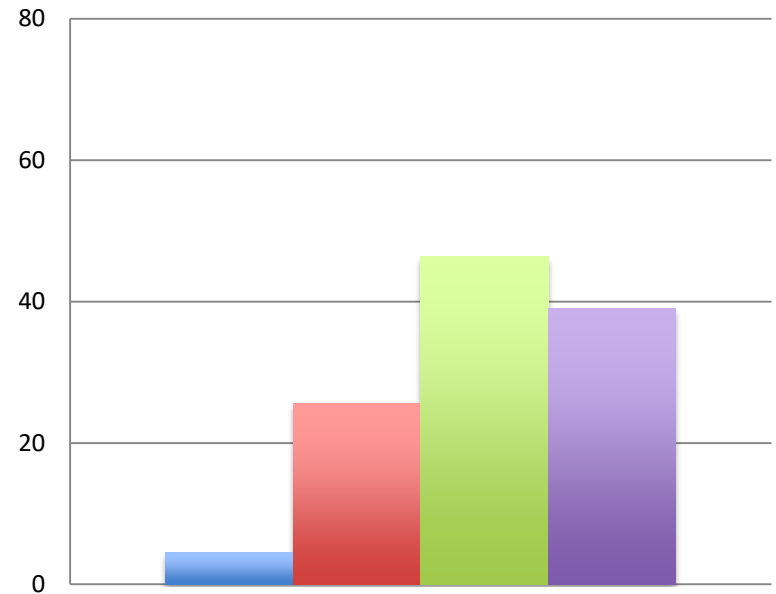
- Parental connection is highly important when setting rules for an adolescent
 - Rules from 0-8—come from adult, because I said so
 - Rules from 8-12—Concrete and apply to everyone, backseat drivers
 - Teens—Question rules, why is this even a rule
- 

Alcohol Use in Relation to Perceived Parental Acceptability

Lifetime Use



30 day use



Even a Small Amount of Perceived Parental Acceptability Can Lead to Alcohol Use



Substance Use and Perceived Parental Acceptability

Table 12. Substance Use in Relation to Perceived Parental Acceptability (State 2017)

How wrong do y our parents feel it would be for YOU to:	Student has used:	
drink beer, wine, or hard liquor regularly ?	Alcohol At Least Once in Lifetime	Alcohol At Least Once in Past 30 Day s
→ Very Wrong	14.0	4.5
→ Wrong	56.8	25.6
A Little Bit Wrong	76.4	46.4
Not Wrong At All	65.7	39.0
smoke marijuana?	Marijuana At Least Once in Lifetime	Marijuana At Least Once in Past 30 Day s
→ Very Wrong	8.5	3.6
→ Wrong	44.7	24.4
A Little Bit Wrong	66.1	43.6
Not Wrong At All	70.4	50.9
smoke cigarettes?	Cigarettes At Least Once in Lifetime	Cigarettes At Least Once in Past 30 Day s
→ Very Wrong	8.2	1.6
→ Wrong	32.5	9.7
A Little Bit Wrong	60.8	27.8
Not Wrong At All	45.8	32.5
use prescription drugs not prescribed to y ou?	Prescription Drugs At Least Once in Lifetime	Prescription Drugs At Least Once in Past 30 Day s
→ Very Wrong	5.6	2.0
→ Wrong	20.9	8.3
A Little Bit Wrong	40.1	21.4
Not Wrong At All	37.6	15.3

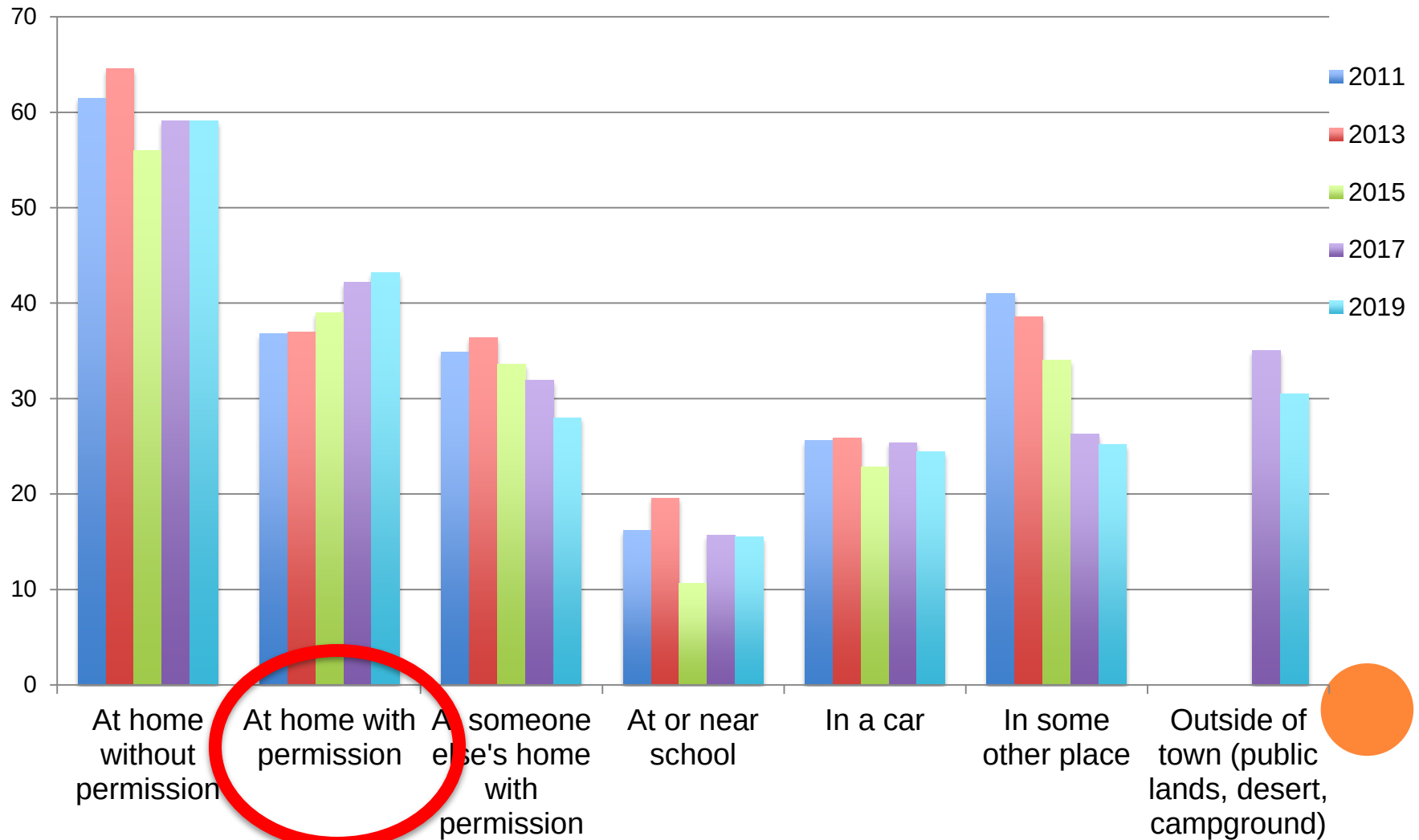
5.7x

6.8x

6.1x

4.15x

Places of Alcohol Use (All Grades)



MONITORING

Monitoring is knowing where your children are, who they are with and what they are doing. Because the teen brain has not fully developed impulse control, inadequate monitoring can leave kids at risk for risky behaviors.

- Meet all friends
- Drop by unannounced
- Call or text



9-12 are the prime years for parents to discuss the risky behaviors children see or hear about. BRHD knows this is the time to build
Prevention Skills

On average, parents talk to their children two years too late concerning alcohol.

- Internet
- Cell Phone
- TV
- Music
- Magazines
- Books
- Movies (Kids in Mind)
- Peers Social Media

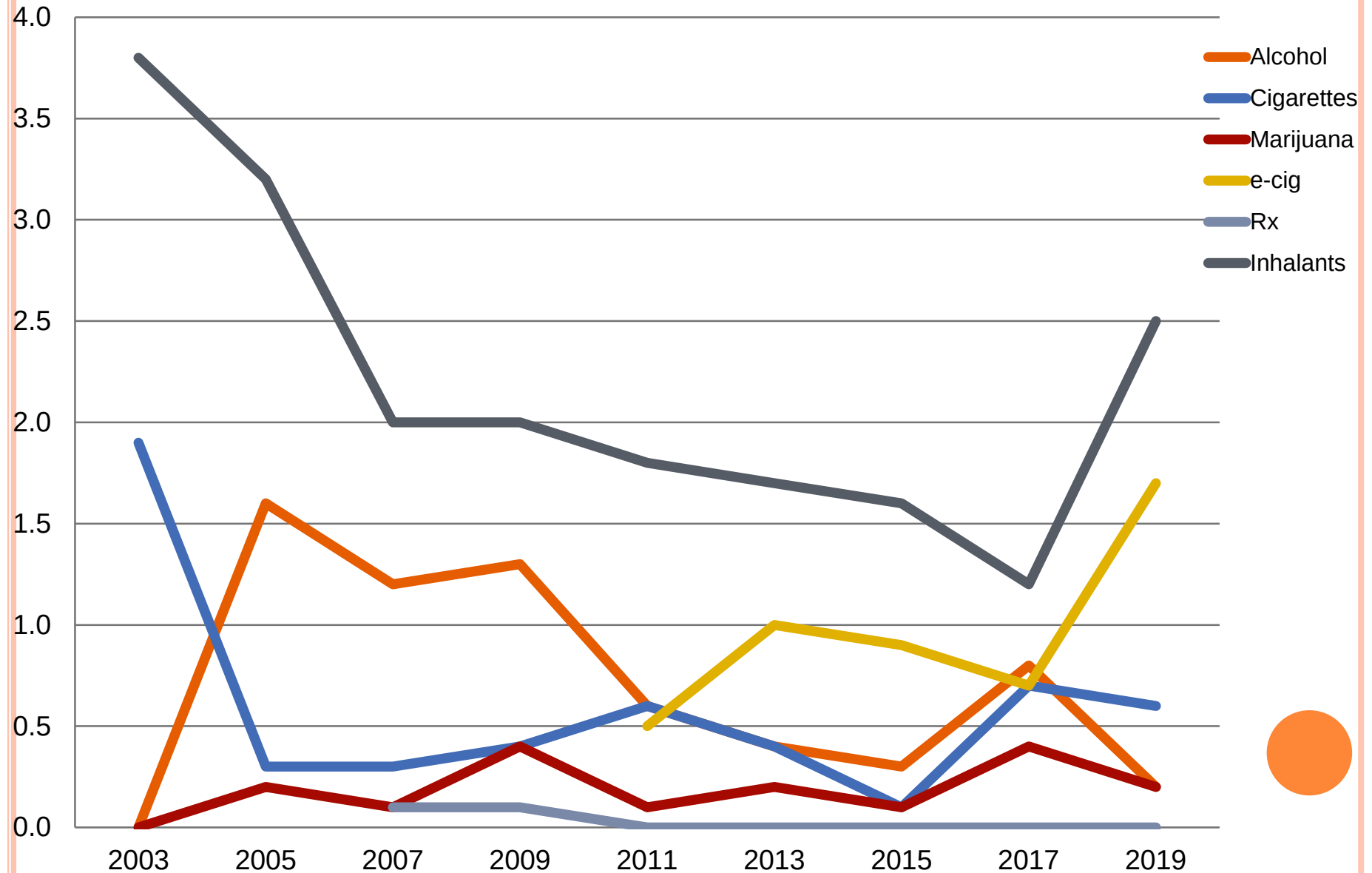


RESOURCE OFFICER STATE DATA

- 20 % of Teens have sent or received nude pictures from acquaintances
- 22 % girls
- 18% boys
- 20 % of 13 -14 year old girls have been involved
- Where: own home, own bedroom

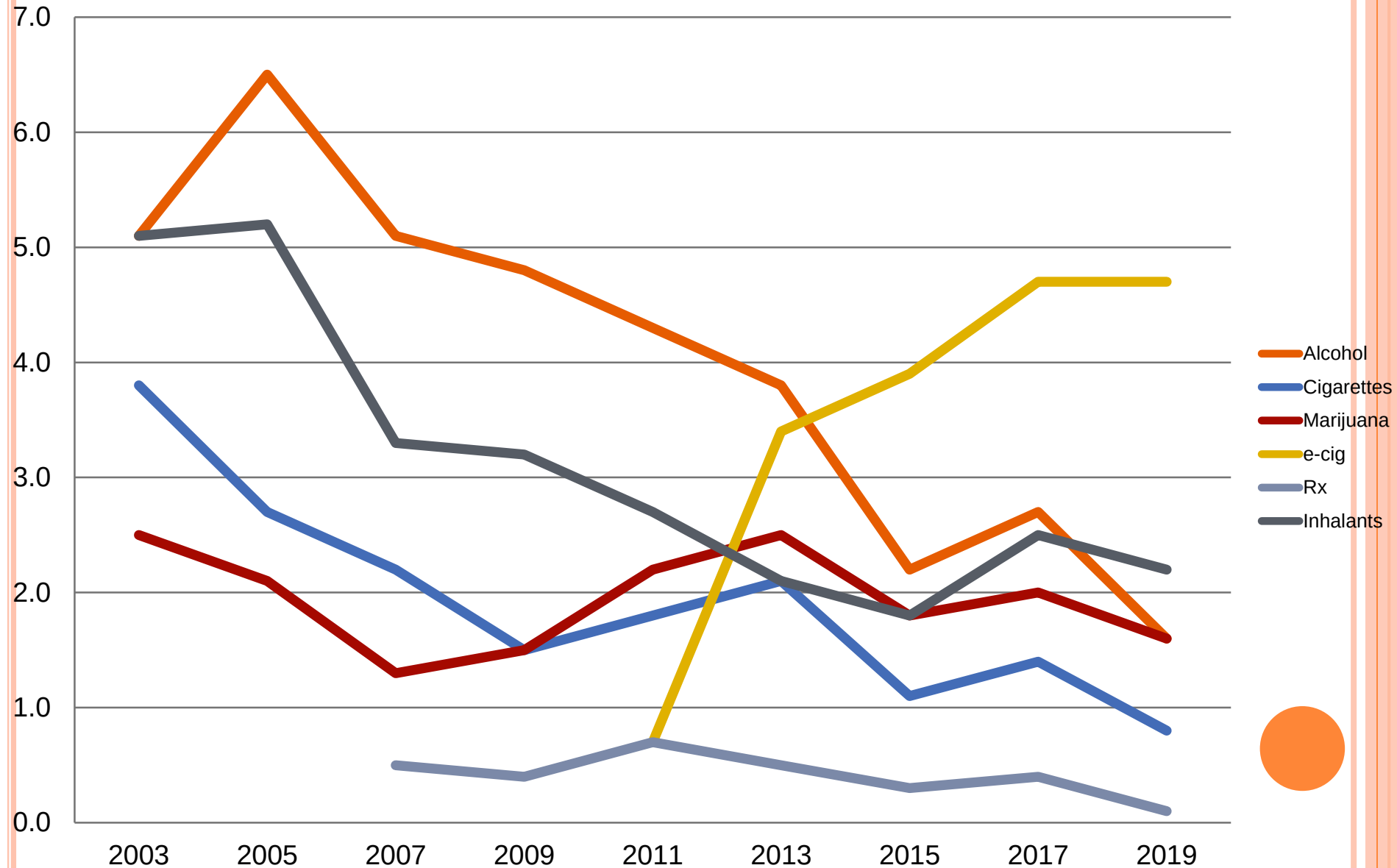


Grade 6 BRHD 30-Day Use 3 Year Trend Data



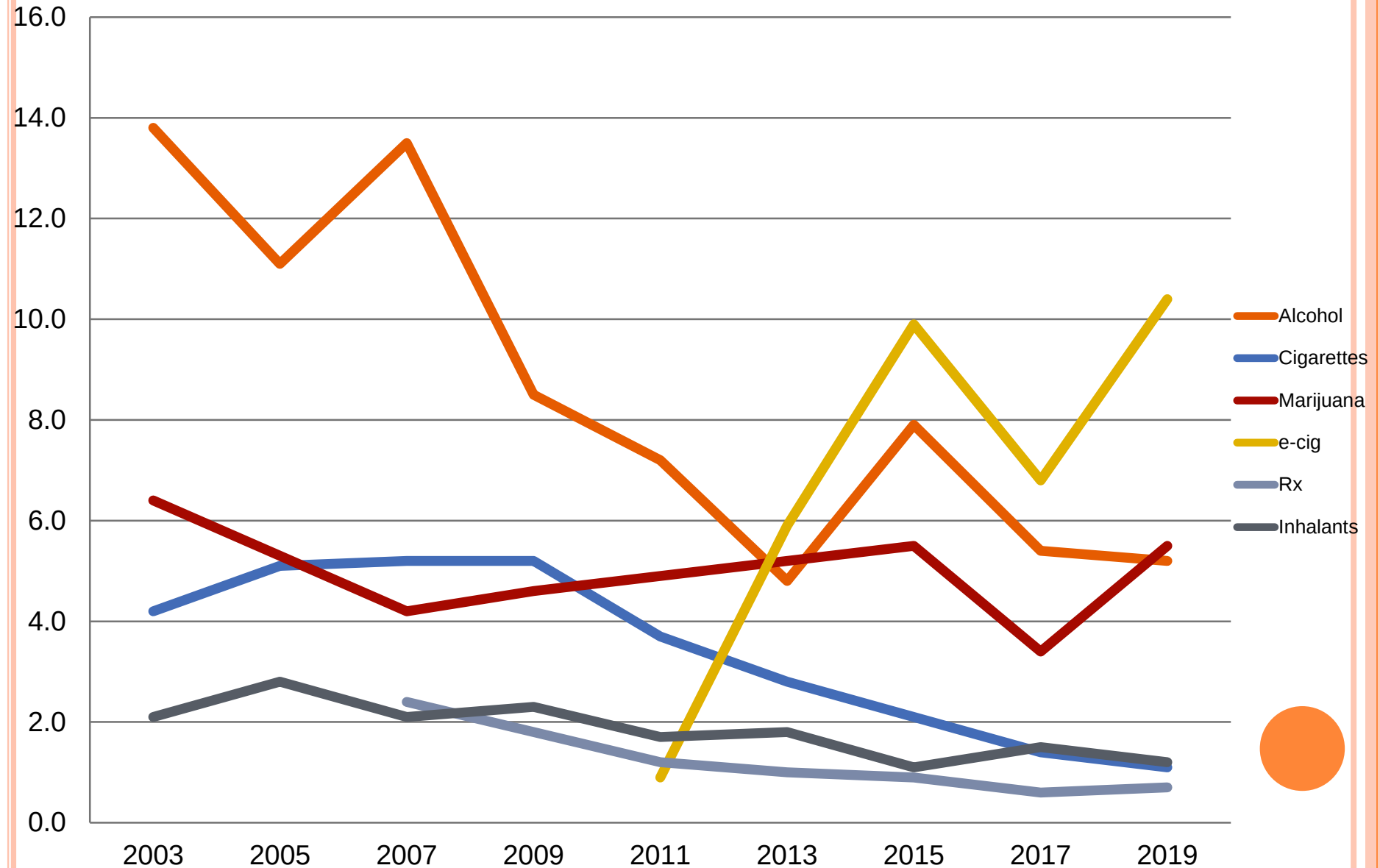
Grade 8 BRHD 30-Day Use

3 Year Trend Data



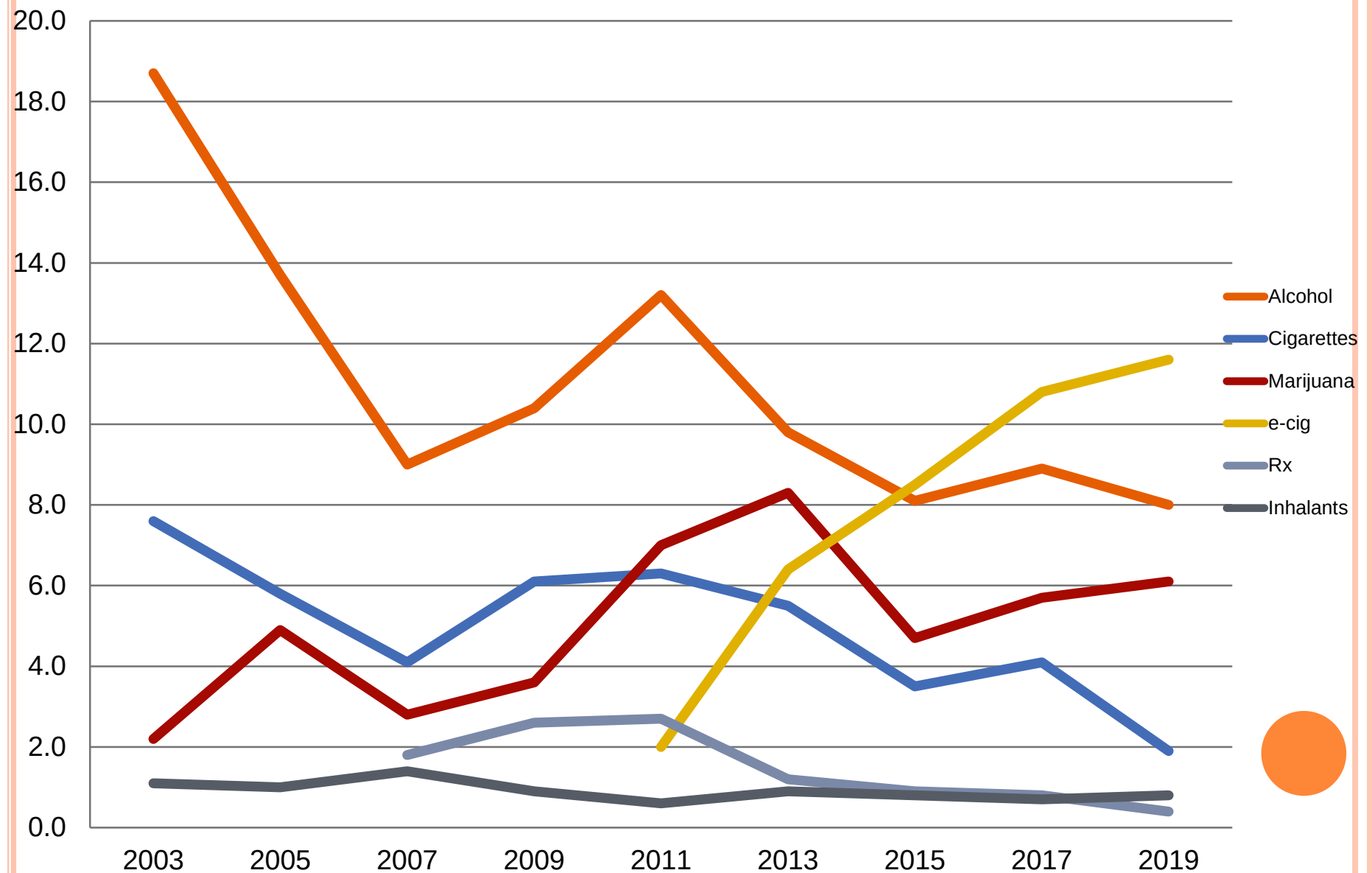
Grade 10 BRHD 30-Day Use

3 Year Trend Data



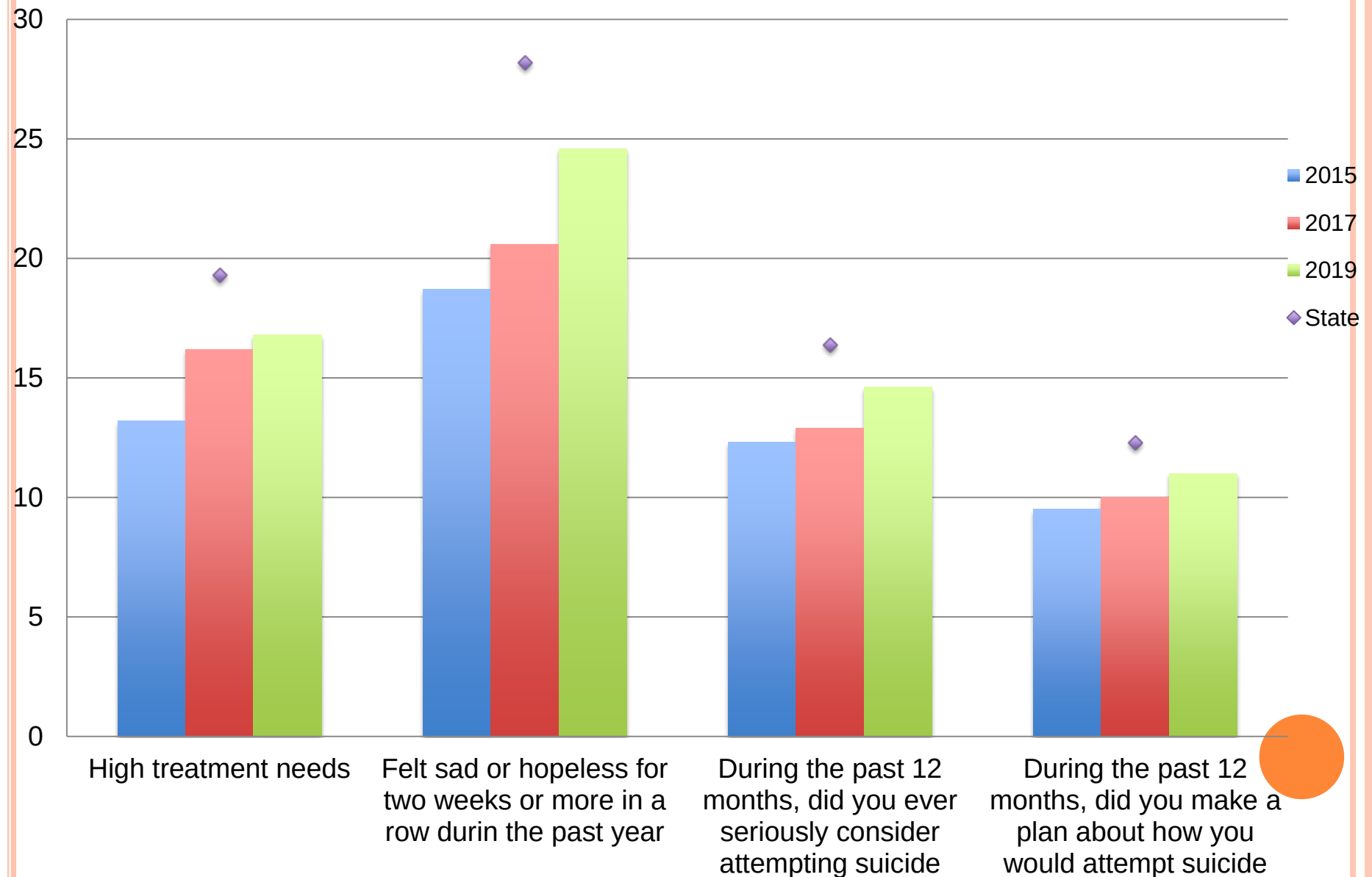
Grade 12 BRHD 30-Day Use

3 Year Trend Data

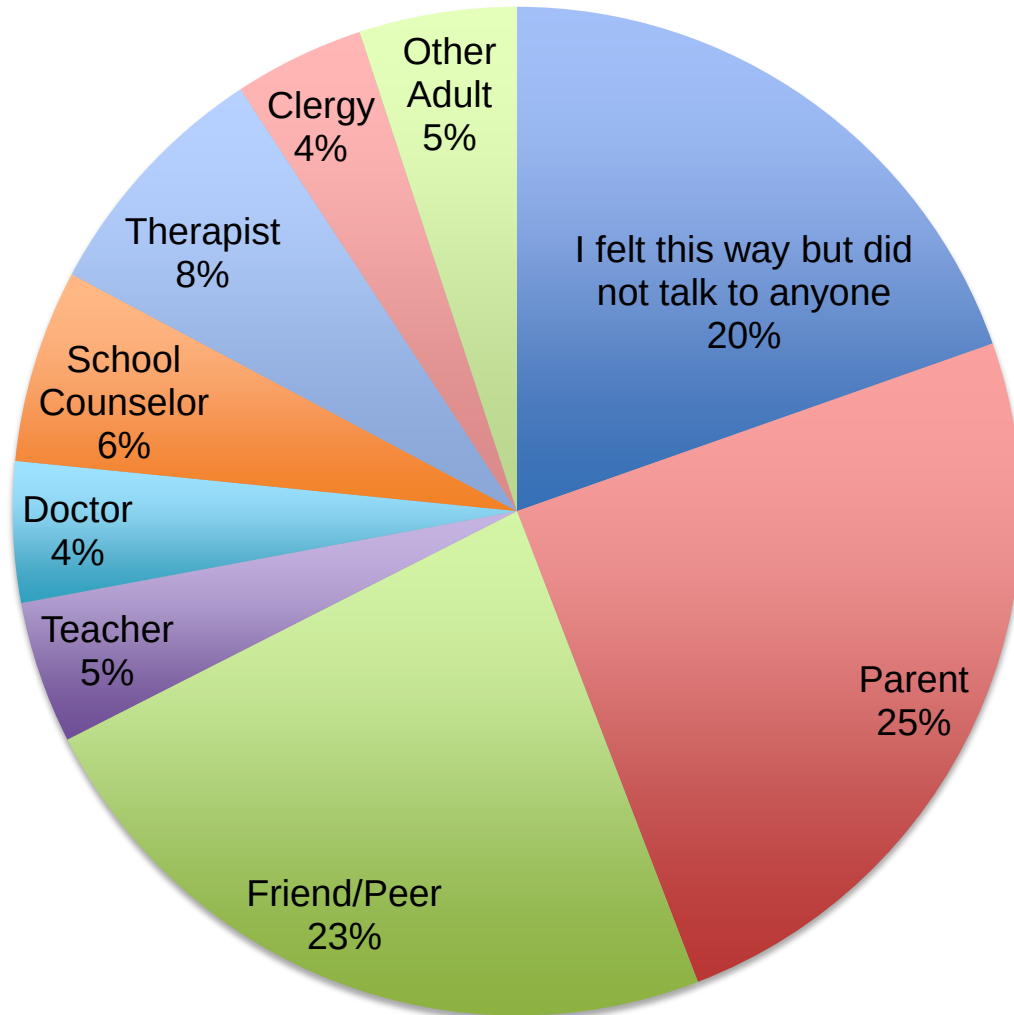


Grade 12 BRHD 30-Day Use

3 Year Trend Data



Who do Teens Talk to When Feeling Very Sad or Hopeless?



Reason Teens Think They are Bullied

Reason	Percent that report it as a reason
I don't know why	35.2%
My size (height/weight)	37%
The way I look (clothing/hairstyle)	35.6%
My social standing or for being "unpopular"	27.8%
Social conflict	14.1%
Some other reason	37.3%



Eat Dinner Together.

Research indicates families who eat dinner together 4-5 times a week, have teens 33% less likely to use alcohol!



Hang in There

- Every child is worth the effort to assist them to be a happy well rounded adult and citizen.
- A wise person once expressed this thought.
“Every parent must remember their grandchildren are their reward for not killing their kids.”



BEAR RIVER HEALTH DEPARTMENT LINK

- <http://www.brhd.org/>

