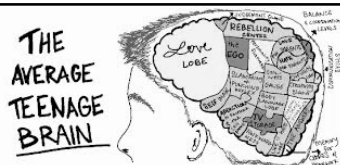


Today's Objectives

By the end of this session participants will be able to:

- Outline how advances in neuroscience have improved our understanding of adolescent brain development and decision making.
- Describe 3 factors related to adolescent social, emotional, and cognitive development that influence sexual decision making.
- Brainstorm 1 innovative way to integrate this knowledge into improving the design and delivery of SBHC services.



If you could answer one question about adolescent behavior that would improve the delivery of SBHC sexual and reproductive health services, what would it be?

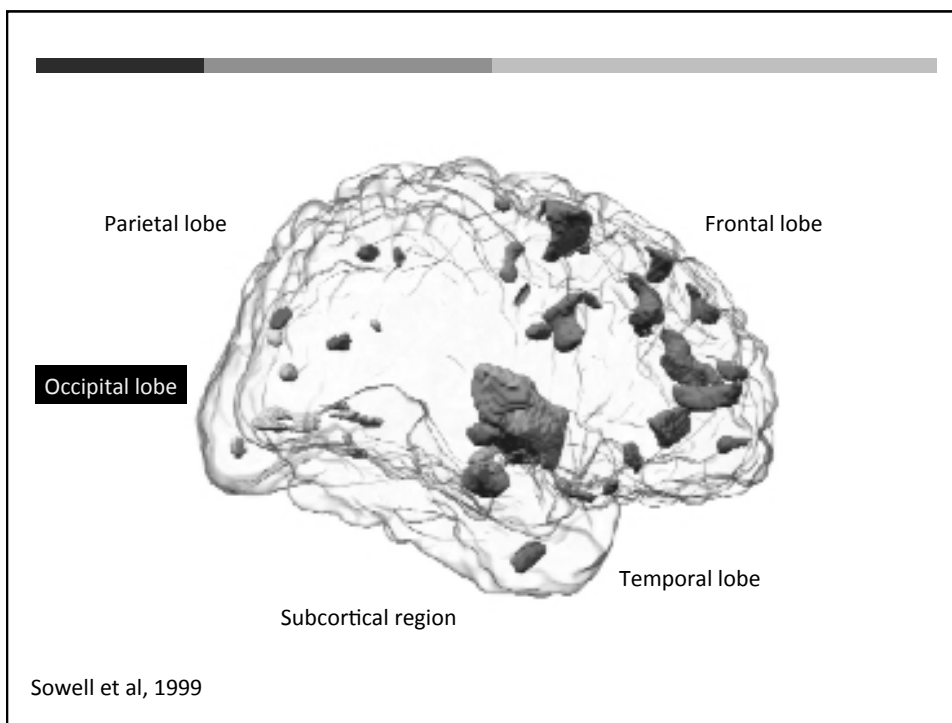
Adolescent sexuality & the risk paradigm



The Teen Brain



fMRI – Functional Magnetic Resonance Imaging



“The fundamental task of adolescence—to achieve adult levels of social competence—requires a great deal of learning about the complexities of human social interactions. Puberty appears to create a neurobehavioral nudge toward exploring and engaging these social complexities.”

- Peper & Dahl 2013

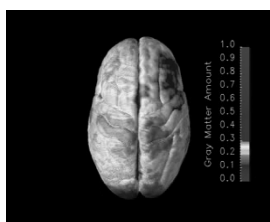


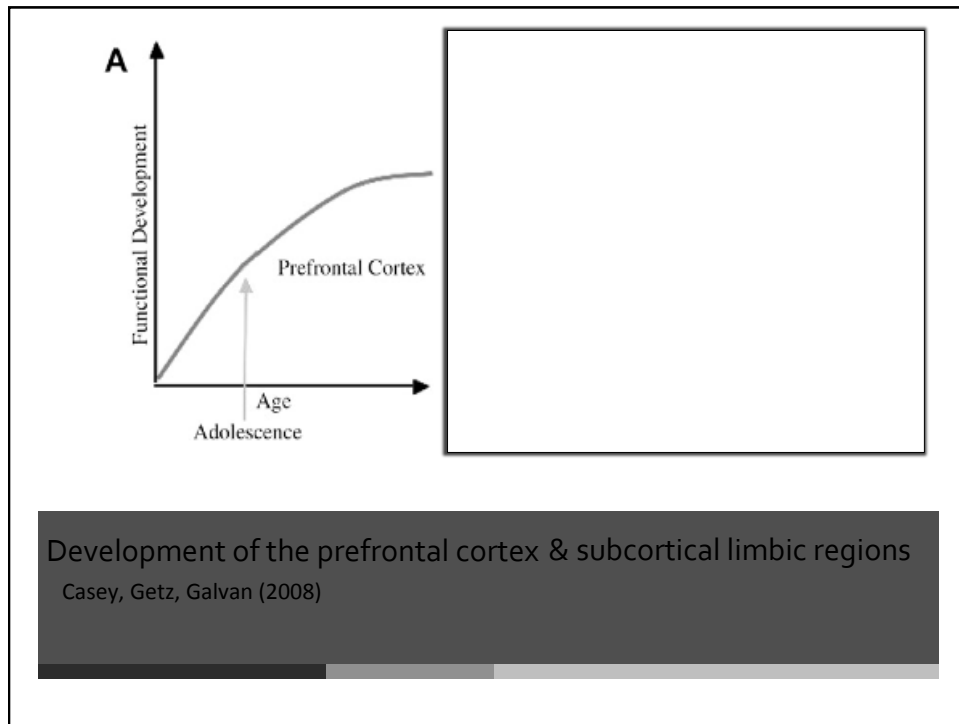
**THERE IS NO WAY,
MAGIC ISN'T INVOLVED.**

PUBERTY

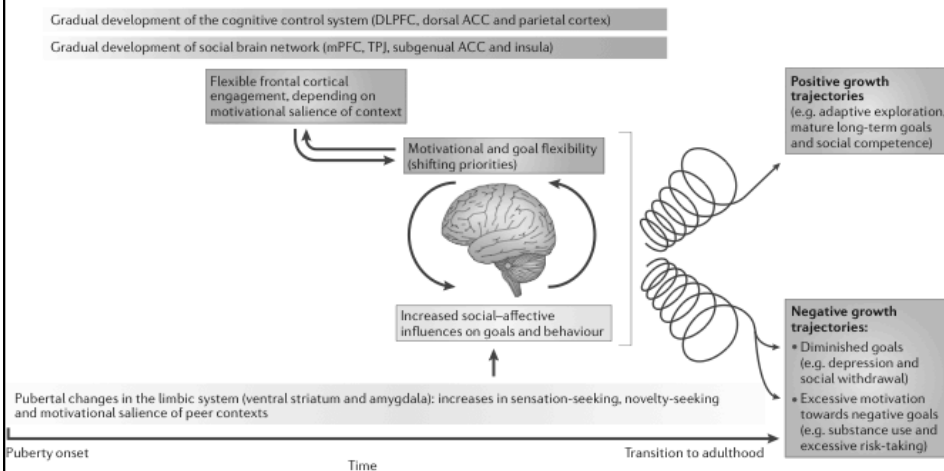
Puberty and the Developing Brain

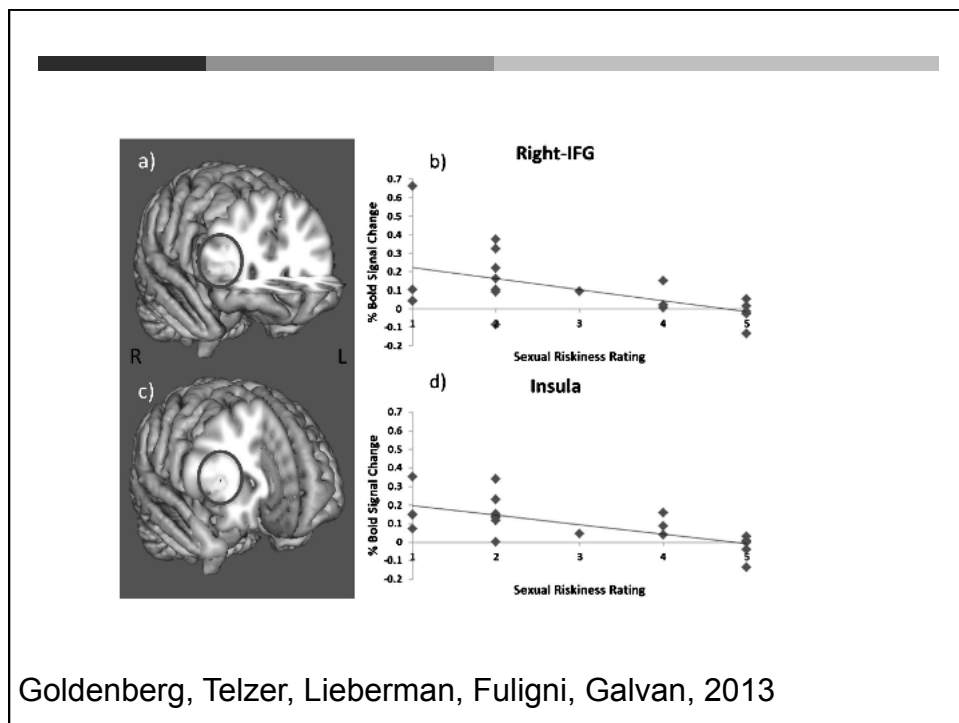
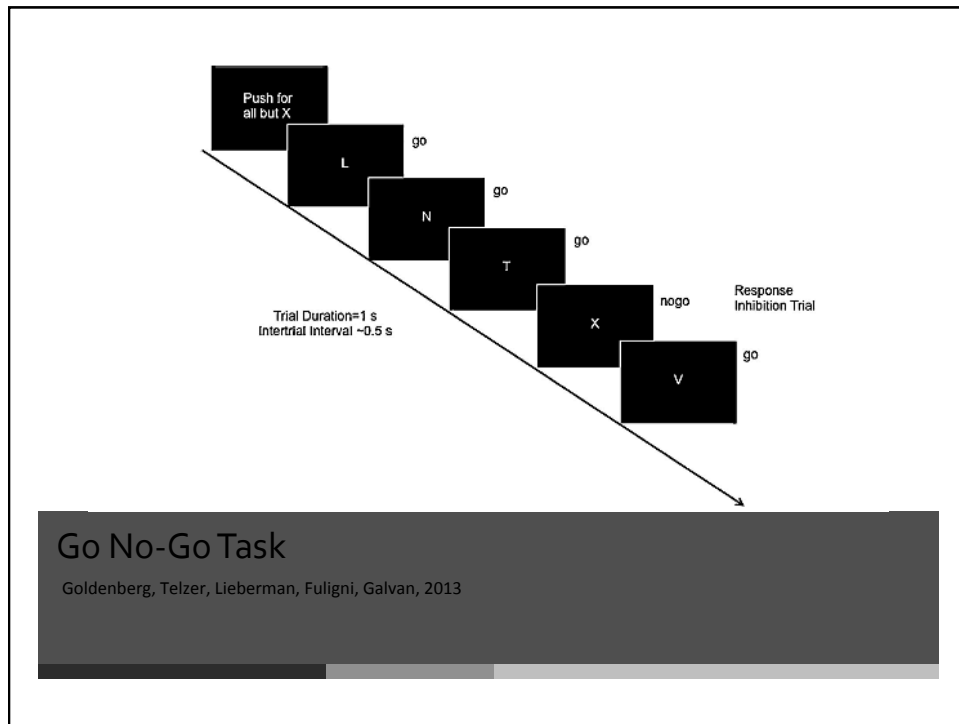
- Profound changes in...
 - Romantic interest
 - Emotional intensity
 - Motivation
- *Coupled with* intensification of goal directed behavior – especially related to social status
- *And* the feeling based aspect of wanting, liking, and desiring particular kinds of goals and priorities





Adolescent Brain Development, Crone & Dahl 2012





Adolescents and Peers

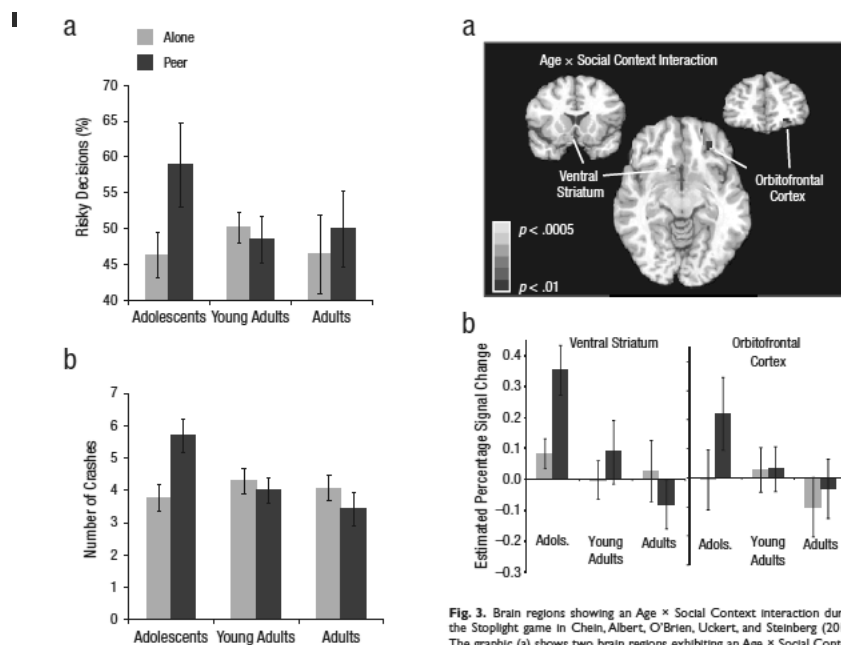
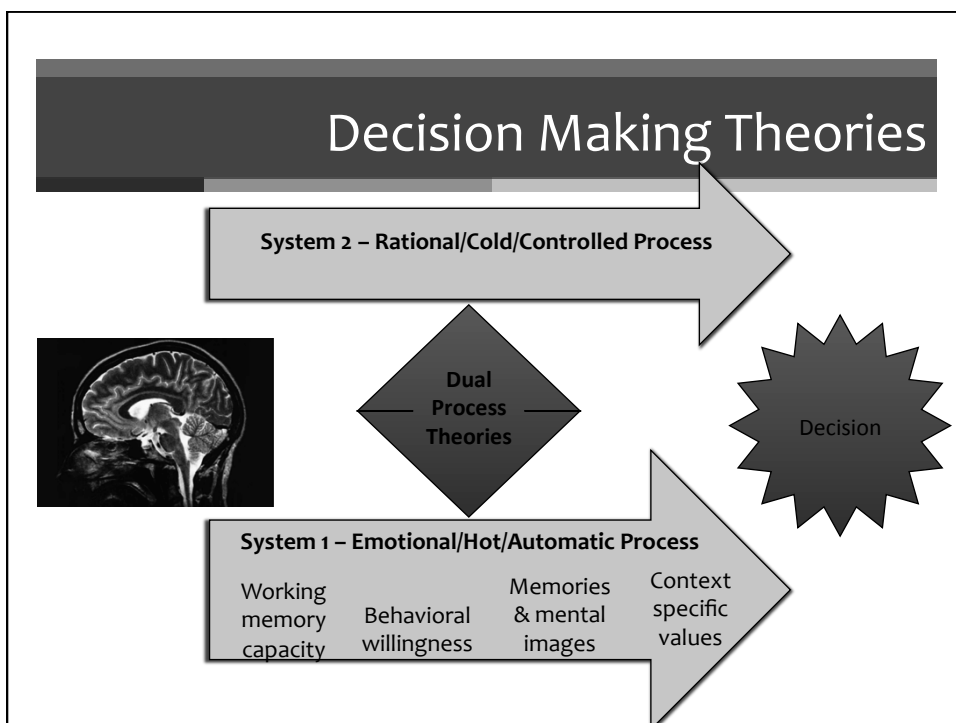


Fig. 3. Brain regions showing an Age \times Social Context interaction during the Stoplight game in Chein, Albert, O'Brien, Uckert, and Steinberg (2011). The graphic (a) shows two brain regions exhibiting an Age \times Social Context

Sensation seeking & status seeking



Decision Making Theories





How can our understanding of the brain improve SBHC programs & services?

Gist principles scale (15 items)

1. Better to not have sex than risk getting HIV/AIDS.
2. Better to focus on school than have sex.
3. I have a responsibility to my partner to not put him/her at risk.
4. Avoid risk.
5. Better to be safe than sorry.
6. Better to not have sex than risk getting pregnant or getting someone pregnant.
7. Better to wait than to have sex when you are not ready.
8. I have a responsibility to my parents/family to not have sex.
9. Better to not have sex than hurt my parents/family.
10. I have a responsibility to God to wait to have sex.
11. I have a responsibility to myself to wait to have sex.
12. Better to have fun (sex) while you can (reverse-scored).
13. Known partners are safe partners (reverse-scored).
14. Having sex is better than losing a relationship (reverse-scored).
15. Having sex is worth risking pregnancy (reverse-scored).

Respondents check statements that apply to their decision to have or not have sex. More checked items reflects greater adherence to simple values regarding sexual activity.

Rivers et al 2008

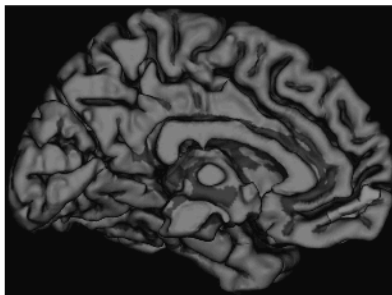
Categorical thinking scale (9 items)

1. If you keep having unprotected sex, risk adds up and you WILL get pregnant or get someone pregnant.
2. When in doubt about having sex, delay or avoid it.
3. If you keep having unprotected sex, risk adds up and you WILL get a sexually transmitted disease.
4. Even low risks add up to 100% if you keep doing it.
5. It only takes ONCE to get pregnant or get an STD.
6. Even low risks happen to someone.
7. Even if you use condoms, eventually you will get an STD if you have sex enough.
8. Once you have HIV/AIDS, there is no second chance.
9. If you cannot handle getting protection, you are not ready for sex.

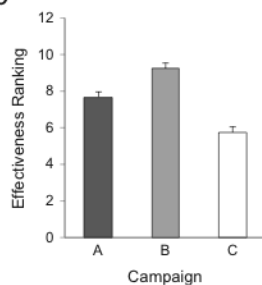
Responses made using 5-point Likert-type scales (0 = strongly disagree; 4 = strongly agree). Greater agreement with items reflects categorical risk avoidance.
Rivers et al 2008

a

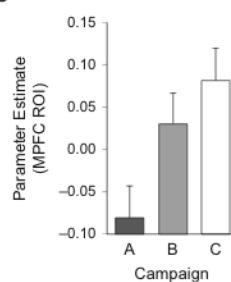
Falk et al, 2012



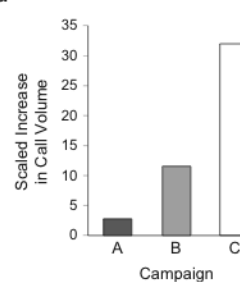
b



c



d



Contact Information

Ahna Suleiman
asuleiman@berkeley.edu

"So you love me," said Petra softly when the kiss ended.

"I'm a raging mass of hormones that I'm too young to understand," said Bean. "You're a female of a closely related species. According to all the best primatologists, I really have no choice."

— Orson Scott Card, *Shadow Puppets*