

The Female Factor: Alcohol, Drugs & Substance Abuse


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Workshop Goals


- ✓ How the gender brain differences impact female behavior/motivations/vulnerabilities
- ✓ How addiction/dependency/use manifest differently in females
- ✓ Unintended consequences of AOD
- ✓ Effective AOD treatment approaches for females

Brain science and the understanding of brain differences are critical to effective outcomes!



Quote:

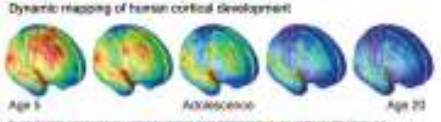
"Give me a boy who is committing crimes any day over a girl. Girls are messy!"



What We Know... and Don't Know

- Neuroscience developed due to increased technology capabilities (MRI, FMRI, SPECT)
- Research clearly indicates significant changes are occurring in the brain throughout life, especially during the second decade of life starting with puberty.
- Brain research is incomplete, and it's complicated!!

Dynamic mapping of human cortical development

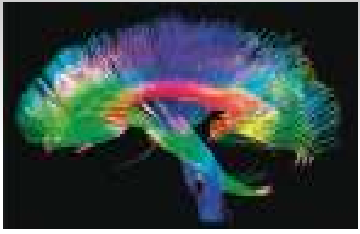


Age 1 Adolescence Age 20

Source: "Dynamic Mapping of Human Cortical Development Using Diffusion Tensor Imaging and MRI" by Dr. Daniel S. Margulies et al., Proceedings of the National Academy of Sciences USA, 2006, 103(12):16002-16007

The Adolescent Brain & Why Do I Care?

- Male and female brains are similar but the activity and blood flow is significantly different resulting in different motivations and behaviors

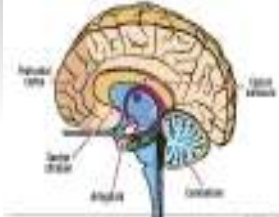


The Adolescent Brain

- ✓ Prefrontal cortex is slowly developing = ability to make executive or logical decisions is slow to respond; impulsivity is prevalent.
- ✓ Medial prefrontal cortex that is responsible for connecting the dots between emotional responses, perceptions, self-understanding, etc., is slow to develop
- ✓ Ventral Striatum area, central to the "reward center", is stimulated and subject to influence
- ✓ Amygdala, involved in emotional processing, is less sensitive to punishment and emotional consequence.


THE ADOLESCENT BRAIN

The prefrontal cortex (aka a collection "executive brain") that is not as fully developed until young adulthood is the executive director of the brain. It helps make decisions, plan, and control impulses. It is the area of the brain that is most sensitive to hormones and is the area that is most affected by stress.




The Adolescent Brain

- Challenged to read others' emotions due to lack of prefrontal cortex development; often "misread" others' emotions.
- Rely on "gut feelings" but results are impulsive and "misread" responses.
- Friends influence or sway adolescent emotions and decision-making
- Response is often illogical to adults.




The Adolescent Brain

- Test: What is this woman feeling?
- In this study, 100% adults guessed this woman's emotion correctly;
- Only 50% of teenagers got it right.



The Adolescent Brain

- Ability to plan, adapt to social environments, anticipate consequences of actions and appropriately gauge emotional significance is still "under construction".
- Ability to connect "gut feelings" with retrieval of memories to put situations into context and remember past details important to a situation is still "under construction"!



Problem

Teenagers, especially girls, can look like adults when they are still “kids”



Gender Differences & the Adolescent Brain

- Male and female brains are structurally similar but hardwired and functionally very differently
- Female brain uses 7 – 8 parts of brain for verbal and language skills; FOXP2 (genetic protein) higher in females




The Female Brain and Communication

- Translates into using more words per day
- Impacts girls' abilities to communicate



The Female Brain and Communication



- Female brains process up to 11% more sensory data than males brains; worry prone, anxiety prone
- Combined with hippocampus function, translates into specific details of events and enhances memories of trauma


Communication Styles Cont.

Gender barriers: Typical Differences in Male and Female Styles of Communication


Women	Men
Talk to other women when they have a problem or need to make a decision.	Don't see the point in sharing personal issues.
More relationship oriented, and look for commonalities and ways to connect with others.	Tend to relate to other men on a one-to-one-down basis. Status and dominance is important.
Focus on building support, by sharing, expressing and asking questions.	Tell and give information rather than ask questions. State experiences if needed.
If women have a disagreement with each other it affects all aspects of their relationship.	Men can have a disagreement, move on to another subject and go get a drink together.
In meetings women nod their head to show they are listening.	Men think the woman is agreeing with them. He is surprised when she later disagrees, since she nodded her head.

The Female Brain

- Female hippocampus is up to 25% larger
- Female corpus callosum is up to 20% larger
- Anterior Cingulate Cortex
 - ✓ Larger in girls




The Female Brain



- Prefrontal Cortex - Larger
- Insula - Larger
 - ✓ Home of the “gut instinct”; strongly intuitive
- Amygdala - Smaller
- Hypothalamus = Hormones have great impact - physically and emotionally

The Female Brain

- Because female brains are hardwired relationally...
 - ✓ Females need a sense of belonging/connection to others
 - ✓ Rejection and isolation is devastating
 - ✓ Behaviors and motivations are different than males
- All this is related to how females are impacted by alcohol and drugs, and how we should approach treatment!



Understanding of adolescent female brain differences can inform treatment approaches toward successful outcomes.



Brain Implications for SA Treatment

- Girls' motivations: Girls won't do something or comply because you tell them to or threaten them with consequences...
They comply because they LIKE you.
- Develop programs and treatment using brain differences knowledge about motivations for behavior
- Level system may not work




Trends in Alcohol/Drug Use

- Adolescent girls use alcohol and drugs for the following reasons:
 - ✓ Culture
 - ✓ Friends
 - ✓ Self-medicate the pain away
- Alcohol and pot are the drugs of choice for girls.
- Girls don't have the same outlook on drugs as earlier years.
- ER admissions related to drug abuse are significantly up.
(2016 Monitoring the Future Survey)
 - ✓ Drugs, alcohol and suicide attempts account for many
 - ✓ Opioid epidemic hasn't hit teens or girls in full force, but it is a looming concern

Signs of use

- ✓ Change in school performance
- ✓ Significant changes in personal habits
- ✓ Significant changes in behavior/mood
- ✓ Decreased involvement in appropriate social activities
- ✓ Unfamiliar friends
- ✓ Reversal of days and nights
- ✓ Unfamiliar or unexplained items/paraphernalia
- ✓ Lying or secretive behavior
- ✓ Insomnia or excessive sleep
- ✓ Health issues
 - Nose bleeds
 - Excessive sweating
 - Sudden weight loss/gain
 - Unexplained bruises or sores
 - Extreme exhaustion



Can an adolescent girl be an addict?

Definition of an "addict" (DSM -5)

- An increased tolerance over time
- Emotional or physical withdrawal after a pause in use
- Limited control, leading to consumption that can't be stopped
- Negative consequences to health, self-esteem, family or job
- Neglected or postponed activities
- A desire to quit




Brain Effects of Alcohol/Drugs

- Alcohol/drugs trigger the already hyper-sensitive medial prefrontal cortex and the ventral striatum (pleasure center)
- Heavy drug use during critical brain development times may cause permanent changes in the way the brain works and responds to rewards and consequences.
- Must address substance abuse issues early in females; not the trend

Effects of Alcohol/Drugs


- Adults drink more frequently but teens drink more than adults
- Teen brains respond differently than adults to alcohol
- Chemical messenger, dopamine, increases capacity to learn in response to reward; creates a vicious cycle
- Dopamine inputs to prefrontal cortex and ventral striatum area grow dramatically during adolescence
- Reward cycle and substance abuse video

<https://www.youtube.com/watch?v=YzCYuKX6zp8>




Effects of Alcohol/Drugs on Girls

- Drinking alcohol can be dangerous to girls' health.
- Dehydrogenase enzyme is lower in females.
- Females using psychotropic drugs are significantly more likely to develop dependence.
- Drugs/alcohol often used to self-medicate overwhelming anxiety



Effects of Alcohol on Girls

- Genetics determine females are more apt to be alcoholic if mother is alcoholic versus father an alcoholic
- Vulnerability to alcoholism or chemical dependency is strongly "event driven", i.e., driven by relationships
- Younger the girl's exposure = higher risk
- Speed of Progression (alcoholism): Earlier; often identified as increased frequency of black-outs




Effects of Alcohol on Girls

- Greater vulnerability to cerebral atrophy and other brain-related conditions
- Significant difference between amounts of gray and white matter in brain among drinking and non-drinking females
- Increased risk of breast cancer
- Infertility, early menopause and osteoporosis
- Pregnancy complications; low birth weights; premature births

Effects of Alcohol on Girls

- Females more likely to develop liver and other related diseases with faster progression
 - ✓ Liver more sensitive to toxic effect of chronic alcohol intake
 - ✓ Develop liver disease (cirrhosis/hepatitis) after comparatively shorter periods and less intense drinking than males
 - ✓ Achieve higher concentrations in blood after drinking same amount
 - ✓ Suffer from higher rates of depression



I'm sorry.

Dear parents, I'm sorry I'm such a disappointment. I'm sorry I can't make good enough grades. I'm sorry I can't live up to your expectations.

Dear friends, I'm sorry I can't keep a long term friendship with any of you. I'm sorry we lose connection after a while. I'm sorry I never stayed.

Dear people at my school, I'm so sorry I'm weird. I'm sorry I don't fit in. I'm sorry I don't look pretty like all you.

Dear myself, I'm sorry I was ever born, I'm sorry I hurt you. I'm sorry if I put you down. I'm sorry I made you miserable.

Effects of Alcohol on Girls

- Significant higher rates of impairment; depleted physical and mental health condition with shorter duration of lifetime drinking and lower lifetime dose
- Judgment is confused due to inability to metabolize alcohol
- Often put themselves into high risk environments
- Significantly higher death rates




Elizabeth Vargas Video

- <https://www.youtube.com/watch?v=HoZiRDIQyIY>



Unintended Consequences

- Teen pregnancy
 - ✓ Pregnancy issues; low birth rates; early delivery
 - ✓ Fetal Alcohol Syndrome
- Vehicle accidents
- Criminal behavior
- Destruction of relationships
- Health risks
 - ✓ Dental
 - ✓ General health issues
- HIV; HPV
- Alcohol poisoning
- Financial deprivation
- Sleep deprivation
- Rape/violence
- Relational strife
- Depression
- Mental health disorders
- Multi-generational



Other Implications

- Female needs must be considered in using drug and other specialty court model protocols, e.g., incentive/sanctioning approaches and treatment
 - ✓ Emphasize relationships
 - ✓ Educate parents about different parenting techniques; discuss effective communication and not isolating when angry; impact of alcohol on females; etc.
 - ✓ Provide medical services/comprehensive services to females
 - ✓ Provide female-specific treatment
 - ✓ Remember... Girls won't do something because you told them to do it; they will do it if they *like* you and are secure in their relationship with you.

Effective Treatment Strategies




Substance Abuse Treatment w/ Girls

- The best substance abuse/alcohol treatment = holistic, comprehensive, strength-based, relational, girl and family centric program that helps a girl understanding her past; create a vision of her life; without abuse; without victimization; without drugs/alcohol and allows the girl lots of practice in her new life with support.
- Individualize approach, using groups as appropriate
- https://www.ojjdp.gov/pubs/principles/ch2_6.html (OJJDP website)




Address the Trauma

- 85% - 92% of girls in the JJ system have been abused.
- Treatment of alcohol and substance abuse starts with addressing the trauma
 - ✓ Build trust through patience and consistency in their relationships and in living environment
 - ✓ Listen to their "story"
 - ✓ Provide a consistently safe environment
 - ✓ Teach grounding techniques
 - ✓ Use trauma-based CBT and female-specific approaches



Address the Trauma



- Affective Reactions
 - ✓ Fear/panic/anxiety (startle effect response)
 - ✓ Sadness/depression/withdrawal
 - ✓ Sleep disturbance/nightmares
 - ✓ Low self esteem & self worth
 - ✓ Selective mutism


Substance Abuse Treatment w/ Girls

- Dialectical Behavior Therapy (DBT) Modules
 - ✓ Mindfulness
 - ✓ Distress Tolerance
 - ✓ Emotional Regulation
 - ✓ Interpersonal Effectiveness
- 5 Key Areas of Focus
 - ✓ Confusion about identity
 - ✓ Emotional Instability
 - ✓ Impulsivity
 - ✓ Interpersonal Challenges
 - ✓ Family Conflict



Substance Abuse Treatment w/ Girls

- DBT Best used for treating girls with co-occurring issues
- Balances “I realize I have these feelings” with “there are other ways I can deal with these feelings”.
- Positive reinforcement is critical, celebrating successes.
- Combines CBT with added emphasis on mindfulness and healthy ways to refocus emotional regulation.
- A slow, gradual process




Substance Abuse Treatment w/ Girls

- Cognitive Behavioral Therapy
 - ✓ Similar to DBT without emphasis on mindfulness.
 - ✓ Focuses on emotional regulation to overcome behaviors associated with negative thought patterns;
 - ✓ Identification of poor responses; and
 - ✓ Incorporates behavioral changes accordingly
- Acceptance and Commitment Therapy (ACT)
 - ✓ Similar to the mindfulness module in DBT
 - ✓ Focuses on accepting thoughts and emotions without judgment

Address the Trauma

Parents have stories, too.
Start here!



- Help the girl develop a vision of her life without the abuse/trauma.
- If sexually abused, help her understand how this has impacted her relationships with her body and with others
 - ✓ Educate her about her body and how to communicate without using her sexual self.
- Then, help her develop a vision without the abuse, sexualize behavior/language, etc.


Supportive Treatment Approaches

- *Treatment approach must be holistic.*
- Educate girls!
- Expose girls to appropriate activities in the community teaching them how to give back.
- Build on strengths
- Provide skill-based learning in area in which they are interested.
- Include creating and helping girls experience a sense of belonging.
- Teach "grounding techniques".
- Provide opportunities to express themselves through various mediums.




Supportive Treatment Approaches

- Teach girls critical thinking methods.
- Help them develop their opinion/thoughts about youth-centered and world perspectives as it relates to them.
- Teach them life skills.
- Educate the girl and her parents about substance abuse; have them educate YOU, too.
- Build on family's strengths!
- Help them name their emotions
- Ask them, "What do you need and how can I help you?"



Supportive Treatment Approaches

- Offer girls fitness/physical confidence programs and meditative types of programs, e.g., Yoga, GOTR, TTQ
- Provide mentoring opportunities with mentors who understand and like kids; who have life experience and are successful
 - ✓ Must be long term, consistent and sustaining



Supportive Treatment Approaches

- Use therapeutic horsemanship programs; horse painting
- Use experiential learning
- Music is powerful medium
- Read to them at night if in detention center
- Remove the level system and quid pro quo in programming
- Allow them to practice, practice, practice new behaviors in the milieu and the community



Supportive Treatment Approaches


- Monitor social networking
 - ✓ Thousands of illegitimate on-line “pharmacies”
 - ✓ Major source for kids to obtain illicit and prescription drugs
 - ✓ Plethora of chat rooms sharing tips on how to circumvent drug tests and how to use/get the latest high



Supportive Treatment Approaches

- *Teach girls how to feel and how to heal.*





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Thank you!
