Genetic Snowflakes, Science, and Team Success

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Who is this woman? Why is she talking to us?

• Nurse Practitioner (FNP)
• Frustrated stand-up comedienne
• Scientist & Seeker of Truth (PhD)
• Big fan of Spit for Science research!
• Unusual Fantasy Life – 5, 18, 21, 25

• Mom... and thus very humble!
What is the most devastating drug?
Clicker lessons

Does your “dot” flash green when you push 1?

1. Yes

- Immediate Audience Response Device
- Anonymous
- Radio Frequency—*you don’t have to point it at anything*
- You can change your response by just hitting a different number, but …
- **ONLY one response will record per person!**
Genetic Snowflakes

Prevention
Rats bred either to drink heavily or to shun alcohol have revealed 930 genes linked to a preference for drinking alcohol.

https://www.sciencenews.org/article/rats-offer-clues-biology-alcoholism
Every complex problem has a simple solution...

And it’s usually wrong!
It’s easier to tell you what doesn’t work....

Article: Don’t Do It! Ineffective Prevention Strategies

Historical View
Substance Use Prevention over the decades

1. Information
2. Scare tactics
3. Affective education
4. Resistance Skills

What does the Science Say!

Doesn’t support that these work
Print media

Inadvertently normalizing the behavior you want to reduce
“If you focus on problem, you grow more problem.”

“If you focus on health, you grow more health.”

-Michael Haines
Well meaning but...

Well-meaning programs can have harmful effects.

What works some...


- Focus on healthy alternatives
- Peer involvement
- Positive campus environments with clear policies
- Training and support for school staff
- Interactive approaches that include:
  - skills practice
  - normative education which portrays true use rates and corrects misperceptions.
A comment on alcohol/drug harm reduction education

• Linda’s comment

• Knowledge/Education is necessary but insufficient....

• It has to be more....

• Knowledge + Policies + Social Norms + MI + Environments with healthy alternatives +
HARM REDUCTION

Useful analogies that explain why alcohol education is important EVEN for those under age 21

Heimlich Maneuver

We teach youth about health problems, but don’t expect them to choke on a hot dog or have a heart attack.

CPR

We can educate about alcohol and expect them not to drink. They may save a life!
HARM REDUCTION
not judging...just facts & strategies

How to get ideas for harm reduction strategies...

“Look for hidden goodness”
-Michael Haines
Let’s start at the beginning
5 Educational Games
Assign a Team Captain **and** a Team writer

1. Bartender School
2. Emergency! Emergency
3. BAC Case Study
4. Success stuff
5. Condom Steps

Win PRIZES
Pour one ounce into your red solo cups!
KNOW YOUR DRINK

• **ONE DRINK EQUALS**

• 12 oz regular BEER

• (6 oz. of 8% Malt Beer or 4.5 oz of 12% Malt)

• 4.5 oz wine

• 1 oz (shot) of 100 proof liquor

• ½ oz grain alcohol (everclear 198 proof)
How many shots in a handle?
#labelliquor
Know your Solo
Youtube by Michigan State University
https://www.youtube.com/watch?v=Ea2qkMw9h-I
First team to write down 4 alcohol overdose symptoms that help you know when to dial 911

STAND AS A TEAM when you have your answer written!
Send the team Captain up front for a Gordie Check BAC card for Student Athletes.
BAC (Blood alcohol concentration)

A CASE Study of Jack and Jill

Jack weighs 200 pounds.
Jill weighs 120 pounds.
They both have 5 drinks in 3 hours.

Write down his BAC and her BAC and describe their condition. Stand as a team when done.
Gordie
BAC Cards

Know Your Solo by Michigan State University

https://www.youtube.com/watch?v=Ea2qkMw9h-I
Team Success Game
How long can alcohol use impair motor skills and decrease strength, power and sprint performance?

Write your answer down.
Stand as a team when finished

3 DAYS
See Gordie card
How alcohol impairs athletic performance
Bullet #3
Myth of the bigger, better buzz

Small volumes of liquor can get you hurt quicker

Western Washington University
Reality of Bi-phasic Response

“Buzz”
Stimulant Euphoria

Normal Sober

“Drunk”
Depressant Dysphoria

Golden Zone

Life Changing Decisions (LCD)

Blood Alcohol Level (BAL)
Let’s hear a big round of applause for...

ABSTINENCE
I'm so over the Gender Binary!

What do parrot fish have to do with the gender binary?

In a school of parrot fish, if the last male parrot fish is killed, the largest female parrot fish will grow male genitals and become male.
A large variety of life forms change their SEX!

Certain fish, frogs, mollusks, water fleas, flatworms, limpets, starfish, salamanders, crabs, eels, corals, etc.
We can only “count” what we define.

- New Survey Item
- National College Health Assessment

- 2016 asked about “Sexual orientation”
- Choices included- 9 terms
- Including “asexual” and “queer”
Anatomy & Fertility in Men & Women
Cyclebeads - safer
Fertility Awareness

12 fertile days
Research by Georgetown University

Only list 7 fertile days...
some people WANT to get pregnant
Chlamydia — Rates of Reported Cases by Sex, United States, 2000–2015

NOTE: Data collection for chlamydia began in 1984 and chlamydia was made nationally notifiable in 1995; however, chlamydia was not reportable in all 50 states and the District of Columbia until 2000. Refer to the National Notifiable Disease Surveillance System (NNDSS) website for more information: https://www.cdc.gov/nndss/conditions/chlamydia-trachomatis-infection/.
Condom Steps Game
(whisper – don’t other teams hear you)

• As a team list and write the 9 steps from first to last for correct condoms use:
• FIRST?
• 1. Get consent
• Check expiration date
• Check package for damage
• Gently open
• Squeeze air out of tip
• Roll it down to base
• Do the Wet Wild thing
• HOLD ON – pull out
• Dispose of correctly (tie and put in trash not toilet)
People are healthier than they think!

For social norms “how to” details & research
Visit www.socialnorms.org
Breakout session tomorrow
Inaccuracies in brain ruts and perception

Some examples...

- Spell TOPS 3 times
- 3 items

When our culture says...
- Don’t drink,
- Don’t drink,
- Don’t drink...
- We think everyone....Drinks!

When our culture says...
- Don’t have sex
- Don’t have sex
- Don’t have sex... We think...
Student Athletes

Will you agree to tell the TRUTH about the following health behaviors?

- Past month energy drink use
- Past month alcohol use
- Past marijuana use
- Past year number of sex partners

TRUTH PACT
If you don’t feel comfortable telling the truth with these clickers...
Can you just play “Air-Clicker” and don’t press a button?
Athletes only  Perception
How many energy drinks do you think most students have per week?

A. None
B. 1-2
C. 3-4
D. 5-6
E. One daily
F. More than one
Athletes only     Reality

How many energy drinks do you drink per week?

A. None
B. 1-2
C. 3-4
D. 5-6
E. One daily
F. More than one

Response Counter
ATHLETES ONLY    Perception

How many days per month do you think most athletes drink alcohol?

A. 0-5 days
B. 6-10 days
C. 11-15 days
D. 16-20 days
E. 21-25 days
F. 26-30 days

Response Counter
ATHLETES ONLY    Perception
How many days per month do you drink alcohol?

A. 0-5 days
B. 6-10 days
C. 11-15 days
D. 16-20 days
E. 21-25 days
F. 26-30 days
What’s real about sex behavior in student athletes?
ATHLETES ONLY     Perception
How many sex partners do most student athletes have in a year?

A. 0-1
B. 2-3
C. 4-5
D. 6-9
E. 10 or more
How many sex partners did YOU have in the past year?

A. 0-1
B. 2-3
C. 4-5
D. 6-9
E. 10 or more
Perception

How often do you think most athletes use marijuana?

A. Never/Rarely
B. Past year
C. Past month
D. Past week
E. Daily

Response Counter
Reality

How often do you use marijuana?

A. Never/Rarely
B. Past year
C. Past month
D. Past week
E. Daily
You don’t have to have clickers use free mobile polling

http://dailygenius.com/best-classroom-tools-gathering-feedback/
Motivational Interviewing (MI)

This tool has a TON of evidence that MI works!
Most recent definition of Motivational Interviewing 2009
-William Miller

“... a collaborative, person centered form of guiding to elicit and strengthen motivation for change.”
The MI approach can be used for individuals, teams & creating media!

Because...the WAY you address the issue of alcohol and drugs MATTERS!
The Name of the Game is...
WIN AS MUCH AS YOU CAN!!!
(if you have done this before...
   opt out, help others find a partner)

– Stand up
– Find a partner
– place right feet
   side by side
– “shake” right
   hands
If you push...

people just naturally push back.
Why MI is an important tool...

9 out of 10 excessive drinkers are not alcohol dependent.

89.8% Excessive Drinkers Who Are Not Dependent

10.2% Excessive Drinkers Who Are Dependent

Preventing Chronic Disease
Public Health Research, Practice, and Policy
www.cdc.gov/pcd/issues/2014/14_0329.htm www.cdc.gov/alcohol
Will Your Toddler Be a Drinker?
Personality May Tell

Laura Poppick, Staff Writer | July 10, 2013 04:01pm ET
Different Genetic Pathways of Risk for Substance Use Disorder

- **Externalizing**: sensation-seeking, impulsivity
- **Internalizing**: anxious, depressed, perfectionistic
- **Physiological**: Low level of response to alcohol
What would be the **WORST** possible prevention program for “externalizing” (Impulsive, sensation seeking) youth?

Just say no!
The 4 Traits That Put Kids at Risk for Addiction

http://www.nytimes.com/2016/10/04/well/family/the-4-traits-that-put-kids-at-risk-for-addiction.html?_r=0

Anxious
Hopeless
Impulsive
Sensation Seeking
Personality-Targeted Interventions:
Conrod et al., *Psych Addictive Beh*, 2000

- 23 questions quiz – Half of people fall in one of the 4 groups
- Two 90-minute group sessions
  - School-based
  - Personality-specific

- Psychoeducational Component

- Motivational Component
  - Motivational interviewing techniques
  - Goal setting exercises (for prevention trials; Conrod et al., 2010)

- Cognitive-Behavioral Component
  - Personality-specific cognitive distortions
    - **Anxiety sensitivity:**
      - decatastrophizing & exposure (Barlow & Craske, 1988)
    - **Hopeless:**
      - negative thought challenging (Beck & Young, 1985)
    - **Impulsive:**
      - Response inhibition “stop”, “focus”, “choose” (Kendall & Braswell, 1985)
      - Negative attribution biases
    - **Sensation seeking:**
      - thought challenging for boredom & need for stimulation
      - Reward sensitivity
“PreVenture” Program in Europe
Dr. Patricia Conrod

Conrod, Castellanos-Ryan, Strang (2010). Arch Gen Psychiatry
Biological Roll of the Genetic Dice
The first 5 times you drank, how many did it take for you to **feel tipsy or have a buzz**? (Research by Marc Schuckit)

A. N/A never drank 5 times
B. 1 drink
C. 2 drinks
D. 3 drinks
E. 4-5 drinks
F. 6-7 drinks
G. 8-10 drinks
H. Over 10 drinks

<table>
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<tr>
<th>Response Counter</th>
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<td>N/A never drank 5 times</td>
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Level of Response is a genetic thing

High Response
“Cheap Drunk”

Low Response
“Hollow leg”
Why can’t they just stop drinking?

After binge drinking, neurons in brain circuits responsible for alcohol addiction become encased in a protein material, called a perineuronal net. Drugs that can break down the glue-like cement in perineuronal nets could offer a new approach to treatment.

Proteins that surround neurons (green) in an area of the cerebral cortex may solidify compulsive drinking behaviors.

Amy Lasek

Situational Tolerance – think about recruits

Brain/Body Stimulation

Baseline

New situation
no anticipation by the body

Desired Effect

Brain/Body Depression

OVERDOSE DEATH
What is the most devastating drug?
Solution - The Wisdom of Recovery

A.D.G.O.S

Another Darn Growth Opportunity
Collegiate Recovery

Helpful websites:
transformingyouthrecovery.org
collegiaterecovery.org
http://www.thewell.vcu.edu/recovery-support/rams-in-recovery/

Starting tomorrow...

Your APPLE TEAM will meet and talk about ACTION PLANS
One last useful skill...
How to conduct a SNOWBALL SURVEY

• Blank paper, same color pen
• Do NOT put name or identifying marks on paper
• You can write with opposite hand
• Respond to a question
• Crumple paper into snowball
• Have snowball fight
• Share each others answers
Snowball Question:
What idea would you most like to apply back home?

- Social Norms
- Harm reduction education
- Motivational Interviewing
- Clicker/cell phone surveys
- Policy
- Snowballs to get people to talk
- Other
- Other
Team plans – focus on stuff the science says works

Education is only the first step...
more is needed!

Social Norms, Policy, Motivational Interviewing, etc

Have the courage to help Genetic Snowflakes
&
Support those in recovery
Bedtime story

Tomorrow: Adventures in an Uncertain World
By Brdley Trevor Greive