Welcome to the COPE Webinar Series for Health Professionals!

December 7, 2016

Utilizing Social and Cognitive Psychology in Improving Obesity Treatment

12 noon – 1 PM EDT
Moderator: Lisa Dewald, MS, RD, LDN
Program Manager
MacDonald Center for Obesity Prevention & Education

Handouts of the slides are posted at: www.villanova.edu/COPE

Welcome to the COPE Webinar Series for Health Professionals!
• Enhance Education
• Participate in Research
• Partner with agencies and organizations
• Provide Continuing Education

MacDonald Center for Obesity Prevention and Education (COPE) Goals

Changing Food-Related Behavior: Insights from Behavioral Science

Objectives:
1. Describe the unique psychological characteristics of the pre-dieter, dieter, and sustainer
2. Discuss key social and cognitive constructs that may influence the eating behavior of obese individuals
3. Identify techniques rooted in social and cognitive psychology to better help patients sustain their weight loss.
CE Credits

Notice:
- Villanova University College of Nursing is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center Commission on Accreditation
- Villanova University College of Nursing Continuing Education/COPE is a Continuing Professional Education (CPE) Accredited Provider with the Commission on Dietetic Registration
- The American College of Sports Medicine’s Professional Education Committee certifies that Villanova University College of Nursing Continuing Education, Center for Obesity Prevention and Education (COPE) meets the criteria for official ACSM Approved Provider status (2015-December, 2018). Providership #698849

Credits:
- This webinar awards 1 contact hour for nurses and 1 CPEU for dietitians
- Suggested CDR Learning Need Codes: 5370, 6000, 6020, 9020, Level 2

Changing Food-Related Behavior: Insights from Behavioral Science

Jeremy Clorfene Ph.D.
Head Psychologist
Advocate Weight Management Program (Chicago area)
DISCLOSURE

Neither the planners or presenter have any conflicts of interest to disclose.

Accredited status does not imply endorsement by Villanova University, COPE or the American Nurses Credentialing Center of any commercial products or medical/nutrition advice displayed in conjunction with an activity.

Utilizing Social and Cognitive Psychology for Improving Obesity Treatment

Jeremy Clorfene, Ph.D.
Head Psychologist Advocate Weight Management Program (Chicago Area)
565 Lakeview Parkway, Suite 102
Vernon Hills, IL 60061
o 847-990-5770
c 847-877-1331
jbcphd@gmail.com www.jeremyclorfenephd.com

What are the Patient’s Goals?

• Lose weight
• Improve health
• Improve physical abilities
• Improve body image
• Improve mood, self-esteem, confidence
• Improve relationships
• Improve job prospects
Current Cause of Obesity?
1. Disproportionate food intake of carbohydrate and simple sugars (in volume)
2. Subsequent decrease in other foods such as protein, fats, and fiber (poor nutrition).
3. Profound hormonal imbalance/dysregulation
4. Diminished physical activity
5. Diminished sleep
6. Medications / Medical Issues
7. Environment: convenience, cheap sugar
8. Genetics (only explains 1/3 variance for obesity and does not account for morbid obesity)

Is Obesity:
• Is it Food Addiction?
• Is it compulsive overeating?
• Is it Binge Eating Disorder?
• Is obesity the result of being “fat”?
• Is obesity a pathology?
• Is it normal human response to environment with dire consequences?
• Is it a dieting disorder?
• Is it a stress disorder?
• Is it a body image problem?
• Is it a sign of a deeper emotional problem?

Obstacles we are up against? (our culture)
1. Sophisticated organized system to make carbs, high sugar, high calorie foods ubiquitously available, cheap, and tasty (e.g., soda, bread, sweets, cereal, fast fried food)
2. Longer work hours, longer commutes (especially women)
3. Lots and lots of pleasure eating habits (always pressing the yummy button – not easy to change)
4. And … YOU GOT TO EAT!
CARBOHYDRATE AS ADDICTIVE SUBSTANCE

• Like other addictive substances, highly processed carbohydrates not in original “food” state & have been processed that increases their abuse potential.

• The finding that processing was the most predictive factor for whether a food was associated with addictive-like eating behaviors is preliminary evidence for narrowing the scope of which foods are implicated in the construct of “food addiction.”

• “food addiction” maybe more appropriately titled “highly processed food addiction.”

Table 1. Study Year: Average food calorie values (in kJ) according to the food sector (1 - not problematic at all; 2 - somewhat problematic; 3 - highly problematic)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Food</th>
<th>Meal Type</th>
<th>Processed*</th>
<th>NL</th>
<th>Fat (grams)</th>
<th>Sodium (milligrams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pizza</td>
<td>Y</td>
<td>22</td>
<td>18</td>
<td>681</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Chicken (Whole)</td>
<td>Y</td>
<td>12</td>
<td>18</td>
<td>350</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Chicken (Fried)</td>
<td>Y</td>
<td>18</td>
<td>18</td>
<td>86</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>French Fries</td>
<td>Y</td>
<td>23</td>
<td>18</td>
<td>395</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Grilled Chicken</td>
<td>Y</td>
<td>17</td>
<td>28</td>
<td>250</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Grilled Ribeye Beef</td>
<td>Y</td>
<td>16</td>
<td>9</td>
<td>73</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>Grilled Steak</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>Grilled Pork</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>17</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>19</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>25</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>26</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>27</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>28</td>
<td>Grilled Chicken</td>
<td>N</td>
<td>1</td>
<td>9</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>
What is single greatest challenge in treating (morbidly) obese patients?

a. sustaining weight loss
b. sustaining weight loss
c. sustaining weight loss

Other known as...Sobriety!

Defining Weight Maintenance

- Institute of Medicine – Weight loss of 5% or more sustained for 1 year
- National Institute of Health (NIH) – Weight loss of 10% or more sustained for 1 year
- National Weight Control Registry (NWCR) – Weight loss of 30 lbs. or more and sustained for 1 year


Why is sustaining so hard?

a. Stimulus rich environment (e.g., food through a window)
b. Addiction issues
c. Brain designed for immediate gratification
d. Old habits difficult to break
e. Old coping tool (food) is absent
f. No experience is this foreign land

- Successful sustaining is the Holy Grail.
Physiology of Obesity

- **GHRELIN** - appetite stim. hormone. Incr. during negative energy balance (dieting) and decrease after feeding
- Obesity, ghrelin is not suppressed with food intake
- Increases impulsivity and food reward behavior.
- Ghrelin decreases after RYGB but not dieting

- **LEPTIN** - Satiety hormone secreted by fat cells; regulates amount of fat mass in your body by stimulating fatty tissue to burn energy or store fat.
- Obese humans have decreased leptin receptors and impaired leptin signaling.
- Lack of leptin sensitivity increases food cravings and “power” of food


Targeting Insulin can be critical in obesity treatment!

Which comes first: the hyperinsulinism, the insulin resistance, or the obesity?

Lustig, (2016)
Taubes, (2006)

The Journey

In order to understand how to best support the “Sustainer” we need to understand the person “Pre-Sustainer”
Who is the patient prior to wt loss / wt sustaining journey (pre-program)?

- Health issues (disability), body issues
- Habits (drive thru, night time eating)
- Relationship patterns
- Identity of a big person
- Mood issues and stress eating

BUT…
- Not encumbered (can eat what they want) = Freedom and tons of choices!
- This Freedom is pleasure, opportunistic, seeking, and addicting!
- Feels good because of the FREEDOM (the drug is food and freedom)

Who is the patient during dieting and losing weight?

- Motivated
- Goal directed
- Optimistic
- Empowered
- Limited freedom / restricted diet (few choices) but all is good!
- Successful weight loss is also pleasure, reinforcing, seeking, and addicting
- Feels good b/c on path and getting results: drug is results
THE MOMENT OF TRUTH! – can they sustain their weight loss?

Fred says “I don’t want to crave it...you skinny people don’t deal with this”

Who is the patient while sustaining?

- “FEAR” – “I don’t want to gain it back”
- “Freedom” is gone and “weight losing” is gone, left with “no fun” sustaining meal plan!
- Feels empty, bored, battling brain “always thinking about food”
- Where’s the pleasure? No more drug … no more seeking!
- Denying self a pleasure is hard
- Requires effort and a change in identity
- Uh Oh! Gaining wt again? Feel bad, scared, defeated? Past pattern is to Eat Eat Eat!
- What and how do recovering alcoholics get through it?

  No more drug!!

No fun sustaining

Super fun freedom
What are qualities, behaviors necessary to learn and succeed as a sustainer?

- Delay gratification
- Quiet the “hot” brain
- Learn how to “not cheat”
- Build contracts – plan your “off-plan” indulgences
- Limit choices
- Build new identity

The ability to delay gratification and resist temptation has been a challenge since dawn of civilization

Remember Adam and Eve…Garden of Eden!

- Our fight is “I want the pleasure now”!
- To deny a potential pleasure can be really uncomfortable
- It requires energy and effort to say “no” = self control
How Can Social Psychology Help Sustainers?

Marshmallow test (Walter Mischel):
Test of delayed gratification while resisting temptation

Walter Mischel (2004)

https://www.youtube.com/watch?v=j9UfY_94sKU
RESULTS
...PREDICTIONS

How does AGE impact delay?
• Younger shorter delay (5-6 yo) than Older (11-14)
• Why? Ability to distract

How does COVERING THE COOKIE impact delay?
• 10x longer delay
• Out of site out of mind

How does TEACHING KIDS FUN THOUGHTS impact delay?
• 10x longer delay

How does telling KIDS TO THINK ABOUT THE COOKIE impact delay?
• ring bell in 1 sec

HOT VS COOL THOUGHTS: (Limbic vs Prefrontal Cortex)

“Hot” is immediate, arousing, emotional, appetite stimulating such as chewy, sweet

“Cool” is planning, less emotional, rational, such as soft, round, large
How does telling KIDS TO FOCUS ON HOT FEATURES impact delay?

- “think sweet”
  no delay
- “think sad thought”
  no delay
- “negative feedback on their drawing”
  no delay

How does telling KIDS TO FOCUS ON COOL FEATURES impact delay?

- “think cookie is round”
  2x longer
- “think fun things”
  3x longer
- “compliment on drawing”
  3x longer

Quick Summary:

- Marshmallow Test is about interventional powers
- Not about prediction, more about how interventions make a difference
- In vs. out of sight is huge
- Distractions absolutely helps
- Negative vs Positive thoughts (hot vs cool)
The Hot Brain

• HOT brain can be powerful (case for stress eating):

• Complex study examining young men:  
  *Influence of Arousal*
  Berkley undergrads…well respected decent guys

Compared “not aroused” vs “aroused” and how they responded to questions from sexual prevention, protection, and attitudes

Ex: sexual kinkiness, tell a woman he “loves her” for sex, safe sex choices

Results:
• Morality/decency dropped considerably
• Participants could not predict how it would drop themselves

Ariely and Loewenstein (2006)

• Arousal significantly alters decision making and “morality”

• Clearly, the aroused “HOT” brain can impact are food choices  
  (other known as stress eating)

• Our brains evolved in a very different world than which we are currently living:
  • short lives, small groups, limited choices, highest priority was to eat and mate…right now!
  • A long and quality based life will need to develop more self-control when brain is “hot”
Improving Self Control

Self-Control - Ulysses Contract

Story of Ulysses: He wanted to hear the Sirens’ song and join them but would render him incapable of rational thought and even death. He put wax in his men’s ears so that they could not hear, and had them tie him to the mast so that he could not jump into the sea and join them. He ordered them not to change course under any circumstances, and to keep their swords upon him and to attack him if he should break free of his bonds.

What steps will we take to avoid/prevent temptation and to prevent failure?
1974 Pigeon study – How to stop the impulsive “tempting” action (Ulysses Contract)


Pigeon study: countless hours of training

- Many hours of prep teach press GREEN button after one second get 1 food pellet

- Many hours of prep teach press PURPLE button after ten seconds get 10 food pellets

Trial 1:

- Light up the buttons together and ask “what do you want”? GREEN OR PURPLE? (10sec is a week for us)

- What do they do?
- Do they have the patience to wait for the 10 pellets?

- Results: No!
- They forgo the 10 and hit the GREEN for the one.
**Trial 2:** Now it gets a little trickier…

- PURPLE then one second later GREEN
  …can they hold out nine seconds?

- Results: No!
- They succumb to temptation again.

---

The Plot Thickens!

**Trial 3:** same as trial 2 but after one second a RED button lights up
(red not connected to food – and make no mistake they don’t like pressing buttons)

- if press RED button, the GREEN button does not light up.

---

- This is the Ulysses contract, if I exert effort here, I can do something I don’t like… and it can help prevent me from being tempted in the future
- Do they press the “red” button?

- Results:
  Yes!
- Not all the time but they do in order to get the 10 pellets
Conclusion:
• Optimistic cause if they can we can, but…
  WE NEED RED BUTTONS!
  Will Power alone will clearly is not enough.
  Protect ourselves against ourselves!
How?
• More accountability
• Technology: mechanism to track off-plan eating

CHEATING

In General, why do people cheat?
• Because we want something and willing to take risks for it
  (two key variables: sense of self, gain vs risk)
• “Cheating” with food can be defined as going off-plan
  (food choice, volume, situational)
• Research analyzing cheating: Dan Ariely (2008)
What influences cheating?

• Trial 1: college kids attempt to complete 20 item test in 5min
  >> $1 per correct answer resulted in ave. 4

• Trial 2: before turn in test, rip it up, then tell proctor how many correct
  >> ave. was now 7

• Trial 3: change the amt of money.10c, .50c, $1, $5, and $10
  >> all remained around 7 correct


Early Conclusion: All have a accepted tolerance of cheating
(Personal FUDGE FACTOR…no pun).

• Trial 4: before test, attempt to recall 10 books read in H.S. vs
  recall 10 commandments vs. signing an Honor Code
  >> Results: no cheating, decreased FUDGE FACTOR
  remind them of their morality (conscience)

• Trial 5: after test provided tokens in exchange for $$
  >> Results: significant increase in cheating (increase FUDGE FACTOR)

• Trial 6: participants received envelope with $20, after test, keep the money based
  on correct, return left over money.

  Testing the social acceptance of cheating
  Saw person cheat and got away with it, cheating up
  And…
  >> if they had same college sweatshirt cheating up (acceptance)
  >> if they had different college sweatshirt cheating went down (that’s them)
Summary:
• Cheating a little is common (cheating on trigger foods risky)
• Remind people of their morality (honesty factor) will cheat less
• Give people opportunity to diminish guilt (tokens) cheat more (excuse list)
• Social conditions impact cheating (if they are I will)

CHEATING WITH FOOD:
• Should we have an “honor code”? I say yes
• Excuses diminish guilt which are equivalent to “tokens” Say “I want it” rather than some lame excuse
• More Accountability – Food records are critical!

Paradox of Choices
Official Dogma/Core Value of US / Western culture:

• Freedom is champion, freedom against tyranny or influence

• How to max Freedom is maximize choice –
  More freedom more choice more prosperity!

• Is it better?
  Sure but maybe!

Modern Day Choices
The Deli Menu = Insanity

Research has shown that more choices causes problems:

1. Produces paralysis – not liberation
2. Opportunity costs subtract from the satisfaction from what we choose even if what we choose is fantastic…alternatives creates doubt
3. Expectations are higher even though your choice could be great
4. Never surprised, can only expect the best…may need lower expectations or fewer choices!
5. Blame self is not satisfied b/c you own the choice – can contribute to depression


Understanding choice and self-knowledge (lack of):

Group A: college students choose a series of snacks during three hour seminar with one break…bathroom, stretch, grab snack…pick snacks for three weeks among many
* Predicting what they would want for three weeks
* Did the students pick more or less variety?
  >> Students picked wanted a variety
  >> But actually ate a small variety of their snacks, that is, they ate the same brand/flavor repeatedly.

Simonsen, J. (1990)
Group B: students had to pick a snack but for a week at a time
• Predicting what they would want for each week
• Did the students pick more or less variety?
  >> Students chose the same snack each week
• Did not have pressure anticipating what they may want, so had option to change but generally chose the same snack
(Same issue when it comes to packing for a trip)

“Food choices” complicated issue for sustainers
• Limit my food options – too boring, feel restricted/annoyed
• Many food options – liberated from wt loss diet but self-control an issue
  “You can a little of your favorites”… ya right!
  >> Pts want food choices b/c just came off “diet”
  >> Consistent with research pt don’t eat variety.
  >> “Boredom” is code for I want my comfort foods (wt gaining risks)
Successful sustainers embraces routine and making “non-carb” food a bit more interesting! (less choices is better).

SUMMARY
What are the qualities, behaviors necessary to learn and succeed as a sustainer?
1. Delay gratification – out of site out of mind
2. Quiet the “hot” brain – stress management techniques
3. Build contracts – plan your “off-plan” indulgences, and commitment devices!
4. Learn how to “not cheat” – honor codes
5. Limit and accept new food choices
6. Build new routines and new identity
Descarte’s famous dictum…

“I think, therefore I am.”

Should read:

“I think, therefore I can change what I am.”

Evaluations and CE Certificates

- Those completing the webinar will be emailed a link to the evaluation.
- The email will be sent to the email address that you used to register for the webinar.
- Complete the evaluation soon after you receive the email. The evaluation does expire after 3 weeks. Once expired, you cannot obtain a certificate.
- Once the evaluation is completed, the CE certificate will be emailed separately within 2 or 3 business days.

Upcoming FREE COPE Professional Webinar

Jennifer Savage Williams Ph.D.
Assistant Professor
Department of Nutritional Sciences
The Pennsylvania State University
Interim Director, Center for Childhood Obesity Research

The Role of Responsive Parenting in Pediatric Obesity Prevention

Date: Wednesday, January 18, 2016
Time: 12:00PM - 1:00PM EST
CE Credit: 1.0 contact hour, 1.0 CPEU

To register: villanova.edu/cope
Questions and Answers!

To receive monthly emails on upcoming COPE events, please join COPE’s Contacts on our website.

Thank you for your time and interest.