**COPE Presents: “Stress, Obesity, and Weight Stigma”**

**A. Janet Tomiyama, Ph.D.**

**January 22nd, 2020**

*Moderator: Lisa Diewald, MS, RD, LDN*

*Presenter: A. Janet Tomiyama, Ph.D.*

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00:00:06.330 --> 00:00:10.530

Villanova Webinar 1: Good afternoon. Welcome to COPE's April webinar for health professionals.

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00:00:10.860 --> 00:00:27.210

Villanova Webinar 1: In this period of social distancing, we're especially grateful that you've chosen to attend what promises to be an informative and insightful virtual continuing education opportunity. We have about 300 health professionals registered for this webinar. And we're so excited to get started.

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00:00:28.260 --> 00:00:36.930

Villanova Webinar 1: In today's society, stress and obesity prevalence are escalating and to complicate matters, obesity is a highly stigmatized condition throughout the world.

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00:00:37.500 --> 00:00:45.360

Villanova Webinar 1: Current obesity prevention efforts and policies often underestimate the impact of stress on obesity and weight control efforts.

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Villanova Webinar 1: Questions such as "What are the factors linking stress and obesity?" and "How can health professionals more effectively manage them?” continue to require our exploration.

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00:00:56.220 --> 00:01:11.940

Villanova Webinar 1: To that, we are thrilled to welcome Dr. A. Janet Tomiyama to walk us through the behavioral, cognitive, physiological, and biochemical factors linking these conditions and the effect of weight stigma on stress and stress-related health consequences.

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00:01:12.780 --> 00:01:22.260

Villanova Webinar 1: My name is Lisa Diewald and I am the Program Manager for the McDonald Center for Obesity Prevention and Education at Villanova University Fitzpatrick College of Nursing.

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00:01:23.070 --> 00:01:36.870

Villanova Webinar 1: I have the pleasure of being the moderator for today's webinar. Villanova University's M Louise Fitzpatrick College of Nursing is home to the first College of Nursing in the country to have a center devoted to obesity prevention and education.

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00:01:38.520 --> 00:01:47.040

Villanova Webinar 1: As the bottom of this slide illustrates, COPE's goals are to enhance nursing education and topics related to nutrition obesity prevention

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00:01:47.700 --> 00:01:53.310

Villanova Webinar 1: and health promotion strategies. Next, to provide continuing education programs such as this webinar

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00:01:53.640 --> 00:02:06.690

Villanova Webinar 1: on obesity and obesity related diseases for health professionals and educators and finally to participate in research to expand and improve evidence-based approaches for obesity prevention and education in the community.

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00:02:11.430 --> 00:02:27.420

Villanova Webinar 1: Before we begin the presentation, I would just like to remind our listeners that PDFs of today's PowerPoint slides are posted on the COPE website villanova.edu/cope. After going to COPE's website, simply click on the webinar description page for this month's webinar.

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00:02:28.440 --> 00:02:34.200

Villanova Webinar 1: Please use the question and answer box on your screen to submit any questions for Dr. Tomiyama

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00:02:34.680 --> 00:02:46.860

Villanova Webinar 1: All questions will be answered at the end of the program as time permits. The expected length of the webinar is one hour. The session, along with a transcript will be recorded and placed on the COPE website within the next week.

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00:02:49.200 --> 00:03:03.600

Villanova Webinar 1: If you happen to call into the webinar today and want the credit for attending the webinar, please take a moment after the webinar to email us at cope@villanova.edu and provide your name, so that we can send you your CE certificate.

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00:03:05.520 --> 00:03:15.720

Villanova Webinar 1: The objectives for today's webinar are first, to identify specific examples of cognitive behavioral, physiological, and biochemical pathways linking stress with obesity.

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00:03:16.890 --> 00:03:28.440

Villanova Webinar 1: Next, to explore the negative consequences of weight stigma, and finally, to discuss potential solutions for reducing the impact of weight stigma and stress on individuals with weight struggles.

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00:03:30.360 --> 00:03:39.600

Villanova Webinar 1: Villanova University College of Nursing is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center Commission on Accreditation.

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00:03:40.170 --> 00:03:50.970

Villanova Webinar 1: Villanova University College of Nursing continuing education COPE is also a continuing professional education CPE accredited provider with the Commission on Dietetic Registration.

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00:03:52.530 --> 00:04:11.100

Villanova Webinar 1: Our webinar this month awards one contact hour for nurses and one CPEU for dietitians and DTRs. The suggested CDR learning codes are 5370, 6000, 9000, 9020, and the CDR level of this webinar is 2.

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00:04:14.010 --> 00:04:18.030

Villanova Webinar 1: And next, I have the privilege of introducing our speaker for today's webinar.

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00:04:18.870 --> 00:04:26.760

Villanova Webinar 1: A. Janet Tomiyama Ph.D. is an associate professor in the Department of Psychology at the University of California, Los Angeles.

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00:04:27.120 --> 00:04:40.980

Villanova Webinar 1: Dr. Tomiyama earned her Ph.D. in social and health psychology from UCLA and completed a Postdoctoral Fellowship as a Robert Wood Johnson Foundation health and society scholar at UCSF UC Berkeley.

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00:04:41.400 --> 00:04:50.850

Villanova Webinar 1: She is the recipient of numerous awards and honors, including most recently the Association for Psychological Science Janet Taylor's Spence Award for transformative

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00:04:51.180 --> 00:04:57.030

Villanova Webinar 1: early career contributions as well as the distinguished faculty teaching award.

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00:04:57.600 --> 00:05:08.610

Villanova Webinar 1: Dr. Tomiyama is an author on many peer reviewed publications on stress obesity and weight stigma and has been interviewed by several media outlets on a variety of dieting and weight control topics.

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00:05:09.930 --> 00:05:19.710

Villanova Webinar 1: While we are preparing for Dr. Tomiyama's presentation to begin, I just wanted to mention that neither the presenter, nor the planners of this webinar, have any disclosures to report.

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00:05:20.070 --> 00:05:26.160

Villanova Webinar 1: Accredited status does not imply endorsement by Villanova University, COPE, or the American Nurses Credentialing Center

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00:05:26.580 --> 00:05:43.140

Villanova Webinar 1: of any commercial products or medical nutrition advice displayed in conjunction with an activity. And with that, I welcome Dr. Tomiyama to our COPE webinar program. We're thrilled to have her. And at this point, I'm going to turn over the controls to her for her presentation.

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00:05:44.700 --> 00:05:51.030

A. Janet Tomiyama, Ph.D.: Right, thank you so much, Lisa. Thank you everyone for being here. I know life is probably crazy at home and so

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00:05:51.510 --> 00:06:02.880

A. Janet Tomiyama, Ph.D.: I'm really appreciative that you're taking this time to be with us. So Lisa talked about the question and answer box. And you can put your overall questions there. Also, since I know many of you are now ZOOM pros,

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00:06:03.630 --> 00:06:15.000

A. Janet Tomiyama, Ph.D.: I would like to use the chat box as well to get a little bit of interaction in as we go through this presentation. So today, what we're going to talk about

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A. Janet Tomiyama, Ph.D.: is stress, obesity, and weight stigma and any good scientist starts off with a definition. So what is stress?

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00:06:24.810 --> 00:06:39.180

A. Janet Tomiyama, Ph.D.: Andrew Baum, the late Andrew Baum said in this very influential paper, "When challenged to provide a definition of stress, most of us fall back on textbook definitions, with no soul or shrug our shoulders and agree it's just not a good construct."

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00:06:40.260 --> 00:06:48.330

A. Janet Tomiyama, Ph.D.: And while that's true and people use the word stress to refer to a lot of different things, I think we can

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00:06:48.720 --> 00:06:59.130

A. Janet Tomiyama, Ph.D.: start to get a handle on what do we mean by stress and I want to be really explicit when I say what I mean by here. I'd like you, if you have an idea how would you define stress.

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00:06:59.640 --> 00:07:21.210

A. Janet Tomiyama, Ph.D.: If you want to click on the chat box, not the Q&A box, but the chat box at the bottom of your ZOOM screen and just sort of pop in any sort of definition that comes to mind for how you would define stress. So one participant says change. Yeah, so there is a

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00:07:22.710 --> 00:07:37.260

A. Janet Tomiyama, Ph.D.: theoretical group Holmes and Ray, all the way back in the 1960s, who defined stress as how much your life has changed. To them, a job promotion, as well as losing a job is considered stress. I think that's really interesting.

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00:07:37.770 --> 00:07:44.970

A. Janet Tomiyama, Ph.D.: Fight or flight. Yeah, so that's something that we know as a famous sort of response to stress. That

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A. Janet Tomiyama, Ph.D.: behavioral response of either dealing with what's in front of you or running away from it.

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00:07:52.950 --> 00:07:56.760

A. Janet Tomiyama, Ph.D.: An overall feeling of worry or anxiety. I'm seeing that

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A. Janet Tomiyama, Ph.D.: definitely, and there's a big theoretical argument going on. Is stress the same thing as anxiety? Sometimes, but it's also a little bit different. And so I think that's something the field has not figured out for itself. Pressure, physiological responses to stimulus.

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00:08:15.960 --> 00:08:28.530

A. Janet Tomiyama, Ph.D.: Intense emotions, disease, mind and body response, I love that, to threat or pressure of some type. So thank you everyone for participating in that.

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00:08:29.160 --> 00:08:47.790

A. Janet Tomiyama, Ph.D.: I agree stress is a very multifaceted construct. It involves emotional things, but it also involves physiological things. So later on in this paper from Andy Baum, he actually did give us a definition that he likes to use, which is

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A. Janet Tomiyama, Ph.D.: "Stress is a negative emotional experience

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A. Janet Tomiyama, Ph.D.: accompanied by predictable biochemical, physiological, cognitive, and behavioral changes that are directed either toward altering the stressful event or accommodating to its effects." So I think a couple things are interesting about this definition.

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A. Janet Tomiyama, Ph.D.: One is that stress is a negative emotional experience. It feels bad. So it's not sort of positive excitement. It is a negatively experienced thing.

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00:09:18.300 --> 00:09:32.970

A. Janet Tomiyama, Ph.D.: And there are different kinds of responses that happen. And we're going to talk today about different kinds of these four words highlighted in red and how those changes might in fact, promote weight gain and ultimately obesity.

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00:09:33.990 --> 00:09:49.080

A. Janet Tomiyama, Ph.D.: And then also, I think the last part of the definition is interesting, too. So, what is the point of these responses? Well, it's to help you either change the stressful situation that's going on or to deal with the aftermath.

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00:09:49.920 --> 00:10:09.270

A. Janet Tomiyama, Ph.D.: So I think fight or flight really refers to the altering of stressful event, like let's just get away from this event where most of the things we'll be talking today are really ways that humans as organisms are using to help deal with the active and negative aftermath of stress.

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00:10:11.310 --> 00:10:25.020

A. Janet Tomiyama, Ph.D.: And so why are we even talking about stress? Well, I mean, I think every single one of us on this call understands what stress feels like today in the age of the pandemic.

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00:10:25.770 --> 00:10:38.370

A. Janet Tomiyama, Ph.D.: Even before COVID 19 hit the world, stress was widespread. So we know from a nationally representative study done by the American Psychological Association that

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00:10:39.570 --> 00:10:50.310

A. Janet Tomiyama, Ph.D.: most Americans report at least a moderate level of stress and a third of Americans in this study said their stress has increased over the past year. So it's here and it's increasing.

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00:10:51.990 --> 00:11:05.580

A. Janet Tomiyama, Ph.D.: This 2019 report showed that people were stressed about lots of different things: elections, health care and mass shootings. I think we can guess what's going to happen in their 2020 survey, what people are stressed about.

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00:11:06.780 --> 00:11:10.740

A. Janet Tomiyama, Ph.D.: And so, the question for today is what is this really widespread

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00:11:11.580 --> 00:11:20.130

A. Janet Tomiyama, Ph.D.: stress doing to our metabolic health. We know that metabolic diseases are really prevalent like diabetes, cardiovascular disease.

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00:11:20.580 --> 00:11:31.500

A. Janet Tomiyama, Ph.D.: Today we're going to focus on obesity, which everyone on this call knows is highly prevalent. Now, close to three fourths of Americans having an overweight or obese body mass index.

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00:11:32.850 --> 00:11:40.830

A. Janet Tomiyama, Ph.D.: Latest numbers I saw, 42% of the United States has an has a BMI of 30 or above, which indicates obesity.

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00:11:42.090 --> 00:11:50.370

A. Janet Tomiyama, Ph.D.: And so the question is, how do you get from stress on the one hand all the way to obesity, on the other?

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00:11:51.000 --> 00:12:02.040

A. Janet Tomiyama, Ph.D.: We won't use chat box for this, but I do want to just take a moment for you to think through, like okay I experienced stress, what changes might occur that could then promote obesity in the long term?

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00:12:05.460 --> 00:12:06.750

A. Janet Tomiyama, Ph.D.: Just think about those

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00:12:07.800 --> 00:12:09.330

A. Janet Tomiyama, Ph.D.: and we can

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00:12:10.350 --> 00:12:18.120

A. Janet Tomiyama, Ph.D.: talk through any pathways in the question and answer session that I don't get to in the actual presentation. But I'm going to give you

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00:12:19.440 --> 00:12:22.410

A. Janet Tomiyama, Ph.D.: according to Baum's definition,

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A. Janet Tomiyama, Ph.D.: sort of four different buckets of pathways that you might get from stress to obesity. You can ignore this yellow box of weight stigma for now.

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00:12:36.090 --> 00:12:42.180

A. Janet Tomiyama, Ph.D.: Less sleep, decreased appetite. I love these things I'm seeing in the chat. We're going to talk about each of those things.

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00:12:42.570 --> 00:12:53.580

A. Janet Tomiyama, Ph.D.: So let me start first with this top left box, cognition. So stress can change the way that you think. It can change your cognitive processes that make it really hard to

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00:12:54.360 --> 00:13:01.650

A. Janet Tomiyama, Ph.D.: regulate your behaviors. So I will say as a preface, all of the citations for

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00:13:02.640 --> 00:13:13.650

A. Janet Tomiyama, Ph.D.: this webinar are going to be in this annual reviews article that I wrote called Stress and Obesity that has the same exact model. So if you want to dive into more detail for any of these. I encourage

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A. Janet Tomiyama, Ph.D.: you to read this paper. Lisa. Maybe we could also make this paper available to everybody as well.

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00:13:22.290 --> 00:13:32.220

A. Janet Tomiyama, Ph.D.: Okay. So cognitive pathways. Stress changes the way we think. It knocks out what's called executive function. You can think of that as the

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00:13:33.840 --> 00:13:41.820

A. Janet Tomiyama, Ph.D.: sort of processing in your brain, higher order processing that helps you regulate your behaviors and your thoughts.

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00:13:42.870 --> 00:13:57.210

A. Janet Tomiyama, Ph.D.: So executive function is critical for self-control, but when stress hits your brain, it takes sort of the executive function parts of your brain offline. And it lets the emotional part of your brain really drive a lot of what's going on.

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00:13:58.980 --> 00:14:06.810

A. Janet Tomiyama, Ph.D.: And the other thing that stress knocks out, when it knocks out executive function, is self-regulation of emotions as well.

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00:14:07.200 --> 00:14:19.200

A. Janet Tomiyama, Ph.D.: And so right when you might want to be getting a handle on your negative emotions, that's when stress comes in and says nope, I'm sorry. We're going to just really focus on our negative emotions right now.

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00:14:19.710 --> 00:14:35.910

A. Janet Tomiyama, Ph.D.: So you could see how lack of self-control due to lack of executive function could down the road, lead to behaviors that could promote weight gain, interfere with weight maintenance and over time increase obesity.

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00:14:36.930 --> 00:14:40.830

A. Janet Tomiyama, Ph.D.: It seems like a lot of people in the chat box talked about

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00:14:42.150 --> 00:14:46.560

A. Janet Tomiyama, Ph.D.: behavioral pathway. So we will get to those. And let me first talk about this

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00:14:47.580 --> 00:15:02.550

A. Janet Tomiyama, Ph.D.: interesting study done at Cornell by Gary Evans and colleagues. So they used a delay of gratification task where children were told, you can have a medium sized plate of candy now, or you can have a big plate later.

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A. Janet Tomiyama, Ph.D.: So this is sort of like the marshmallow test which some of you may have heard of. So the question is, if children have the ability to have self-control and regulate

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00:15:14.010 --> 00:15:22.860

A. Janet Tomiyama, Ph.D.: their eating behavior, what happens? And so the children who had experienced more cumulative life stressors,

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00:15:23.160 --> 00:15:30.420

A. Janet Tomiyama, Ph.D.: so people that experienced a lot of stressful things in their lives, those are the kids who are like, give me the big plate of candy right now.

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00:15:30.870 --> 00:15:45.720

A. Janet Tomiyama, Ph.D.: And those children in turn had higher BMI growth three years later. So you can see that study sort of ties together the stress, leading to the lack of self-control, overeating, which over time can promote higher BMI.

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00:15:46.740 --> 00:15:51.210

A. Janet Tomiyama, Ph.D.: So that's just an example of a study that illustrates the cognitive pathways.

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00:15:53.010 --> 00:16:04.740

A. Janet Tomiyama, Ph.D.: But, as indicated in the chat box, a lot of people went straight to the behavioral pathway. So now I want to switch my focus to the behavioral pathways. The most obvious one, I think, is eating.

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00:16:05.160 --> 00:16:14.100

A. Janet Tomiyama, Ph.D.: I'm sure a lot of us are experiencing a little bit of comfort eating and stress induced eating right now being stuck at home with this really scary situation outside.

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00:16:15.210 --> 00:16:20.910

A. Janet Tomiyama, Ph.D.: And so stress-induced comfort eating is definitely a pathway that would link stress and obesity.

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00:16:22.680 --> 00:16:27.510

A. Janet Tomiyama, Ph.D.: In that same nationally representative study that the American Psychological Institute

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00:16:28.650 --> 00:16:40.710

A. Janet Tomiyama, Ph.D.: surveyed almost 40% of Americans identified as comfort eaters. So you could see that this would be a really predominant pathway through which stress might beget obesity.

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00:16:41.610 --> 00:16:50.490

A. Janet Tomiyama, Ph.D.: I'll give you an example of a study that illustrates this. So this is kind of a sneaky study, not one of mine, but where the authors

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00:16:50.820 --> 00:16:56.250

A. Janet Tomiyama, Ph.D.: gave people anagrams to solve. So they're like, please unscramble these letters to make a word.

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00:16:56.790 --> 00:17:08.940

A. Janet Tomiyama, Ph.D.: And secretly these anagrams were all unsolvable, meaning there's no possible word in the English language that you could create from these letters. So the point of this is to increase frustration and stress.

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00:17:09.630 --> 00:17:16.260

A. Janet Tomiyama, Ph.D.: And then they gave people high sugar high fat foods. Once again, it was m&ms in this study.

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00:17:17.370 --> 00:17:30.450

A. Janet Tomiyama, Ph.D.: And the people who are randomly assigned to the unsolvable versus solvable anagrams; those are the people who ate more food. So you could see how stress can cause you to reach for food in terms of comfort.

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00:17:32.310 --> 00:17:38.100

A. Janet Tomiyama, Ph.D.: Somebody mentioned sleep. So another behavioral pathway is sleep.

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00:17:41.430 --> 00:17:44.400

A. Janet Tomiyama, Ph.D.: Oops, did we go, I think I skipped over

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00:17:47.130 --> 00:17:54.120

A. Janet Tomiyama, Ph.D.: My physical activity slide is missing for some reason. Okay, well,

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00:17:55.140 --> 00:18:08.820

A. Janet Tomiyama, Ph.D.: I can tell you about it verbally. So the next pathway which you will not see on this slide is physical activity. So when people are stressed, they tend to exercise less.

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00:18:09.630 --> 00:18:25.980

A. Janet Tomiyama, Ph.D.: They tend to move around less, have less physical activity, and then also the flip-side. When people are stressed, they can experience more sedentary behavior. I think we can really empathize with this when life is overwhelming, sometimes you just want to lie down on the couch.

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00:18:27.660 --> 00:18:28.590

A. Janet Tomiyama, Ph.D.: So

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00:18:30.000 --> 00:18:38.370

A. Janet Tomiyama, Ph.D.: the research has shown that overall, it does seem like stress does lead to less physical activity.

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00:18:39.060 --> 00:18:48.390

A. Janet Tomiyama, Ph.D.: And that's for both sort of objective stressors like exams and things like that, but also subjective perceptions of stress.

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00:18:48.870 --> 00:18:59.280

A. Janet Tomiyama, Ph.D.: If you're stressed, even with nothing happening to you, that still is related to less physical activity and decreased exercise. I will mention a tiny subset of

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00:19:00.030 --> 00:19:11.880

A. Janet Tomiyama, Ph.D.: studies did find the opposite where more stress lead to more exercise and they hypothesized that maybe people are trying to sort of take control of their lives by doing something and exercise is one of those things.

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00:19:12.990 --> 00:19:16.080

A. Janet Tomiyama, Ph.D.: Okay, nice. I might give you an updated

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00:19:17.910 --> 00:19:27.300

A. Janet Tomiyama, Ph.D.: slide deck, so that the physical activity slide is in there. But let's move on to sleep. Sleep is really interesting. You could see why.

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00:19:28.380 --> 00:19:38.730

A. Janet Tomiyama, Ph.D.: You know, sleep could promote more eating because you're simply up for more of the day, which gives more of an opportunity to eat.

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00:19:39.600 --> 00:19:50.220

A. Janet Tomiyama, Ph.D.: And large epidemiological studies have found that people who get less than five and a half hours are 55% more likely to have an obese body mass index.

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00:19:51.990 --> 00:20:00.900

A. Janet Tomiyama, Ph.D.: But I wanted to show you the calculation slightly differently because 55% sounds like this really crazy high percentage.

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00:20:01.740 --> 00:20:13.320

A. Janet Tomiyama, Ph.D.: But if you slice the data a different way for every additional hour that a person sleeps on average, their average BMI is about a third of a point less.

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00:20:13.740 --> 00:20:23.580

A. Janet Tomiyama, Ph.D.: And so to even further contextualize that for you for an average height woman that in the United States is 5'5. That would mean about two pounds.

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00:20:24.000 --> 00:20:40.830

A. Janet Tomiyama, Ph.D.: So for every hour more a person sleeps on average, they weigh about two pounds less. So it's not a huge effect, but you could still see how this evidence shows that sleep could be one pathway linking stress, on one hand to weight gain and obesity. On the other

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00:20:42.210 --> 00:20:43.650

A. Janet Tomiyama, Ph.D.: I will note that

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00:20:44.760 --> 00:21:02.790

A. Janet Tomiyama, Ph.D.: some studies find a U shaped curve, meaning that people who get very little sleep and a ton of sleep; these are the people who have the highest body mass indices. And that could also be a concern from a clinical standpoint. You could assess oversleeping and under sleeping.

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00:21:05.610 --> 00:21:13.050

A. Janet Tomiyama, Ph.D.: And the other point I want to make on this slide is that all of these are really intertwined. So, lack of sleep, we know, makes you hungrier.

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00:21:14.220 --> 00:21:27.900

A. Janet Tomiyama, Ph.D.: It also makes you tired and so might make you not want to exercise. People don't like to exercise right after they eat. So maybe more eating could decrease exercise. These are all synergistic and they act together.

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00:21:31.620 --> 00:21:42.990

A. Janet Tomiyama, Ph.D.: Okay, so I'm going to move on to now physiological pathways, that third box and the third part of Andy Baum's definition of stress. So the

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00:21:44.250 --> 00:21:54.780

A. Janet Tomiyama, Ph.D.: physiological pathway that I think is most relevant here is the hypothalamic pituitary adrenal axis. It's better known as the HPA axis.

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00:21:56.370 --> 00:22:05.880

A. Janet Tomiyama, Ph.D.: And this is one of the two stress responsive axes that is activated when an individual experiences stress.

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00:22:06.390 --> 00:22:14.310

A. Janet Tomiyama, Ph.D.: And this cascade of events occurs. I don't think the specifics of this figure are that important to

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00:22:15.150 --> 00:22:26.790

A. Janet Tomiyama, Ph.D.: know. Just know that stress triggers this reaction in the brain that then triggers a signal through the bloodstream to the adrenal glands.

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00:22:27.390 --> 00:22:45.810

A. Janet Tomiyama, Ph.D.: That ultimately results in cortisol release and cortisol is really important here because cortisol can increase fat deposition, particularly in the abdominal region. Those of you clinicians know that abdominal obesity can be sort of the more toxic kind of obesity.

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00:22:47.280 --> 00:22:54.300

A. Janet Tomiyama, Ph.D.: And it also drives reward processes, which we'll talk about next.

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00:22:56.700 --> 00:23:06.960

A. Janet Tomiyama, Ph.D.: But basically cortisol can make high sugar, high fat food tastes really good. And so you can see how stress could promote obesity directly through this cortisol pathway.

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00:23:08.220 --> 00:23:09.210

A. Janet Tomiyama, Ph.D.: And

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00:23:11.340 --> 00:23:18.300

A. Janet Tomiyama, Ph.D.: in another sort of twisty tangly synergistic point I want to make is that cortisol can make

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00:23:18.930 --> 00:23:29.460

A. Janet Tomiyama, Ph.D.: fat deposition happen on its own. But, cortisol can also drive eating. So this is a sort of foundational study done by Alyssa Epel and colleagues.

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00:23:29.790 --> 00:23:41.010

A. Janet Tomiyama, Ph.D.: And basically what they did was they had people either experience stress or not. And they measured how reactive their cortisol was to the stressor.

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00:23:41.580 --> 00:23:49.050

A. Janet Tomiyama, Ph.D.: And then they also measured eating. So here on the x axis is stress day on the left, control day on the right.

130

00:23:49.440 --> 00:23:57.870

A. Janet Tomiyama, Ph.D.: We're just going to ignore the low reactor bars and look at these high reactor bars. Here on the y axis is calories.

131

00:23:58.830 --> 00:24:19.680

A. Janet Tomiyama, Ph.D.: What you can see is that the people who are responding to stress with a ton of cortisol, they are eating around 220 calories versus about 180 calories, so 40 calorie difference. And you could see how 40 calories extra overtime could possibly promote weight gain and obesity.

132

00:24:21.630 --> 00:24:25.800

A. Janet Tomiyama, Ph.D.: Another physiological pathway is reward processing.

133

00:24:27.180 --> 00:24:42.990

A. Janet Tomiyama, Ph.D.: I could do an entire webinar on reward processing side. This is very much distilled into four bullet points. But basically, stress drives organs to reach for high sugar high fat and high calorie foods.

134

00:24:44.430 --> 00:24:45.990

A. Janet Tomiyama, Ph.D.: These stress can

135

00:24:47.850 --> 00:25:08.310

A. Janet Tomiyama, Ph.D.: promote almost addictive like behavior. So there are these very famous studies done by the late Bharti Hopl and colleagues showing that you can get rodents more addicted to sugar than to cocaine. And so, these high sugar high fat, high calorie foods can be very, very rewarding.

136

00:25:09.840 --> 00:25:22.650

A. Janet Tomiyama, Ph.D.: And it seems to be driven through the dope immune system. When stress affects the immune system, that in turn can drive a person to seek food and eat food.

137

00:25:25.200 --> 00:25:45.000

A. Janet Tomiyama, Ph.D.: In addition, stress, as I mentioned earlier sensitizes reward centers in the brain. So what that means is that people who are under stress, and it seems to be due to cortisol, that makes the brain really really responsive to

138

00:25:46.200 --> 00:25:58.530

A. Janet Tomiyama, Ph.D.: any sort of hit to the reward system. I'll say the most simple way I can phrase it and then there's sort of this negative feedback loop happening or positive feedback loop, depending on how you look at it.

139

00:25:59.700 --> 00:26:11.280

A. Janet Tomiyama, Ph.D.: Because high sugar high fat, high calorie foods actually serve to relieve stress meaning when you eat these foods, your cortisol levels can go down.

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00:26:12.420 --> 00:26:22.470

A. Janet Tomiyama, Ph.D.: It sort of reinforces itself where stress drives motivation to eat these foods. These foods make you feel better. And so it just goes on from there.

141

00:26:26.400 --> 00:26:44.820

A. Janet Tomiyama, Ph.D.: And then this part, I must say highly speculative, but so cool. I had to put this in here. I'm sure many of you have heard of the gut microbiome. It's sort of like the second brain in your body. So the microbes in your gut

142

00:26:46.020 --> 00:26:52.080

A. Janet Tomiyama, Ph.D.: have the ability to generate different neurotransmitters, different phytochemicals.

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00:26:53.400 --> 00:27:11.370

A. Janet Tomiyama, Ph.D.: And what has been shown is that gut microbiota can actually increase HPA axis activity. The activity of the gut can actually feed back into your brain and further activate your HPA axis that we just talked about. Very creepy.

144

00:27:12.960 --> 00:27:19.320

A. Janet Tomiyama, Ph.D.: They can also manufacture appetite regulating hormones. We'll talk about leptin and ghrelin in a couple slides.

145

00:27:19.770 --> 00:27:39.690

A. Janet Tomiyama, Ph.D.: Your microbiome can actually drive you to eat more through these appetite regulating hormones and maybe even regulate body weight. I should say most of this data is conducted or is from nonhuman animal studies and so it is

146

00:27:41.400 --> 00:27:46.950

A. Janet Tomiyama, Ph.D.: definitely still preliminary. So that's why I say this is still speculative.

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00:27:48.900 --> 00:27:53.280

A. Janet Tomiyama, Ph.D.: Okay, I'm going to move on to biochemical pathways.

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00:27:54.450 --> 00:27:59.460

A. Janet Tomiyama, Ph.D.: Leptin I'm sure many of you have heard of leptin, is a hormone that

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00:28:00.660 --> 00:28:03.900

A. Janet Tomiyama, Ph.D.: at the simplest level, let's just say it makes you

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00:28:05.490 --> 00:28:07.170

A. Janet Tomiyama, Ph.D.: eat less basically.

151

00:28:09.780 --> 00:28:13.500

A. Janet Tomiyama, Ph.D.: There's a little bit of evidence showing that leptin goes up when you're stressed.

152

00:28:14.460 --> 00:28:25.680

A. Janet Tomiyama, Ph.D.: So this is a study from my lab, actually. So in this study, we stressed people out on purpose. They had to give a speech and do math in front of this non evaluative audience.

153

00:28:26.070 --> 00:28:37.680

A. Janet Tomiyama, Ph.D.: And we saw that the people whose leptin went up in response to this stressor, they ate less ice cream and they ate less fewer cookies. And so this

154

00:28:38.790 --> 00:28:46.410

A. Janet Tomiyama, Ph.D.: hints at the fact that maybe leptin is involved in terms of protecting people from stress eating. And then there's also

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00:28:48.600 --> 00:28:56.670

A. Janet Tomiyama, Ph.D.: Ghrelin. I'm going to skip that second bullet point. There's also ghrelin, which is just sort of the flip side of leptin. It stimulates reward pathways and it makes you want to eat more.

156

00:28:57.390 --> 00:29:10.080

A. Janet Tomiyama, Ph.D.: And so there was another study, not one of mine, but they did the same stress task. They looked at ghrelin levels and they found that for people who

157

00:29:11.520 --> 00:29:17.550

A. Janet Tomiyama, Ph.D.: engaged in a lot of stress eating; their ghrelin stayed high even after eating. So that indicates that their

158

00:29:19.080 --> 00:29:21.480

A. Janet Tomiyama, Ph.D.: appetite in response to stress

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00:29:22.800 --> 00:29:32.280

A. Janet Tomiyama, Ph.D.: is driven more highly, I suppose. But leptin and ghrelin both very, very tiny literature. So I want to say that is

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00:29:33.270 --> 00:29:38.370

A. Janet Tomiyama, Ph.D.: highly speculative as well. But I think it's interesting. So I just wanted to make sure to mention those.

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00:29:39.270 --> 00:29:47.070

A. Janet Tomiyama, Ph.D.: Then finally, there's NPY, neuropeptide Y. It's sort of like ghrelin, it stimulates hunger and also it converts sugars into fat in your body.

162

00:29:48.060 --> 00:30:00.990

A. Janet Tomiyama, Ph.D.: And the reason there's a mouse here is because most of the research here is again in non-human animal models, but it seems to be them in the case of NPY.

163

00:30:01.770 --> 00:30:12.540

A. Janet Tomiyama, Ph.D.: It's not that stress causes increases in NPY. But rather, if you have stress and high NPY, that in turn leads to greater obesity. So it's sort of like a

164

00:30:13.560 --> 00:30:15.870

A. Janet Tomiyama, Ph.D.: conjunction. You need both of those things.

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00:30:18.450 --> 00:30:29.670

A. Janet Tomiyama, Ph.D.: And so that was a very quick overview of all of the pathways. I really want to make this point that there is a big interaction among these systems.

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00:30:29.910 --> 00:30:38.400

A. Janet Tomiyama, Ph.D.: It's not that each of these pathways is happening in isolation, but that they're all affecting one another, positively synergizing one another.

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00:30:39.450 --> 00:30:42.330

A. Janet Tomiyama, Ph.D.: All, eventually leading to obesity.

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00:30:45.900 --> 00:30:46.680

A. Janet Tomiyama, Ph.D.: And

169

00:30:48.150 --> 00:30:54.090

A. Janet Tomiyama, Ph.D.: what I want to do is now turn to this yellow box here, weight stigma.

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00:30:56.430 --> 00:31:00.750

A. Janet Tomiyama, Ph.D.: I think something that people don't quite appreciate enough is that

171

00:31:02.580 --> 00:31:19.620

A. Janet Tomiyama, Ph.D.: obesity in itself can be stressful and that is because of society's very high levels of anti-fat bias, what I'm calling weight stigma or obesity stigma, negative attitudes, discrimination

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00:31:20.580 --> 00:31:30.210

A. Janet Tomiyama, Ph.D.: bias against heavier individuals. And so when I was thinking about this very, very early on in my weight stigma research,

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00:31:31.770 --> 00:31:41.760

A. Janet Tomiyama, Ph.D.: I really identified as a stress researcher. What I knew from meta analyses, like this one, is that it's the stress of all the stressors that we encounter out there in the world.

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00:31:42.180 --> 00:31:49.980

A. Janet Tomiyama, Ph.D.: It's the stressors that are social and stressors that are evaluative that elicit the most cortisol.

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00:31:50.910 --> 00:32:08.130

A. Janet Tomiyama, Ph.D.: And so we just learned that cortisol can drive weight gain. And I was thinking, gosh, weight stigma. Well, it's definitely social and it's definitely evaluative. It definitely involves judgment on a person. So, my gosh, what if weight stigma is this

176

00:32:09.630 --> 00:32:20.520

A. Janet Tomiyama, Ph.D.: intense stressor that's eliciting cortisol on a person's body? Well, that could make them gain even more weight and that could make them vulnerable to even more weight stigma.

177

00:32:21.150 --> 00:32:30.060

A. Janet Tomiyama, Ph.D.: And so that was really the sort of eureka moment for my COBWEBS model, the cyclical obesity weight based stigma model.

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00:32:30.570 --> 00:32:49.290

A. Janet Tomiyama, Ph.D.: Where you experience stigma that causes stress and stress as we just learned, increases cortisol and increases eating. These things can cause weight gain and then putting you ever more at risk. So you're kind of stuck in the cobwebs. It's a vicious cycle. And so in our remaining

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00:32:50.310 --> 00:33:00.450

A. Janet Tomiyama, Ph.D.: 10 minutes or so, I'm going to talk about what are the negative consequences of weight stigma. And the first study I'm going to talk about is

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00:33:01.680 --> 00:33:05.340

A. Janet Tomiyama, Ph.D.: one that's tying the first three boxes of the COBWEBS model.

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00:33:06.390 --> 00:33:09.900

A. Janet Tomiyama, Ph.D.: And so this is a

182

00:33:10.950 --> 00:33:20.220

A. Janet Tomiyama, Ph.D.: graph showing you on the x axis weight stigma. So the more weight stigma you have, the further off to the right

183

00:33:20.760 --> 00:33:35.970

A. Janet Tomiyama, Ph.D.: you'll be on this scale. On the Y axis is cortisol. And so, what you can see, first of all is that there's a positive correlation between stigma and cortisol. So the more weight stigma experienced, the higher your cortisol levels are.

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00:33:37.770 --> 00:33:43.590

A. Janet Tomiyama, Ph.D.: The other interesting part is the red lines are the skinniest people in our sample. The

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00:33:44.010 --> 00:33:53.970

A. Janet Tomiyama, Ph.D.: green lines are the heaviest people in our sample. It kind of doesn't matter what your objective BMI is. You still see the same exact relationship between weight stigma and cortisol.

186

00:33:54.720 --> 00:34:06.930

A. Janet Tomiyama, Ph.D.: To make the point that it's not actually about what you physically weigh; it's more about how you're perceiving your weight that is driving these things. Too me as a psychologist, that's absolutely fascinating.

187

00:34:08.100 --> 00:34:10.950

A. Janet Tomiyama, Ph.D.: But as everybody on this call probably knows,

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00:34:12.450 --> 00:34:28.260

A. Janet Tomiyama, Ph.D.: correlation is not causation. The only way to tell if weight sigma causes cortisol increases is to do a randomized controlled experiment. So that's what we did. We call this study The Psych of Shopping Study.

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00:34:30.840 --> 00:34:39.180

A. Janet Tomiyama, Ph.D.: In it, we told people were just looking at the effect of shopping in groups and testing hormone levels.

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00:34:39.720 --> 00:34:53.580

A. Janet Tomiyama, Ph.D.: First, we walk them in this room that had clothes in it and there is pop music blaring from this room and we say we're going to have you engage in a shopping activity with a bunch of people. It's going to be fun. But first we need to

191

00:34:54.690 --> 00:35:05.970

A. Janet Tomiyama, Ph.D.: weigh you to make sure that you're going to fit into the clothes. Then they went down the hall to sit in a waiting room with a very thin confederate. A confederate is someone who is sort of in cahoots with the study.

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00:35:06.600 --> 00:35:14.190

A. Janet Tomiyama, Ph.D.: And they're accepted into the shopping activity, then we turn to the participant and say, actually, you know,

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00:35:15.360 --> 00:35:26.280

A. Janet Tomiyama, Ph.D.: your shape and size is just not ideal. We want everyone to have fun and feel good. We want to return the clothing to the designer in good condition. So, you are not allowed to shop with everyone because of your size.

194

00:35:28.680 --> 00:35:47.790

A. Janet Tomiyama, Ph.D.: And then the control group was also rejected, but for reasons unrelated to their size. I'll skip to the findings here. So all of the action was in people who perceive themselves as heavy. So you're sort of protected in a bubble if you don't view yourself as heavy.

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00:35:49.800 --> 00:36:05.130

A. Janet Tomiyama, Ph.D.: And again, this was regardless of what your objective BMI was. On the x axis is control group on the left. On the right is the weight stigma group. On the Y axis is cortisol. The important

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00:36:06.720 --> 00:36:18.180

A. Janet Tomiyama, Ph.D.: group to look at, or the important comparison to look at is the stigma group. Their cortisol levels actually stay higher, go a little bit higher.

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00:36:18.870 --> 00:36:32.580

A. Janet Tomiyama, Ph.D.: Their cortisol levels are higher than the no stigma group after the weight stigma induction. And so from that we concluded that stigma can actually cause cortisol secretion.

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00:36:34.980 --> 00:36:50.040

A. Janet Tomiyama, Ph.D.: We also have a study looking at not cortisol this time, but actually eating. So, in this study we randomly assigned people to actually put on a fat suit or the control group

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00:36:50.760 --> 00:37:09.450

A. Janet Tomiyama, Ph.D.: just put on the shirt and pants, but they didn't actually put on the fat suit. We made them walk through the most highly populated area of campus so that they could be exposed to other individuals eyes on them to potentially experience feelings of possible weight stigma.

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00:37:10.500 --> 00:37:30.510

A. Janet Tomiyama, Ph.D.: And we measured their eating behaviors. So I'll focus here on the second bullet point. The things in red are the things that were higher in the fat suit group. So people after walking around in the fat suit ate more m&ms and more potato chips and they drink more Coca Cola.

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00:37:32.640 --> 00:37:41.160

A. Janet Tomiyama, Ph.D.: And from this, we surmise that weight stigma could potentially also increase eating behavior. Something that I want to point out here,

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00:37:42.000 --> 00:37:55.350

A. Janet Tomiyama, Ph.D.: Notice that the people in the fat suit felt all these negative emotions we had originally thought sort of from like a walking a mile in someone's shoes kind of standpoint that

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00:37:56.820 --> 00:38:11.520

A. Janet Tomiyama, Ph.D.: putting on a fat suit would help someone sort of increase their empathy and it might decrease their anti-fat attitudes. We did not find that. In fact, if anything, anti-fat attitudes went up for the people who were in the fat suits.

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00:38:13.440 --> 00:38:22.260

A. Janet Tomiyama, Ph.D.: We're kind of disappointed in that finding and other researchers found that it's really, really hard to decrease somebody's levels of anti-fat bias.

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00:38:25.650 --> 00:38:43.260

A. Janet Tomiyama, Ph.D.: Okay. What I've talked to you about so far has been sort of short-term changes in cortisol, short-term changes in eating. Is there any evidence that weight stigma actually causes weight gain over time? So I want to show you a little bit of data on that.

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00:38:45.180 --> 00:38:54.660

A. Janet Tomiyama, Ph.D.: This was a study conducted in the National Heart, Lung, and Blood Institute Growth and Health study. So this was a study where they

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00:38:55.200 --> 00:39:04.590

A. Janet Tomiyama, Ph.D.: followed black and white girls measured all sorts of things in them once a year, every year for 10 measurement points until they hit age 19.

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00:39:05.730 --> 00:39:16.470

A. Janet Tomiyama, Ph.D.: And we measured whether or not weight stigma measured at age 10 increased your risk of obesity diagnosed at age 19.

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00:39:18.510 --> 00:39:24.330

A. Janet Tomiyama, Ph.D.: The weight stigma measure was pretty mild. It just asked if any of these people told you you're too fat.

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00:39:24.810 --> 00:39:35.430

A. Janet Tomiyama, Ph.D.: So not like have you been bullied because of your weight or anything like that. Something as mild as Oh wow, I think you're too fat right now, followed by a list of close others.

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00:39:36.750 --> 00:39:38.490

A. Janet Tomiyama, Ph.D.: And what we found is that

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00:39:39.900 --> 00:39:40.860

A. Janet Tomiyama, Ph.D.: in general,

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00:39:42.060 --> 00:40:02.610

A. Janet Tomiyama, Ph.D.: if somebody told you you're too fat at age 10, you had a 66% greater likelihood of having an obese body mass index at age 19. This is controlling for a baseline body mass index. So it's not just that the heavier girls start out heavy and end up heavy. It's change in risk for obesity.

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00:40:04.170 --> 00:40:12.360

A. Janet Tomiyama, Ph.D.: Stated another way, for every additional family member that stigmatized you, your body mass index was half a point higher

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00:40:13.980 --> 00:40:15.030

A. Janet Tomiyama, Ph.D.: at age 19.

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00:40:16.140 --> 00:40:32.460

A. Janet Tomiyama, Ph.D.: And it seems that family members sort of hurt the most potentially because teachers, friends; this affect was smaller whereas every additional non-family member to stigmatize your body mass index was point two or one fifth of a point higher.

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00:40:33.630 --> 00:40:35.910

A. Janet Tomiyama, Ph.D.: I think this is really

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00:40:37.260 --> 00:40:54.570

A. Janet Tomiyama, Ph.D.: interesting and important and something that is very insidious about weight stigma. Not just this research, but other research has shown that often it is the people who are closest to an individual that are the most stigmatizing and that's not the case for other forms of stigma like racism,

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00:40:55.650 --> 00:41:00.630

A. Janet Tomiyama, Ph.D.: sexism, things like that. And so it's particularly insidious because it is

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00:41:02.190 --> 00:41:09.030

A. Janet Tomiyama, Ph.D.: taking the people who could be the greatest source of support and flipping it and turning them into sort of perpetrators of stigma.

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00:41:10.740 --> 00:41:11.850

A. Janet Tomiyama, Ph.D.: Okay, so

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00:41:12.930 --> 00:41:29.400

A. Janet Tomiyama, Ph.D.: we have about four minutes. So I think I will show you a video for an ongoing study that we're doing, looking at everyday life kind of weight stigma, what's happening there. I won't show all of this video. I will

223

00:41:30.480 --> 00:41:33.510

A. Janet Tomiyama, Ph.D.: show you what we're doing. So basically.

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00:41:35.730 --> 00:41:45.960

A. Janet Tomiyama, Ph.D.: Welcome to the Omnipro mobile system for patient engagement. This demo will show you how the Omnipro system will collect your responses via text message during the UCLA texting study.

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00:41:46.500 --> 00:41:58.950

A. Janet Tomiyama, Ph.D.: So this is literally the video that we show participants when they're joining our study. So 8788 is 888 is literally the number that we use.

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00:42:01.980 --> 00:42:15.630

Once you start the study you will text the keyword "event" to the number 87888 every time you experience weight stigma. That's when you're treated differently because of your weight or something or someone makes you feel bad.

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00:42:18.360 --> 00:42:19.830

As soon as you text "event"

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00:42:20.880 --> 00:42:24.270

A. Janet Tomiyama, Ph.D.: So notice that we're not saying these are these are

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00:42:25.140 --> 00:42:33.540

A. Janet Tomiyama, Ph.D.: examples of weight stigma. If any of these happens to you, let us know. Instead, we're letting the participant define for themselves what feels stigmatizing to them.

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00:42:33.840 --> 00:42:49.950

A. Janet Tomiyama, Ph.D.: And so we'll be able to look later and code these different stigma events to really understand what does weight stigma look like in everyday life. You will give a saliva sample using the clear tube from the materials we provided. After giving the saliva sample, reply the letter Y to continue.

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00:42:51.450 --> 00:42:59.970

You will immediately see a three question survey asking you about your stress levels, feelings of shame, and the situation that initially prompted you to text events.

232

00:43:07.590 --> 00:43:12.390

Lots of the events can count as stigmatizing. If it makes you feel bad, you should report it.

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00:43:15.030 --> 00:43:25.290

A. Janet Tomiyama, Ph.D.: Upon completing the first survey. So you may have noticed she asked them to take a saliva sample. So we send them home with these really cute kits that they carry around.

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00:43:25.710 --> 00:43:33.900

A. Janet Tomiyama, Ph.D.: And when they experienced stigma, then they take the saliva sample and they also tell us about what they have eaten.

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00:43:35.220 --> 00:43:44.220

A. Janet Tomiyama, Ph.D.: And so that we can really test the COBWEBS model and see that stigma happens, does that then lead to an increase in cortisol and also an increase in eating?

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00:43:44.640 --> 00:44:00.210

A. Janet Tomiyama, Ph.D.: We can take the coded descriptions of the weight stigma and see if it's weight stigma from your healthcare provider that seems to lead to the biggest cortisol boost or things like that. And so it's really going to give us a super rich

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00:44:01.680 --> 00:44:12.330

A. Janet Tomiyama, Ph.D.: picture into what weight stigma looks like in everyday life and start to see some of the potential consequences of it.

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00:44:14.820 --> 00:44:16.050

A. Janet Tomiyama, Ph.D.: I will also

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00:44:18.210 --> 00:44:23.550

A. Janet Tomiyama, Ph.D.: share with you some preliminary results. These are not peer reviewed, but I wanted to share with you.

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00:44:24.030 --> 00:44:30.810

A. Janet Tomiyama, Ph.D.: What are the some of the things that people are reporting? So I went in the store to try on clothes and the salesperson told me they didn't have anything in my size.

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00:44:31.200 --> 00:44:41.550

A. Janet Tomiyama, Ph.D.: So that made me think our in-lab experiment, The Psych of Shopping Study that I told you about, was really hitting the nail on the head in terms of some real world weight stigma that people experience.

242

00:44:42.360 --> 00:44:56.670

A. Janet Tomiyama, Ph.D.: This is one of the rare studies that looked at men and women. Most studies look at weight stigma in women only. And here's an example. I was at the gym playing ball and one of the other guys said, I've got the fat guy. So, you know, men are not immune from weight stigma, by any means.

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00:44:57.810 --> 00:45:12.840

A. Janet Tomiyama, Ph.D.: And I was at the doctor's office and of course I was told I need to lose weight as if I'm not trying. So I think this one might hit home for some of the audience members here that healthcare is another setting in which individuals could be stigmatized. So something to really think about.

244

00:45:14.820 --> 00:45:24.420

A. Janet Tomiyama, Ph.D.: And another set of preliminary results. It does seem like people are eating more after they are stigmatized; around three servings of food compared to two servings of food

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00:45:24.750 --> 00:45:34.800

A. Janet Tomiyama, Ph.D.: when they're not being stigmatized. The kinds of foods that they're reporting are these high calorie foods like potato chips, nachos, tacos, chocolate ice cream and things like that.

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00:45:37.170 --> 00:45:37.770

A. Janet Tomiyama, Ph.D.: So,

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00:45:39.720 --> 00:45:41.490

A. Janet Tomiyama, Ph.D.: I want to just say that

248

00:45:42.600 --> 00:45:54.360

A. Janet Tomiyama, Ph.D.: It's not just an interesting scientific issue, weight stigma. There are actually people who are advocating that we use weight stigma to motivate people to lose weight. So here's Dan Callahan, who said this.

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00:45:54.720 --> 00:46:02.610

A. Janet Tomiyama, Ph.D.: He argued this even in children in JAMA pediatrics. He said we should be using weight stigma to really motivate these kids to lose weight.

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00:46:03.150 --> 00:46:13.080

A. Janet Tomiyama, Ph.D.: And I want to make the point that all my research so far, showing that that is going to backfire. If you're trying to help people with obesity, the last thing you should be doing is stigmatizing them.

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00:46:14.190 --> 00:46:17.400

A. Janet Tomiyama, Ph.D.: And then for the clinicians in the audience, I also wanted to

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00:46:18.930 --> 00:46:25.860

A. Janet Tomiyama, Ph.D.: draw your attention to this paper. This is open access, at BMC medicine. This is really driven

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00:46:27.180 --> 00:46:48.930

A. Janet Tomiyama, Ph.D.: the intended audience for this paper is health care providers. So this outlines in way more detail the effect of weight stigma on obesity and so I'll end there. So I have plenty of time for questions, but I did want to put up my website. Dish Lab has

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00:46:50.460 --> 00:46:53.700

A. Janet Tomiyama, Ph.D.: all of our publications

255

00:46:55.350 --> 00:46:59.760

A. Janet Tomiyama, Ph.D.: or links to them along with little summaries, one bite summaries, we call them.

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00:47:00.360 --> 00:47:14.700

A. Janet Tomiyama, Ph.D.: So you can go there to learn more about my research. So I want to thank you very much and open it up for questions. These you would ask not in the chat box, but in the question and answer box. And I think Lisa, you are going to moderate the questions.

257

00:47:29.250 --> 00:47:40.020

Villanova Webinar 1: Thank you so much, Dr. Tomiyama. We know that weight stigma remains just incredibly pervasive in our society and it's gratifying to know that steps are being taken to

258

00:47:40.530 --> 00:47:51.120

Villanova Webinar 1: to learn more about it. So obviously, we can address and prevent it. I think the particularly interesting part that you brought up was bringing home

259

00:47:51.810 --> 00:47:57.540

Villanova Webinar 1: the profound effect that stress has on obesity and that correlation with weight status.

260

00:47:58.320 --> 00:48:09.330

Villanova Webinar 1: With that in mind, hopefully health professionals, like many on the webinar, can help to lead the charge in reducing waste stigma. I know here at Villanova University, we

261

00:48:09.630 --> 00:48:24.720

Villanova Webinar 1: have recently started a curriculum embedded weight sensitivity program for our junior level nursing students that helps address weight stigma in health professionals early on. So that hopefully it can be

262

00:48:25.830 --> 00:48:30.630

Villanova Webinar 1: something that is corrected throughout their private practice. Okay.

263

00:48:31.920 --> 00:48:39.150

Villanova Webinar 1: Before we get to questions. I just do want to remind our listeners that everyone who has completed the webinar

264

00:48:39.720 --> 00:48:51.750

Villanova Webinar 1: will be emailed a link to the evaluation within a week. The email will be sent to the email address you used to register for the webinar. The evaluation will expire in three weeks. And please try to complete it as soon as you can.

265

00:48:52.110 --> 00:49:01.320

Villanova Webinar 1: To ensure that you receive your CE certificate quickly once the evaluation is completed. The CE certificate will be emailed separately within two business days.

266

00:49:01.950 --> 00:49:10.470

Villanova Webinar 1: Remember, if you phoned into the webinar today, please email us at cope@villanova.edu and provide your name, so that we can provide you with your CE certificate.

267

00:49:13.980 --> 00:49:25.470

Villanova Webinar 1: Okay, our next webinar addresses a very interesting topic that impacts many children on the Autism Spectrum Disorder. This presentation was prior to the COVID

268

00:49:26.310 --> 00:49:34.650

Villanova Webinar 1: pandemic. Dr. Tanja Kral was presenting this in March. We will be rescheduling it and we will notify you just as soon as the new

269

00:49:35.370 --> 00:49:46.380

Villanova Webinar 1: date is available to us. And finally, we have a unique opportunity for you if you would like to participate in a one hour online focus group with Coach staff and other health professionals

270

00:49:46.680 --> 00:50:03.030

Villanova Webinar 1: who participate in our continuing education programs. We'd love to have your feedback as we plan new programs for the coming year. If you're interested, please email me at lisa.diewald@villanova.edu for more information. And with that we have, we do have some

271

00:50:04.380 --> 00:50:19.020

Villanova Webinar 1: little bit of time for questions and we appreciate. Dr. Tomiyama's presentation so much. I think you gave us an awful lot to kind of process and use in our practice. A couple questions we had.

272

00:50:20.280 --> 00:50:38.070

Villanova Webinar 1: If someone with an obese BMI has been restricting highly palatable foods. how does this impact the dopamine hit when they eat these foods? In other words, are they addicted, or simply experiencing a rebound effect post restriction?

273

00:50:40.980 --> 00:50:42.510

A. Janet Tomiyama, Ph.D.: There's a lot of

274

00:50:44.220 --> 00:50:56.250

A. Janet Tomiyama, Ph.D.: complexity in that question. I can't think of a study where people will randomly be assigned to diet and then sort of dopaminergic or reward processing

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00:50:59.010 --> 00:51:04.680

A. Janet Tomiyama, Ph.D.: was measured maybe through fMRI. Maybe Eric Steiss has a study like that up at Oregon.

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00:51:06.000 --> 00:51:25.350

A. Janet Tomiyama, Ph.D.: I don't think we know is the is the safe answer, but we know behaviorally they probably end up in the same behavior, which is this intense motivation and drive toward those hyper palatable foods and so regardless of whether it is addiction or reward processing

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00:51:26.610 --> 00:51:29.550

A. Janet Tomiyama, Ph.D.: at a behavior level. It's something you could probably address directly

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00:51:31.680 --> 00:51:41.100

Villanova Webinar 1: And we have a question, why do we use BMI or continue to use BMI? Are there other tools that we can use

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00:51:42.360 --> 00:51:42.780

Villanova Webinar 1: that

280

00:51:43.920 --> 00:51:46.140

Villanova Webinar 1: may reflect health risks?

281

00:51:46.890 --> 00:51:49.140

A. Janet Tomiyama, Ph.D.: Oh boy. Don't get me started on BMI.

282

00:51:50.730 --> 00:52:06.210

A. Janet Tomiyama, Ph.D.: If they go to dishlab.org you'll see a paper that I published showing that plenty of people, millions and millions of people with a BMI above 30, nonetheless look perfectly pristine on triglycerides, blood pressure, blood glucose.

283

00:52:07.350 --> 00:52:14.130

A. Janet Tomiyama, Ph.D.: You know, every single marker you would want. And so, I agree. Body Mass Index is

284

00:52:17.940 --> 00:52:21.900

A. Janet Tomiyama, Ph.D.: imperfect at best, and I think it sort of

285

00:52:23.490 --> 00:52:30.060

A. Janet Tomiyama, Ph.D.: makes us lose focus from what we really want to focus on which is health. Instead, now we're talking about size.

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00:52:31.170 --> 00:52:45.060

A. Janet Tomiyama, Ph.D.: And so I always encourage when I give my BMI is not a good measure talk, I always encourage focusing on, A better health measures. So not just relying on body mass index, but actually looking at blood pressure and things like that.

287

00:52:46.110 --> 00:52:50.910

A. Janet Tomiyama, Ph.D.: But even more so than focusing on actual behaviors which are

288

00:52:52.440 --> 00:52:55.980

A. Janet Tomiyama, Ph.D.: easier to change, quite honestly, then body mass index.

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00:52:57.000 --> 00:53:09.540

A. Janet Tomiyama, Ph.D.: And sort of takes the focus off of weight there by sort of bypassing all these weight stigma processes. So the four I like to focus on are eating healthier, incorporating more

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00:53:10.770 --> 00:53:11.880

A. Janet Tomiyama, Ph.D.: fruits and vegetables,

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00:53:12.900 --> 00:53:31.650

A. Janet Tomiyama, Ph.D.: exercising more, getting better sleep and then ties into the topic of today's webinar, which is to get a handle on stress. So if you could focus on those things. I don't think you even need to mention BMI a single time and that could make for a more productive sort of clinical encounter.

292

00:53:33.240 --> 00:53:48.330

Villanova Webinar 1: Okay, thank you. I think all of us as health professionals really want to provide compassionate care to patients with obesity. Can you give us some suggestions on how best to deliver that care?

293

00:53:49.080 --> 00:53:59.520

A. Janet Tomiyama, Ph.D.: Yeah, I mean, this is the million dollar question. And I think a lot of research has been conducted showing that weight stigma was bad in the clinical atmosphere.

294

00:54:00.270 --> 00:54:15.720

A. Janet Tomiyama, Ph.D.: Much less research has been conducted on how to change that. And so what I'm going to say now is not based in empirical data, but rather what my sense is upon reading all of this literature.

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00:54:17.640 --> 00:54:26.910

A. Janet Tomiyama, Ph.D.: There's a fairly large body of research showing that motivational interviewing is a really good technique for any sort of

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00:54:28.320 --> 00:54:41.340

A. Janet Tomiyama, Ph.D.: issue that might be uncomfortable to talk about or an issue where patients might be experiencing ambivalence or conflict or resistance. It's a it's a tool that

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00:54:44.220 --> 00:54:55.890

A. Janet Tomiyama, Ph.D.: starts with where the patient is at, identifies their own goals, and then works backwards into some maybe behavioral changes that could be made. So that's one thing.

298

00:54:56.970 --> 00:55:10.230

A. Janet Tomiyama, Ph.D.: There's also, I'm learning more and more about trauma informed care. And I think the level of stress that some heavier individuals experience could count as trauma. I mean, it's day in, day out

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00:55:11.730 --> 00:55:17.160

A. Janet Tomiyama, Ph.D.: prejudice and discrimination that they have to deal with. So those approaches might be helpful as well.

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00:55:18.210 --> 00:55:25.440

A. Janet Tomiyama, Ph.D.: And then finally, there is something called the Health at Every Size approach or Hayes approach that is not

301

00:55:27.390 --> 00:55:33.780

A. Janet Tomiyama, Ph.D.: weight focused at all. And it has some components of intuitive eating.

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00:55:36.270 --> 00:55:43.590

A. Janet Tomiyama, Ph.D.: But here there is a lot of science actually showing that the health at every size approach can improve health markers.

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00:55:45.120 --> 00:56:00.720

A. Janet Tomiyama, Ph.D.: And in a way that is protective against sort of detriments and body image and things like that. So I think all you need to do is Google Health at Every size and you can get certified if I'm correct in the Hayes curriculum.

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00:56:02.100 --> 00:56:06.120

A. Janet Tomiyama, Ph.D.: And so that might be some concrete ways to help.

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00:56:07.380 --> 00:56:19.560

Villanova Webinar 1: Thank you. Okay, bringing it into real time. How will the COVID 19 fears affect the processes that you described in your talk?

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00:56:19.770 --> 00:56:41.790

A. Janet Tomiyama, Ph.D.: At first I was despairing because UCLA made us stop all in person, data collection. I was like my research is over. But now, we have quickly pivoted to okay COVID 19 is definitely a stressor. What is this going to do to individuals behaviors? I anticipate

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00:56:43.830 --> 00:56:48.960

A. Janet Tomiyama, Ph.D.: more Stress, eating more comfort eating. I anticipate higher levels of cortisol.

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00:56:50.280 --> 00:56:53.310

A. Janet Tomiyama, Ph.D.: I anticipate higher levels of

309

00:56:54.480 --> 00:57:10.470

A. Janet Tomiyama, Ph.D.: or lower levels of physical activity, for example. We are doing a study right now where we're actually having people clip their own hair for cortisol assessment and looking at stress in response to that.

310

00:57:12.630 --> 00:57:20.280

A. Janet Tomiyama, Ph.D.: The big question I think in terms of weight stigma is what does quarantine do because

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00:57:21.390 --> 00:57:35.730

A. Janet Tomiyama, Ph.D.: you're not out and about. You're not at the mall getting stigmatized by a person who works at Victoria's Secret or whatever. So, some might argue that this whole quarantine will be helpful in terms of weight stigma.

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00:57:37.980 --> 00:57:39.180

A. Janet Tomiyama, Ph.D.: Others might

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00:57:40.260 --> 00:57:44.220

A. Janet Tomiyama, Ph.D.: hypothesize that actually no.

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00:57:44.760 --> 00:57:59.280

A. Janet Tomiyama, Ph.D.: I've seen tweets saying like COVID has killed X number of people, whereas obesity kills this many more people. Why are we worried about COVID, we should be worried about the heavy people. So this like creates a little bit more context for stigmatizing.

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00:58:00.270 --> 00:58:22.530

A. Janet Tomiyama, Ph.D.: Also, so much of our courses moved online because of quarantine. There's reason to believe that a lot of weight sigma can be enacted over digital formats as well. So I think that's a really interesting and open theoretical question. Okay.

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00:58:23.160 --> 00:58:44.040

Villanova Webinar 1: Thank you. One more quick question. It's hard to get people to buy into the sleep and obesity kind of concept. They want to focus on other things. Do you have any quick message for healthcare providers trying to encourage people to sleep better in an effort to reduce?

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00:58:44.310 --> 00:58:47.190

Villanova Webinar 1: Reduce. Yeah. So just quickly, um,

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00:58:47.280 --> 00:58:51.870

A. Janet Tomiyama, Ph.D.: I will say sleep is something that is very amenable to intervention. So you can do

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00:58:52.890 --> 00:59:07.710

A. Janet Tomiyama, Ph.D.: cognitive behavioral therapy, the insomnia module. And that's highly efficacious. And so for people who might be experiencing less success in these other behaviors, it might give them a little bit of

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00:59:08.880 --> 00:59:25.680

A. Janet Tomiyama, Ph.D.: hope for a success that they can work on their sleep and then you might want to talk about how sleep feeds into all of these things he's asleep. Lack of sleep drives appetite. Lack of sleep harms physical activity, exercise, increases sedentary behavior and also makes your mood worse.

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00:59:26.790 --> 00:59:34.620

A. Janet Tomiyama, Ph.D.: And sleep is really one thing that you could do that could help many, many different things in a person's life.

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00:59:36.390 --> 00:59:46.440

Villanova Webinar 1: Thank you so much. I can't tell you how much we appreciate your presentation, especially when you have numerous other things going on, and you have a young child at home that

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00:59:46.500 --> 00:59:51.240

Villanova Webinar 1: you're, you're managing as well. So thank you so much for giving us so much

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00:59:52.230 --> 01:00:01.410

Villanova Webinar 1: fruitful information that we can use in our practice and in our continued research. So thank you. Best of luck to you. I want to remind again

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01:00:01.890 --> 01:00:21.360

Villanova Webinar 1: our listeners to look for the evaluation that will come to you shortly. Feel free to check out our upcoming webinars and programs and look out for information that way. So thank you again, be safe, be healthy, everyone and take care. Thank you again Dr. Tomiyama.

326

01:00:21.510 --> 01:00:22.740

Villanova Webinar 1: Thank you. Bye.