

Bodybuilders Develop Binge Eating Disorders Post Competition: A Survey

Tag Words: Bodybuilding, Eating Disorders, Binge Eating Disorders, Post Show Blues, Dieting, Post Comp Binge, Competition Prep, Restrictive dieting, depression, Weight gain

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Summary: Extended periods of restrictive dieting is a common practice amongst bodybuilders preparing for a competition. We have found that post competition, bodybuilders fall into a trap of binge eating which leads to weight gain and depression. By conducting and publishing our survey results which demonstrate this link between binge eating behaviors and post competition, we hope to increase awareness of this really negative aspect of bodybuilding competition.

Video Link: <https://youtu.be/T1USTxBWaVg>

The Issue: How Pre-Contest Restrictive Dieting Leads to Binge Eating Disorders (KD)

Preparing for a bodybuilding competition takes a lot of time and dedication. A typical competition preparation starts 12 to 20 weeks before the show day in order to shed the body fat and reveal the muscle definition underneath for the stage. People who have never competed before don't realize the pitfalls and dangers of significant caloric restriction leading up to show day. Competitors have been reported to binge eat post competition; a practice that stays with them for weeks to months to come.

Bodybuilding (KD)

Bodybuilding competitions have been around since the 1890s and has gained popularity over the past few decades. With the boom of social media, especially Instagram, the sport of bodybuilding has gained even more new followers. Federations have created more and more divisions in order to appeal to a bigger group of people. In the earlier years, there was only men's bodybuilding and women's bodybuilding. Now there is women's bikini, figure, fitness, physique, and bodybuilding as well as men's physique, classic physique, and bodybuilding. Many competitors' pages feature post after post of prepared meals, fasted cardio, posing in bathing suits, and this seemingly "healthy" lifestyle. People are attracted to this sport which is glamorized on social media.

Competition Preparation (KD)

In preparation for a show, the competitor must typically follow a heavily restricted diet and a grueling training schedule which keeps them in the gym for 3-4 hours a day. Weeks leading into the competition, cravings intensify as their bodies respond to the calorie deficit the body is going through. Once the day has come to step on the stage and all their hard work could be displayed, whatever the outcome is, the celebration of the end of the diet follows immediately afterwards. Long periods of restrictive dieting are proven to increase food preoccupation (1). A study conducted on mice showed that feeding behaviors changed when a solid high fat palatable diet was introduced (baseline phase), withdrawn for 7 days (replacement phase), then reintroduced

(refeeding phase) (2). The results of the study showed that mice exhibited binge-like behaviors when the HFD was reintroduced after the withdrawal phase as there was a significant increase in the mean caloric intake (2). Another study conducted on mice found that periods of restriction from sugar increased the dopamine drive to eat sugar by 30% (3). This study can help explain why a competitor may experience binge eating post competition as the whole process of competition preparation is a withdrawal period from highly palatable food. Decreased fat mass in an individual triggers the body's homeostatic endocrine response as it is a sign the body is starving (4). As a result, there is a decreased release of leptin, which is the hormone responsible for fullness and satiety released by adipose tissue (4). With the decrease in leptin, the anorexigenic hormone, the antagonistic response is the increase in ghrelin, the orexigenic hormone, which stimulates appetite (5). Increasing ghrelin levels from food deprivation coupled with the inhibited release of leptin naturally drives the individual to replenish its energy stores (6). Many people will shovel thousands of calories within a matter of a few hours after the show with typical calorically dense post-show treats like donuts, pizza, burgers, Oreos, peanut butter, and ice cream. With long periods of dieting, metabolic adaptation occurs which leads to adaptive thermogenesis, increased mitochondrial efficiency, and increased hunger (4). Metabolic adaptation is a survival mechanism aimed at decreasing energy expenditure for when there is a scarcity of food (4). Unfortunately, this means that as soon as more calories than usual are consumed, the excess energy is stored in adipose tissue.

Immediate Fat Accumulation Following the Contest (KD)

When competitors binge after a show, the excess calories begin to accumulate almost exclusively as fat (7). This period following a prolonged period of dieting where fat mass is accumulated is referred to as "post-starvation obesity" (7). When the binging is not stopped early enough and it continues for a few days, weight gain up towards 30lbs in a week is very common. This also accounts for water retention but a good percentage of this weight gained is newly stored fat. The majority of the ex-competitors posting their experiences discuss still struggling to have a healthy relationship with food and their body image. People share stories of what they binged on the day of the show and the days following afterwards on online forum discussions. Some examples of what people binged on post show include:

"I've eaten 3 jars of peanut butter, 2 pints of ben and jerrys, 2 12" cherry cream pies, manicotti, a whole turkey" (8).

"7 protein bars, 3 bananas, 1 loaf of bread, 1 bag of rice cakes, 1 16" pizza, 1 stromboli, 2 bowls jello, 2 bowls ice cream, 2 bowls cereal" (7).

The calorie counts of these mass binges run upwards towards 10,000 calories a day, and sometimes even more. To put that into perspective, it takes 3,500 calories over your maintenance metabolic rate to gain 1 lb. For someone with a resting metabolic rate of 1500 calories staying out of the gym and eating 10,000 calories a day for 3 days straight, they can gain a little over 7lbs of pure fat in just 3 days.

Hedonic Value of Food Causes Binge Eating (KD)

A diet in preparation of a bodybuilding competition typically consists of nutrient dense food with low palatability such as lean meats, vegetables, and simple starches. This diet is consumed for an extended period of time with the possibility of an occasional refeed as prescribed by a diet coach. Post competition, the competitor may indulge in food with high hedonic value, meaning it has increased pleasantness. Your brain responds positively to the high fat and high sugar food as it

stimulates the reward center (10). Refined sugars are shown to generate a supranormal reward signal in the brain, which simulates addiction-like behaviors (11). In a study observing the effect of palatability of foods on feeding behaviors, adding non-nutritive flavoring agents to feeds resulted in fat gain in rats when they were exposed to it (10). Binge eating is like an addiction to food. The difficulty with overcoming binge eating is that unlike overcoming a drug addiction where you completely abstain from the use of drugs, you cannot completely abstain from food. Food is a biological need for humans to survive and it has to be eaten every day so it cannot be avoided. As a solution, many competitors may try to go back on their previous restrictive diet in order to shed the weight that they've gained. Periodic access to highly palatable food after periods of food restriction can strengthen signals to the dopamine receptors, thus increasing synaptic plasticity and causing the body to repeat this learned behavior of feeding on highly palatable food (11). Dopamine signaling in the brain stimulates the reward/motivation centers which are the areas that drives the "wanting" of food (10). Heightened food reward sensitivity post competition makes returning to the pre-contest diet immediately following post-show very difficult.

The Mind is Their Own Worst Enemy (KD)

Depression is a common side effect of binge eating disorder due to the rapid physical changes the individual experiences. A competitor is in peak physical shape when stepping on stage and this can diminish within one night of extreme binge eating. To the competitor, it feels like all their hard work has gone to waste as definition of their abdominal muscles no longer becomes visible; to them, their body is no longer "perfect". Attitudinal body image (i.e. concerns with one's body size or appearance) is a contributing factor of binge eating behavior (12). It was founded that females with increased dissatisfaction of their body image were more inclined to binge eat (12). With each binge eating episode, a competitor gains more weight and becomes increasingly dissatisfied with their body. Lowered self esteem is an essential factor of depression in an individual (13). In the majority of individuals, self-efficacy is high during contest prep as the individual achieves their weekly goals of fat-loss and muscular definition. Self-efficacy has been found to be inversely related with overeating (12). A competitor post competition can exhibit lower self-efficacy if there is no specific goal which they are working towards; therefore binge eating episodes are more likely to occur. Competitors will also frequent their gym less in fear of being judged for gaining weight.

Community Action: Post Competition Experience Survey and Poll on Various Social Media Sites (AM)

We conducted a research survey to determine what percentage of people who have competed in a bodybuilding show has experiences binge eating post competition. There was an online poll posted and shared through Instagram and Facebook which asked the question, "Did you experience post competition binge eating?" The participant had the option to either click yes or no. This survey was sent out to those who answered "yes" to the online poll and wanted to contribute more about their personal experience. To get our subjects to participate we posted an announcement on our social media pages including Facebook and Instagram. The post stated, "I'm doing a project that highlights post competition eating disorders and binging. It's a survey and if anyone is interested in sharing their experience and helping me out shoot me an email and I'll send you the survey." The survey contained 5 questions with multiple choice answers.

Question number 6 was the open ended question which allowed the participant to go into detail about their experience post competition.

The Post Competition Survey

Our poll first asked, "Did you experience post competition binge eating? Those that answered yes, proceeded to respond to the survey below.

Post Competition Experience

Please bold your answers!

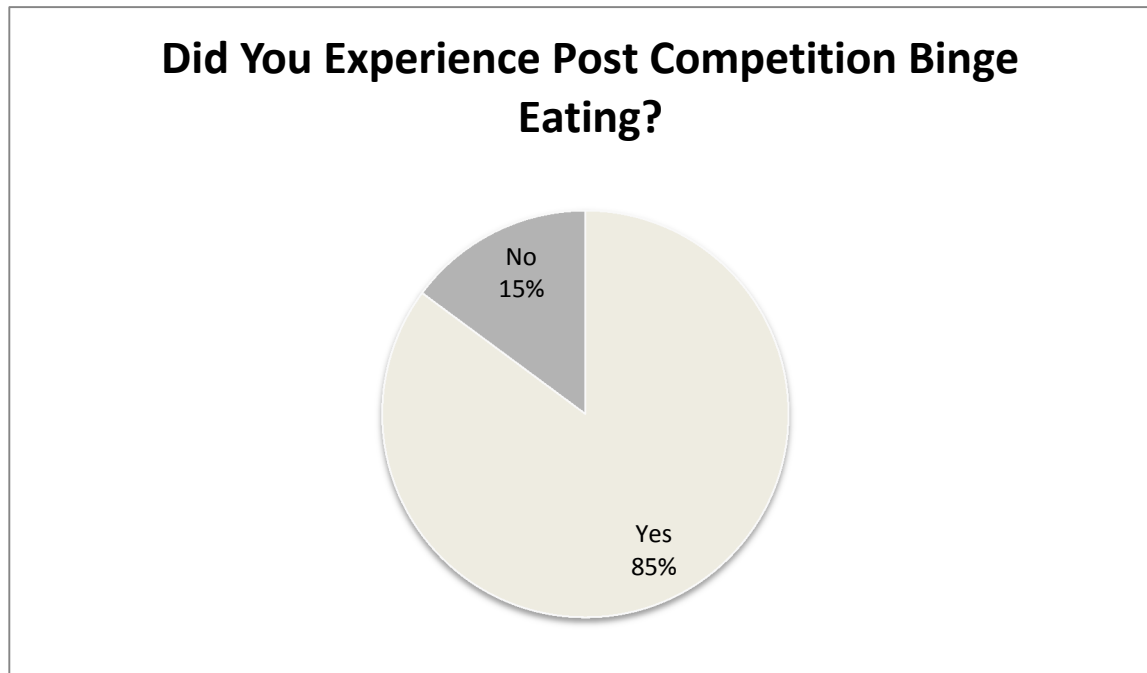
1. How long after the event did the first binge occur?
 - a. Backstage (Immediately after Prejudging)
 - b. Immediately after the night show
 - c. 2-5 days
 - d. 5 days+
2. How long did the first binge episode last?
 - a. 0-1 hr
 - b. 1-3 hrs
 - c. 3-8 hrs
 - d. 8+ hrs
3. How frequently did the binges occur after the event?
 - a. Everyday
 - b. Few times a week
 - c. Once a week
 - d. Less than 4x a month'
4. How long did the bingeing episodes continue for? When did you finally gain back control?
 - a. Less than a week'
 - b. 1-4 weeks
 - c. 1-3 months
 - d. 3+ months
5. Side effects caused by post-competition binge eating
 - a. Weight gain
 - b. Depression
 - c. Hormonal imbalance
 - d. Metabolic Damage
 - e. Other (elaborate below)
6. If you would like to, please share any personal experiences in detail. What has been the most difficult thing about transition from contest prep to "normal" life? Do you still struggle today?

Results

The poll which asked, "Did you experience post competition binge eating?" was posted online on November 18, 2015 and participants had a chance to answer the poll until December 9, 2015. We found that 85% of competitors (82 of 96 poll respondents) had in fact experienced binge

eating post competition, and 15% had not (Figure 1). These percentages came from a total of 96 individuals. 30 people that experience post competition binge eating requested to have a survey sent to them, but only 12 responded with a filled out survey. Out of the 12 respondents, 3 of them were male and 9 of them were female.

Figure 1. Did You Experience Post Competition Binge Eating?



In response to the time frame of the first binge post competition, 36% responded that the binge occurred backstage immediately after prejudging, 43% immediately after the night show, and 21% 2-5 days after competition (Figure 2). Given that 0% of the respondents reported that the first binge occurred 5 days or more after competition, it is clear that the desire to binge occurs soon after the competition. The majority of the respondents (43%) reported that their first binge lasted 1-3 hours, while 29% said their binge lasted 3-8 hours! Twenty-nine percent had shorter binge times of less than an hour (Figure 3).

Figure 2. How long after the event was your first binge?

How long after the event was your first binge?

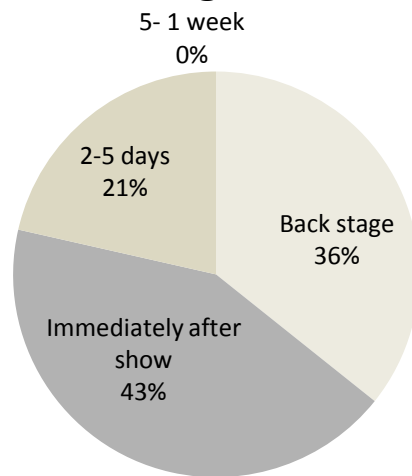
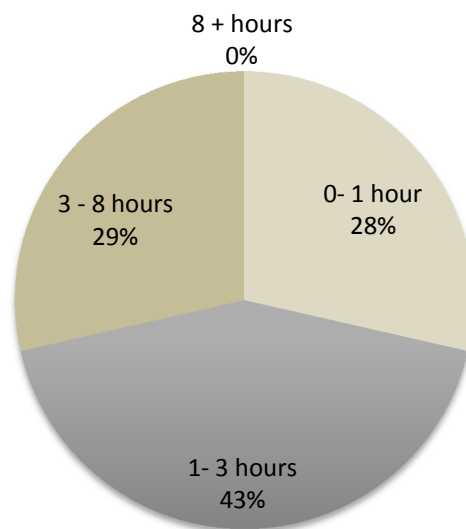


Figure 3. How Long Did the First Binge Last?

How Long Did the First Binge Last?



The frequency of binges ranged from less than 4 times a month to everyday (Figure 4). The majority (42%) of respondents reported that they binged every day, Thirty three percent said they binged several times a week, with 17% and 8% reporting binging 1 time a week and less than 4 times a week, respectively. Binge episodes lasted from less than a week (20%) to more

than 3 months (27%). The greatest percentage of respondents (40%) said that the binge episodes went on for 1-4 weeks (Figure 5).

Figure 4. How Often Did Binges Occur After the Event?

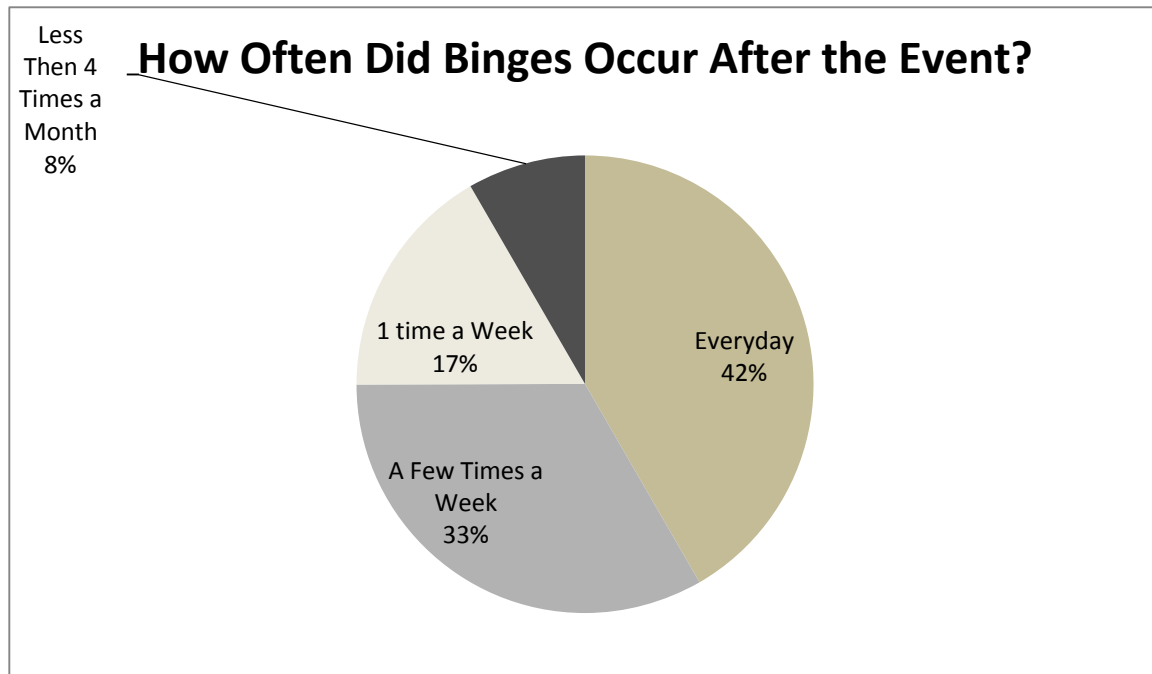
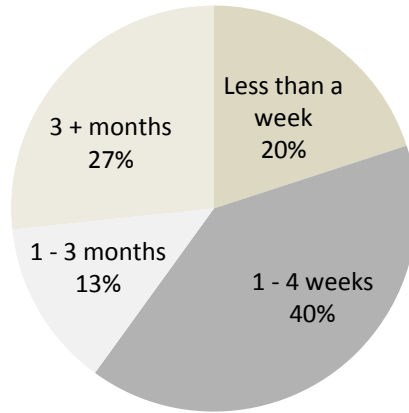


Figure 5. How Long Did The Binging Episodes Continue For, When Did You Finally Gain Back Control?

How Long Did The Binging Episodes Continue For, When Did You Finally Gain Back Control?



Personal Statements (Question 6)

The twelve respondents shared their personal experience and struggles with post-competition binge eating (question 6). The common themes which the participants mentioned were previous eating and self-image issues, severely restricted diet and calorie intake during contest prep, weight gain of 20lbs+ post competition, depression, stress, and a poor relationship with food as a consequence of prep.

Previous Eating Issues

“I’ve dealt with bulimia (specifically purging by vomiting) since I was 13, and got into the gym when I was 19 as a way to overcome it”

“I had struggled with my weight all of my life. Even as a D1 Athlete I was never happy about my size or weight.”

“In the past, I was overweight and before my first show, my “dieting” was rather absurd and borderline eating disorder.”

Patterns of Contest Prep

“The most difficult thing is probably going 3 weeks or more on like 30-50 grams of carbs before show and then after show eating whatever I want and spiking my insulin so high that it all turns into fat and makes it ten times more difficult to get rid of it in the long run.”

“I was doing heavy lifting for 45ish minutes followed by 45ish minutes of cardio six days a week, and following the “clean eating” meal plan from the previously mentioned IG star. I was

so strict during my six training days that I wouldn't even allow myself to have a diet coke because it wasn't "clean"... but I was so emotionally and physically drained that I used my rest day as an enormous excuse to binge. As in, 5,000-6,000 calories in one day."

"I actually remember when I knew I was not feeling right and my metabolism crashed. I was 4 weeks out from my show, still doing an hour or more of cardio a day plus my workout and my calories were about 1,100. From then on it just continued to get worse, the day of the show I was not excited to get on stage, rather I was more excited for it to be over."

Amount of Weight Gained

"Today, I think I am up about 20 lbs since my show."

"when I got really sick and gained 20lbs plus after 2-3 days"

"i gained over ten lbs in a matter of a month."

"I would estimate my binge episode was about 3,000 calories within a 4 hour time frame that first time. Days later, I had another episode and I kept telling myself "This is the last thing, I need to stop.", but continued to eat everything I possibly could. This cycle went on for about 4-5 weeks, where I gained a total of 30lb."

"I gained 80lbs but part of it was due to meds I was on for misdiagnosed thyroid"

"Being curious about the amount I was eating, I tracked the amount of calories I consumed in one day after a show and it was very close to 7000 calories... I could have kept eating too...I weighed 195lbs on the day of the competition. One week later, I was 220lbs."

Consequences of Prep

"Even after that binge period, it took me an additional two months or so to really get myself into a gym and nutrition routine that didn't breed self-hatred. "

"I found out about two months ago that due to the stress I put my body under, I'm basically out of estrogen and even though I'm now at a healthy weight and I eat plenty, I will probably need hormone therapy to bring my body back to where it was pre-competition prep."

"I would be good in the day, and then by night time, commence the bingeing. and i would eat anything in sight. even just plain toast (a whole loaf in one sitting) or a bag of dinner rolls, bags of kisses, anything! and i would not have any limit. then after i would feel this huge horrible guilt over me, and i would just think "what have i done!". "

"i fell into a minor depression. i would look in the mirror, be sad and cry about how much ive gained. I had no motivation to work out, i had no motivation to do anything. and it began affecting the relationships with my family, significant other and friends. i probably didn't start working out consistently again until 6+ months later."

“i struggled with a bad relationship with food for months, probably the rest of the year. for months i avoided taking pictures and shopping because i didn't like what i saw or the way clothes fit.”

“I formed an orthorexic and unhealthy relationship with food and myself. Skewed perceptions of self and food are the hardest things I have had to overcome post show.”

“As a 20 years old male I had testosterone levels next to nothing, and many other hormones and enzymes were completely off.”

“The most eventful binge was my final one, I am not even sure how many calories I consumed but I could not even move, literally. I ended up lying on the floor, contemplating forcing myself to throw up at least some of the food I consumed; somehow I managed to control myself from going down that road.”

Discussion

All of our respondents had one thing in common; they all stuck to a restricted diet for an extended period of time and as a result, suffered both emotionally and physically. Some individuals stated that they were prescribed extreme caloric deficits by their coaches, and were instructed to perform intense exercise every day. 85% of the respondents experienced some sort of a binge eating episode(s) post competition. One individual stated that they experienced weekly binge eating during contest preparation since their diet was so restricted. 42% of the respondents experienced binge eating everyday post competition until they were able to regain back control. 27% of the respondents, more than a quarter, struggled with binge eating for over 3 months post competition. Weight gain attributed to the binge eating ranged from 10 pounds to a whopping 80 pounds post competition. In addition to weight gain, bodybuilders reported that they experienced other side effects including depression, perhaps due to the weight gain and negative body image, negative relationships with food, and hormonal imbalance. One male respondent had suppressed testosterone levels as a result of binge eating. A female respondent had such low estrogen levels as a result of dieting and post competition binge eating that she needed hormone replacement therapy. Lack of motivation to go to the gym and stick to a healthful diet was also another common side effect.

Concluding Statements

To improve our results in the future when conducting a survey, we will advertise the survey through more social media channels. We will also conduct the survey over a longer period of time. We were personally emailing the survey to those who requested them, so in order to make the process easier, we will also post the survey on a public website where it will be accessible by all. By making the survey publically available, we believe that this will also increase the number of respondents. From the information we gathered, we have concluded that mentally preparing yourself for post competition is even more crucial than the actual show prep in order to avoid binge eating. By offering a resource where future competitors can gain insight on what competing is actually like, they'll be able to prepare themselves adequately whether by hiring a reputable coach, or by creating their own post-show plan. While some people will continue to follow metabolism damaging protocols for show prep, regardless of the possible consequences,

we hope that the majority of future competitors will educate themselves before getting involved in competing.

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Appendix 1: Request to the Rutgers University Institutional Review Board for Approval to Administer our Survey

Human Subjects Research Protocol

I. Are Bodybuilders More likely to Develop Binge Eating Disorders?

II. Objectives

To study the effects of bodybuilding contest preparation and extended periods of restrictive dieting and the development of binge eating disorders.

III. Background and Rationale

There are many blog posts and forums on websites with individuals sharing their personal experiences with post competition binge eating. Searching “post competition binge eating” on YouTube generates 28 videos on the first two pages of the search results regarding specifically about this topic. On Instagram, the number of posts hashtagged #postcompblues, #postcompetitionblues, #postcompbinge are 399, 103, 94 respectively. Bodybuilders typically restrict their food intake for 12-20 weeks prior to competition in an effort to decrease body fat. This results in the desire to consume all those foods that were restricted from their diet post competition. From the number of blogs we reviewed online, we found that people have experienced an increased preoccupation with food while dieting, binge eating post competition, and continued binge eating well after the end of the competition. According to the Food Palatability Reward Hypothesis, there is a direct link between the hedonic value of food and the central nervous system which can be a possible explanation for the reinforcement of bingeing behavior post restrictive dieting (Guyenet). We anticipate that we will find that a significant population of bodybuilders who have competed will have developed negative relationships with food and the unhealthy practice of binge eating.

IV. Procedures

A. Research Design

We will be conducting a survey on bodybuilders experiences with post competition binge eating. The survey will be a descriptive design which will allow us to observe and describe.

B. Sample

The student researcher posted her struggles with binge eating on an Instagram post. She will be requesting those that are interested in the subject to fill out an anonymous survey on eating behaviors post competition and that they should contact her for the survey. The expected number of subjects requesting to take the survey is ~ 50. The characteristics of subjects to be included in the research are a previous history of bodybuilding competition preparation. Subjects must be 18 years of age or older

C. Measurement / Instrumentation.

The variables of interest are whether or not the subject has experienced post competition binge eating, and if the subject has experienced any side effects related to post competition binge eating such as depression, hormonal imbalance, weight gain, or a lasting eating disorder. A nominal scale will be used to measure the data since the research will be using a YES/NO scale and it does not have any order and there is no distance between the yes and no.

D. Study Site(s)/Location of Procedures:

The research will take place online, and anywhere internet is available in the United States. The survey will be distributed electronically to anyone interested in taking the survey.

E. Detailed study procedures

Subject evaluations and duration of subject participation in the project will continue through November 4, 2016. Surveys will be answered anonymously. Electronically distributed surveys with answers from the research subjects will only be viewed by the student researcher. Collected subject data will be protected by password protected folders on the student researcher's personal computers. The personal information will be stored until the end of the study on November 4, 2016.

F. Consent Procedures:

Consent: The study will be explained to the subject by the student principal investigator once the subject responds with interest to the social media post about the topic of the study. Participants will be offered the informational sheet below.

The student researcher will say: "This research study is being conducted as part of a class project at Rutgers University which has been approved by the Human Subjects Institutional Review Board under protocol # XXXX. The study involves only a survey to be filled out that is both anonymous and confidential. Your participation in this study is strictly voluntary. The student researcher has been approved by the Rutgers Institutional Review Board to conduct the research. The consent will be read, and your questions answered. By giving verbal consent, you will be agreeing to participate in the study that you are over the age of 18."

G. Internal Validity

Results of the surveys will be quantitatively analyzed by counting the number of subjects who have experienced post competition binge eating compared to those who have not. Personal experiences will be deduced to patterns and the data will be quantitatively analyzed by the frequency of these patterns across all subjects who have experienced post competition binge eating.

H. Data Analysis

The data collected by the electronically distributed survey will be tallied in a spreadsheet for each question. The portion which asks the subject to elaborate on their personal experiences will be analyzed by recognizing patterns within the personal experiences and recording the frequency of appearance of the patterns across all subjects.

V. Bibliography

Guyenet, Stephan. "The Case for the Food Reward Hypothesis of Obesity, Part I." *Whole Health Source*. Blogger, 1 Oct. 2011. Web. 25 Oct. 2015.

Informational Sheet

Title: Are Bodybuilders More Likely to Develop Binge Eating Disorders?

Authors: Julie M. Fagan, Ph.D. with students Kelly Davidson and Allison Mandel

INTRODUCTION

You are invited to voluntarily participate in a research study that will measure the effect of restrictive competition preparation dieting on food behaviors post competition.

INFORMATION:

BENEFITS: You will not receive any direct benefit for participating in this research. However, it is expected that the research will provide scientists with a better understanding of why competitors struggle with binge eating tendencies following a competition prep.

RISKS: This study consists of only a survey and there are no risks involved.

CONFIDENTIALITY: This research is completely anonymous. No information will be recorded that could identify you.

COMPENSATION: You will receive no monetary compensation for participating in this study. The animal-assisted therapy sessions will be provided free of charge.

RESEARCH QUESTIONS: If you have any questions regarding the study, you may contact Dr. Julie Fagan at 848-932-8354 or email her at Fagan@rutgers.edu

SUBJECT RIGHTS: If you have any questions about your rights as a research subject, you may contact the IRB Administrator at Rutgers University at: Rutgers University Institutional Review Board for the Protection of Human Subjects; Office of Research and Sponsored Programs; 3 Rutgers Plaza; New Brunswick, NJ 08901-8559; Tel: 848 932 4058; Email: humansubjects@orsp.rutgers.edu

Consent Form:

CONSENT FORM FOR ANONYMOUS DATA COLLECTION

You are invited to participate in a research study that is being conducted by Julie M. Fagan, Ph.D., who is an Associate Professor at Rutgers University, School of Environmental and Biological Sciences in New Brunswick, NJ with Rutgers University student researchers Kelly Davidson and Allison Mandel. The purpose of this research is to determine whether bodybuilders that practice restrictive dieting in preparation for contests develop negative relationships with food and experience periods of binge eating. We will be conducting a survey on bodybuilder's experiences with post competition binge eating that will examine the length and frequency of individual binge episodes and whether binge eating continued long term and what side effects these had on health.

This research is anonymous. Anonymous means that I will record no information about you that could identify you. There will be no linkage between your identity and your response in the research. This means that I will not record your name, address, phone number, date of birth, etc. If you agree to take part in the study, you will be assigned a random code number that will be used on each test and the questionnaire. Your name will appear only on a list of subjects, and will not be linked to the code number that is assigned to you. There will be no way to link your responses back to you. Therefore, data collection is anonymous.

The research team and the Institutional Review Board at Rutgers University are the only parties (please modify if others will have access to the data) that will be allowed to see the data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated. All study data will be kept for three years.

There are no foreseeable risks to participation in this study. In addition, you may receive no direct benefit from taking part in this study.

Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the study procedures without any penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable.

If you have any questions about the study or study procedures, you may contact Julie M. Fagan, Ph.D. at 84 Lipman Dr., New Brunswick, NJ 08903, fagan@scarletmail.rutgers.edu, (xxx) xxx-xxxx. In addition, you may contact the student researchers Kelly Davidson and Allison Mandel. If you have any questions about your rights as a research participant, you can contact the Institutional Review Board at Rutgers (which is a committee that reviews research studies in order to protect research participants): Arts and Sciences Institutional Review Board, Rutgers University, the State University of New Jersey, Liberty Plaza / Suite 3200, 335 George Street, 3rd Floor, New Brunswick, NJ 08901, Phone: [732-235-9806](tel:732-235-9806), Email: humansubjects@orsp.rutgers.edu

Please retain a copy of this form for your records. By participating in the above stated procedures, then you agree to participation in this study.

If you are 18 years of age or older, understand the statements above, and will consent to participate in the study, select the "I Agree" choice below and begin the survey. If not, please select the "I Do Not Agree" choice below which will exit you from the survey.

I Agree

I Do Not Agree

IRB Approved Survey

The Post Competition Survey

Post Competition Experience

Please bold your answers!

1. How long after the event did the first binge occur?
 - a. Backstage (Immediately after Prejudging)
 - b. Immediately after the night show
 - c. 2-5 days
 - d. 5 days+
2. How long did the first binge episode last?
 - a. 0-1 hr
 - b. 1-3 hrs
 - c. 3-8 hrs
 - d. 8+ hrs
3. How frequently did the binges occur after the event?
 - a. Everyday
 - b. Few times a week
 - c. Once a week
 - d. Less than 4x a month'
4. How long did the bingeing episodes continue for? When did you finally gain back control?
 - a. Less than a week'
 - b. 1-4 weeks
 - c. 1-3 months
 - d. 3+ months
5. Side effects caused by post-competition binge eating
 - a. Weight gain

- b. Depression
- c. Hormonal imbalance
- d. Metabolic Damage
- e. Other (elaborate below)

6. If you would like to, please share any personal experiences in detail. What has been the most difficult thing about transition from contest prep to “normal” life? Do you still struggle today?

Letters to the Editor:

This letter was sent to the editor of Oxygen Magazine on November 7, 2015.

Editor in chief of Oxygen Magazine

Dear Ms. Hart,

I am a dietetics student at Rutgers University and I have a background of competing in the bikini division for bodybuilding competitions. I have read many articles in your magazine and I see that your targeted audience is women of all ages that are into a healthy lifestyle. This is why I feel the need to write to you and shed some light on what is known as the post competition binge. There are many people, men included, that are just getting into the fitness world and are contemplating on whether or not they would like to compete in a bodybuilding competition. I have seen articles and photo shoot spreads in recent issues that have been done by competitors themselves. While competing is seen as glamorous and the new thing to do, there is a bigger issue that arises from it.

I have compiled and done thorough research on the correlation between bodybuilding competitions and eating disorders, more specifically binge eating disorders or BED. This topic is very important to me for a multitude of reasons. The number one being is that I first hand experienced the dark side of post competition and I will never be the same because of it. If I had read an article shedding light on this topic maybe I would have opted against competing. But like I said before your magazine has an article for everyone, I would like to think that the addition of my research and information would be a great addition to an issue of Oxygen Magazine.

Thank you for your time,

Allison Mandell

School of Environmental and Biological Sciences

Rutgers University

Letter was sent to the editor of Muscle & Fitness on November 15, 2015

Kelly Davidson

Dear Shawn Perine,

I'm writing to you about an issue in the fitness community which I believe is becoming increasingly problematic. Physique competitions have gained a lot of popularity over the past several years with the growth of social media. Your readership are typically those people who dedicate themselves to bettering their physiques by clocking hours in at the gym and keeping track of their diet with precision. Although social media portrays these competitions to be glamorous and fun, people neglect to talk about the dark side of competing.

The development of eating disorders as a result of competition prep is common despite the lack of media attention on the subject. By searching "post competition blues", it'll generate hundreds of blogs, forum posts, and YouTube videos discussing the ugly truth behind competing. The rapid weight gain and water retention brought on by bingeing post competition can lead to a feeling of shame. Some people may be able to recover and get back on track after that one weekend binge but for others, a vicious cycle of restriction and binge eating continues for months as the competitor struggles to find balance in their lives with no future competition in mind. There is a scientific reason why a competitor may develop a binge eating disorder post competition, and it is not just a lack of self-control.

It's important for your readers who may be considering competing to know the good and the bad sides of competing. The first step in not falling victim to the post-competition binge eating disorder is to be aware of such a possibility and take preventative measures against it. Admitting that they go through multiple binge episodes a week, while trying to upkeep an image of health and fitness can be shameful and that's why it is hard to seek help. I believe that by publicizing this issue in a highly popular magazine in the fitness industry can be helpful to the hundreds of competitors out there. These competitions are supposed to inspire those to lead a healthy lifestyle, not be a hazard to one's health.

Thank you for taking your time to read this letter. I hope this inspires your magazine to take action and provide valuable information to the growing fitness community.

Kelly Davidson
Rutgers University, Class of 2017
Nutritional Sciences: Dietetics Major