

# Swallowed By Stress: The Hidden Hunger Of Teenagers

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## ABSTRACT

This study explores how stress leads to binge eating behaviors in adolescents, a developmental stage marked by academic, social, and performance pressures. Despite evidence linking stress to disordered eating, research on how young athletes perceive this connection is limited. This qualitative study addresses this gap by centering on the lived experiences of four adolescent athletes (ages 10–19) with a history of weight-related eating challenges. Findings revealed that stress shaped eating behaviors through three primary pathways: engaging in emotional eating for short-term comfort, experiencing a guilt-eating cycle that heightens stress, and developing disrupted eating routines. Triggers included academic pressure, social comparisons, and performance demands. The link between stress and disordered eating was consistent across all participants, highlighting the cyclical nature of these behaviors. This study underscores the importance of holistic support strategies, prioritizing both mental and physical well-being, to address emotional regulation and stress management in adolescents at risk of disordered eating.

**Keywords:** Binge eating; Eating disorder; Adolescence; Adolescent athletes; Qualitative study; Stress

## INTRODUCTION

Binge eating is one of the most prevalent disordered eating behaviors among adolescents, characterized by a perceived loss of control and the consumption of large quantities of food (1). Stress serves as a primary trigger, often exacerbated by academic pressure, evolving social identities, and sports-related weight regulation (2). While existing research often focuses on the frequency of these episodes, there is a lack of qualitative data exploring the specific pathways through which stress affects these behaviors (3). The impact of stress on eating is multifaceted, often involving altered appetite, disturbed cognitive control, and increased emotional vulnerability. This research is grounded in three primary

theoretical models: Dietary Restraint Theory, which posits that restrictive food intake increases the likelihood of binge eating during stress by reducing self-regulation control (4). Escape Theory, which suggests that binge eating provides an escape from negative self-awareness and distress by narrowing focus to immediate sensory experiences (5). Lastly, Affect Regulation Model, which identifies binge eating as a coping strategy that provides a temporary reduction in negative affect, though it eventually leads to a cycle of guilt and shame (6).

Current literature further illustrates how these stressors manifest in adolescent populations. For instance, research conducted during the COVID-19 pandemic found that emotional stress was the strongest predictor of disordered eating (7). Similarly, studies of over 1,000 Turkish adolescents identified social anxiety—specifically the fear of judgment or rejection—as a significant driver for using food as a coping mechanism (8). However, the relationship between stress and eating is not always linear. When applying escape and dietary restraint theories to adolescents in England, researchers

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found that while depression was strongly associated with loss-of-control eating, general stress and anxiety actually led to greater cognitive restraint (2). Such behaviors can develop early; longitudinal data shows that 12% of children aged 10 to 14 display subclinical signs of binge eating, often tied to emotional distress and poor body image (9). Evidence also suggests that mitigating stress can directly improve outcomes.

Anxiety-focused group therapy for adolescent girls has been shown to improve both mental health and eating habits, suggesting that stress may be a causal factor rather than just a correlate (10). Furthermore, environmental interpretations, such as perceived food insecurity, can serve as a significant source of distress that triggers emotional eating (11). Overall by utilizing qualitative thematic analysis, this study addresses the gaps in existing quantitative data.

## **METHODS AND MATERIALS**

### **Study Design**

This research utilizes a qualitative framework to explore the intricate relationship between stress and binge eating in adolescents. Since binge eating behaviors are deeply influenced by personal emotions, daily routines, and social pressures, a qualitative approach is most suitable for capturing the how and why behind these patterns (12). Unlike quantitative surveys, which often limit participants to pre-determined responses, this design allows for a nuanced exploration of individual lived experiences (13).

### **Settings**

To ensure a safe and confidential environment, all sessions were conducted in a private setting (12). This environment is particularly effective for addressing sensitive topics such as disordered eating and mental health, as it creates a secure space for adolescents to share their feelings without the influence of peers or group dynamics (12).

### **Data Collection Procedures**

Data was gathered through structured, one-on-one interviews, where each participant was asked the same standardized set of questions (12). This method was selected to maintain consistency across the study while still providing participants the flexibility to describe their personal experiences in significant depth (13). By using structured interviews, the research aims to give voice to the individual, allowing them to explain the specific

triggers and circumstances surrounding their eating behaviors (13).

### **Data Analysis**

The study employed thematic analysis to transform raw interview data into coherent insights while allowing for the emergence of inductive themes. The analysis followed the foundational framework established by Braun and Clarke (14). This systematic approach ensures that findings remain grounded in the participants' voices while moving from initial coding to broader theoretical interpretation (14). The analysis progressed through the following iterative stages. First the familiarization and coding; the process began with repeated readings of the interview transcripts to immerse the researcher in the data (14). Initial codes were generated by identifying meaningful features related to the research question. Next step was the theme developing, to do this a formal codebook was compiled to ensure consistency, documenting each code's definition and associated participant quotes (14). These codes were then clustered into potential themes, which were eventually refined into broader categories. Then each emerging theme was reviewed against the entire dataset to ensure internal consistency and distinctiveness (14). Themes were clearly defined and named to ensure they concisely conveyed the core patterns found in the transcripts. Lastly the final stage involved weaving together the analytic narrative, selecting representative quotes to illustrate the themes, and linking the findings back to existing literature to ensure a credible, evidence-based account of the adolescent experience (14).

### **Participants**

The study focused on adolescents ages 10 to 19, aligning with the World Health Organization's definition of adolescence (15). This range was chosen because adolescence is a developmental stage where stress and eating patterns become strongly linked due to rapid physical, emotional, and social changes (15). A total of four participants were included. While the sample size is small, it is justified by the principle of information power, where the depth of dialogue with a specific, information-rich group provides sufficient exploratory insight for thematic analysis (16). All participants were recruited from an after-school sports program and were eligible if they had (a) competed at least once and (b) had prior experience with weight cutting. Competing was defined as participating in an official sporting event or tournament, which typically involves both physical

preparation and psychological stress (17). Weight cutting refers to the practice of deliberately reducing body weight prior to competition in order to qualify for a specific weight category (18). This often involves restricting food intake, increasing exercise, or using other methods to quickly lose weight (3). These criteria were chosen because adolescents who compete and undergo weight cutting are likely to face heightened stress from both performance demands and food-related pressures, making them especially relevant to the study's focus on stress and eating behaviors (18). Each interview lasted 30–45 minutes and covered topics such as: Daily stressors (to understand external pressures adolescents face, as prior studies have linked stress to eating behaviors (9)), Emotional responses (because emotions are a key pathway between stress and eating (2)), Eating behaviors during stress (to examine whether stress reduced, delayed, or increased eating (7)), and Coping strategies (to see if adolescents turned to food, exercise, or other methods to manage stress (8)). The interview questions were developed based on the main topics identified in the literature review, which highlighted stress, anxiety, emotional eating, coping strategies, and situational triggers as key factors linked to binge eating in adolescents (2, 7, 8, 9). Questions were designed to cover these domains so that the interviews would capture not only what behaviors occurred, but also why they occurred and how adolescents experienced them in daily life. The questions were then refined with feedback from a mentor to ensure they were worded clearly, were sensitive to the participants' age group, and avoided judgmental or leading language.

### **Procedures and Interviews**

The questionnaire was organized into sections: warm-up questions (to build rapport and ease participants into the conversation), stress-related questions (to identify daily and situational stressors), emotion and eating-related questions (to explore how stress and emotions shaped eating patterns), coping questions (to examine whether food or alternative strategies were used), and wrap-up questions (to give participants a chance to add anything not covered). Sample questions included: "What kinds of thoughts tend to come to mind when you're feeling overwhelmed?", "Can you describe a time when you felt stressed and ended up eating more than you intended?", "Are there certain times, environments, or people that make stress-eating more likely?" A full list of interview questions is included in a Supplemental Appendix at the end of this paper.

### **Ethical Approval and Consent**

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. The researcher's high school does not maintain a formal Institutional Review Board. Because this study involved minimal-risk qualitative interviews and did not include medical intervention or collection of sensitive clinical data, it was conducted under the supervision of the designated adult sponsor in accordance with school research guidelines.

All interviews were conducted via Zoom and completed by July 21, 2025. Before starting, participants and their parents/guardians provided written informed consent, and adolescents gave verbal assent for participation and recording. Each interview was audio-recorded with permission and later transcribed using Otter.ai. To protect confidentiality, all transcripts were reviewed, and identifying information was replaced with pseudonyms. Recordings and transcripts were stored securely on a password-protected laptop. Access to these files was restricted to a single authorized user.

## **RESULTS**

Analysis of the interview data revealed three predominant themes regarding the relationship between stress and binge eating: 1) Stress Triggers Emotional Eating, 2) The Guilt-Eating Cycle, and 3) Disruption of Eating Routines. A sample codebook entry is presented in Table 1 to illustrate the coding process. Table 2 presents selected codes with their corresponding themes and reasons.

### **Theme 1: Stress Triggers Emotional Eating**

Across participants, food was frequently described as an immediate source of comfort and distraction during stressful moments. For some, eating was a way to dull the intensity of negative emotions, while for others it felt like a deserved reward. For example, Claire recalled how stress after a major competition led to immediate overconsumption until she felt physically ill (12). Similarly, Emma described coming home exhausted during finals week and eating uncontrollably in the kitchen to cope with the hours of studying remaining (12). This emotional pull toward food was often rationalized as an "earned" reward for pushing through high-pressure periods, even in the absence of physical hunger. Kris noted that while specific foods like chocolate or candy provided a momentary sense of happiness, the primary function was to provide a sensory distraction from

**Table 1.** Example of an initial code, operational definition, and representative participant quotation used during thematic analysis.

Code	Definition	Example Quote
Missed meals affects eating	Skipping or eating too little increases hunger later, often leading to overeating.	“Um, well, yes, if I don’t eat that much of a big breakfast, I tend to eat more snacks. And if I don’t eat snacks, I get really hungry by lunch, and that leads me to overeating.” (Kris)
Quality of food	Stress affects the type and quality of food consumed.	“The quality of food that I eat. Like, if I’m stressed out, I’m like, whatever. It doesn’t matter anymore, and just like you know, eat whatever I want... so it could be, like, more like unhealthy food.” (Claire)
Post stressor permission to binge	A stressful event leads to overeating as a form of reward/release.	“I’ve been pushing so hard I deserve this, even if at the point I wasn’t really physically hungry.” (Emma)

**Table 2.** Summary of coded categories grouped under the three overarching themes identified through thematic analysis, with corresponding rationale explaining how each code contributes to understanding the stress–binge eating relationship.

Theme	Codes	Rationale
Stress Triggers Emotional Eating	<ul style="list-style-type: none"> <li>• Food as escape</li> <li>• Low mood triggers binge urges</li> <li>• Low mood triggers overeating</li> <li>• Eating to cope with academic stress</li> <li>• Overeating due to social pressure</li> <li>• Appearance comparison-driven eating</li> <li>• Post stressor permission to binge</li> </ul>	These codes identify the immediate catalysts for eating. Participants utilize food as a reactive tool for affect regulation, seeking sensory distraction or psychological relief from acute external pressures such as academics or social judgment.
Stress Fuels a Guilt–Eating Cycle	<ul style="list-style-type: none"> <li>• Shame cycle</li> <li>• Post eating guilt and compensation</li> <li>• Food desire tension</li> <li>• Perfect eating habit pressure</li> </ul>	This category describes the cyclical feedback loop of disordered eating. It focuses on the internal cognitive conflict where the psychological distress following a binge (shame/guilt) acts as a secondary stressor, triggering subsequent loss of control.
Stress Disrupts Eating Routines	<ul style="list-style-type: none"> <li>• Quality of food</li> <li>• Large quantity consumption</li> <li>• Schedule-driven eating</li> <li>• Missed meals affect eating</li> <li>• Weight-related pressure affects eating</li> </ul>	These codes represent the structural erosion of healthy habits. Rather than a single emotional trigger, this theme highlights how sustained stress unbalances daily schedules and dietary quality, leading to physiological vulnerability through skipped meals and irregular intake.

academic stress (13). Taken together, these results show that food was consistently used as an escape or coping mechanism when stress felt most overwhelming.

**Theme 2: Stress Fuels a Guilt–Eating Cycle**

Although eating initially provided comfort, participants consistently described how it also led to guilt, shame, and renewed stress. This created a loop where short-term relief reinforced negative emotions. Claire described an “all-or-nothing” mindset where a single perceived mistake in eating led to a total loss of

restraint for the rest of the day (12). Hellen emphasized the physical and emotional toll of this cycle, noting that the heavy feeling in her stomach was accompanied by deep disappointment over losing control (12). This inner conflict was a shared experience; Kris admitted to eating more on days when she felt she “shouldn’t,” despite knowing she would regret the choice immediately (13). Even when aware of the need to stop, Kris reported bargaining with herself—promising to “burn it off later”—to justify continued eating (13). Ultimately, all four participants demonstrated that the temporary

comfort of food quickly transitioned into shame and self-blame, trapping them in a cycle that intensified rather than reduced their overall stress.

### **Theme 3: Stress Disrupts Eating Routines**

In addition to emotional effects, stress disrupted the structure and quality of daily eating routines.

One participant, Claire, noted that under high stress, she essentially “gave up” on food quality, eating whatever was available without regard for nutrition (12). Others, such as Emma, described consuming large quantities of sweets and junk food in a single sitting as a direct response to exhaustion (13). Timing was also a critical factor; Kris explained that skipping breakfast or snacks often led to extreme hunger and subsequent overeating during later meals (12). Furthermore, Hellen reflected that the pressure to maintain a “perfect” diet or avoid weight gain was itself a primary stressor, where the constant effort to eat “right” created the very tension that triggered a breakdown in her eating routines (13).

## **DISCUSSION**

This study sets out to answer the central research question: How does stress lead to binge eating behaviors in teenagers? The findings demonstrate that stress does not lead to binge eating through a single event, but rather through three distinct, overlapping pathways: emotional triggers, a reinforcing cycle of guilt, and the disruption of physical eating routines.

The first pathway: stress triggers emotional eating, is consistent with earlier studies showing that adolescents often use food as a coping mechanism when faced with negative emotions (7). Prior research emphasized that emotional eating provides short-term comfort and distraction, but ultimately increases vulnerability to disordered eating patterns (10). The findings of this research extend this by showing how adolescents themselves described food not only as comfort, but also as a self-justified reward following stressful events. Thus, this emphasis on food as both distraction and self-permission adds nuance to existing literature.

The second pathway, stress fuels a guilt–eating cycle, explains how stress not only initiates unhealthy eating episodes but also continues them. While food initially offered comfort, it was often followed by guilt or shame, which heightened stress and set the stage for further eating. Participants described this cycle as difficult to escape, reflecting an ongoing tug-of-war between momentary relief and longer-term regret. These

collected perspectives demonstrate how the cycle is experienced in daily life rather than only observed in clinical populations. Additionally, this cycle resonates with Escape Theory (5), where eating temporarily diverts attention from distress but ultimately deepens negative self-awareness, locking individuals into patterns of repeated overeating.

The third pathway, stress disrupts eating routines, complements prior findings that stress is linked to irregular mealtimes, lower diet quality, and disrupted portion control (19). Previous research has mainly focused on correlations between stress and unhealthy eating behaviors, however this study adds detail by highlighting how daily structures—like school schedules, sports practices, or social pressures—led participants to skip meals, delay eating, or consume large amounts of less nutritious foods. This finding emphasizes the indirect role of stress, showing that disruption to routine itself can precipitate binge episodes. The pattern from this theme is consistent with Dietary Restraint Theory (4), which emphasizes that rigid or disrupted control overeating often backfires under stress, leading to loss of control or overconsumption. Taken together, these three pathways demonstrate that stress leads to binge eating in adolescents through intertwined emotional, cognitive, and behavioral routes. Theoretically, these findings reinforce established models of stress-related eating while extending them by showing how adolescents themselves describe these processes in their everyday lives.

### **Implications**

Practically, the results underscore the need for interventions that move beyond nutritional advice alone. Effective approaches must address the emotional drivers of eating, interrupt cognitive cycles of guilt, and stabilize behavioral routines disrupted by daily pressures. For athletes, whose training schedules and performance demands often heighten these challenges, support systems should prioritize several key areas. First, developing emotional regulation skills allows teenagers to identify specific “stress-eating triggers” before they escalate into a binge episode. Second, routine maintenance is essential; guiding students to maintain consistent meal patterns during high-stress periods can prevent hunger-driven overconsumption. Finally, a shift toward holistic wellness is necessary to move the focus away from weight-cutting or “perfect eating” and toward mental well-being, effectively reducing the shame often associated with food. By integrating nutritional guidance with stress-management techniques and emotional

support, programs can offer a more comprehensive way to help adolescents build healthier, more resilient relationships with food.

### Limitations

While this study provides deep qualitative insight, it has several limitations. The small sample size (n=4) and focus on a specific fitness program limit the generalizability of the results to the broader adolescent population. The data relies on self-reported experiences, which are subject to recall bias.

Additionally, this study lacks methodological triangulation, such as food diaries or parent interviews, which could provide a more comprehensive view of the participants' daily habits. Future research should include a more diverse demographic to explore how these themes vary across different social and athletic environments.

### CONCLUSION

This study demonstrates that stress contributes to binge eating in adolescents through three interconnected pathways: emotional eating as an immediate coping response, a self-reinforcing cycle of guilt and renewed stress, and the gradual disruption of daily eating routines. Rather than functioning as a single trigger, stress operates across emotional, cognitive, and behavioral domains, creating patterns that are difficult to break. By centering adolescents' lived experiences, this research extends existing theoretical models and highlights how stress-related eating unfolds in everyday contexts, particularly among young athletes facing performance and weight-related pressures.

These findings underscore the importance of holistic interventions that address emotional regulation, cognitive patterns of self-blame, and consistent meal structure. Supporting adolescents in developing healthier coping strategies may help interrupt the stress–binge eating cycle and promote more sustainable relationships with food.

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### CONFLICT OF INTEREST

The author declares that there are no conflicts of interest regarding the publication of this article.

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## APPENDIX A

### Consent form used for study

Student Researcher: Emily Yum

Title Of Project: Swallowed by Stress: The Hidden Hunger of Teenagers

This project examines the impact of stress on adolescent eating behaviors through interviews with teenagers. Overall, I aim to understand their experiences, identify common patterns, and contribute to greater awareness of the emotional factors influencing eating habits.

Participants will be asked to share their experiences related to eating habits and stress. They may also be asked about their simple daily routines, emotional responses, and any challenges they've faced. Around 15~30 minutes will be required for the interview.

Some participants may find contributing to research personally meaningful, while free and confidential support is available 24/7 to all participants who may experience emotional discomfort or distress at any point during or after this study. They do not need to report any concerns to access these services.

- National Alliance on Mental Illness (NAMI) Helpline: 1-800-950-6264
- 988 Suicide and Crisis Lifeline: Dial 988
- Crisis Text Line: Text HOME to 741741

For Students:

- School Counselor or Psychologist: You can contact your school counseling office for confidential support or referrals.
- Maryland Youth Crisis Hotline: 1-800-422-0009

Lastly, confidentiality will be maintained by immediately anonymizing names during the transcript review process. If any other personal details, such as age or school, were mentioned, they will be promptly deleted and anonymized.

### If You Have Any Questions About This Study, Feel Free To Contact:

**Adult Sponsor:** Sasha Mejia

**Email:** [scmejia@umich.edu](mailto:scmejia@umich.edu)

**VOLUNTARY PARTICIPATION:** Participation in this study is completely voluntary. If you decide not to participate, there will not be any negative consequences. Please be aware that if you decide to participate, some questions may feel distressing or upsetting. If you feel uncomfortable, you can skip any question or stop at any time.

By signing this form, I am attesting that I have read and understand the information above, and I freely give my consent/assent to participate or permission for my child to participate.

#### ADULT INFORMED CONSENT AND MINOR ASSENT

**Date Reviewed & Signed:** \_\_\_\_\_

**Research Participant Permission:** \_\_\_\_\_

**Research Participant Printed Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Parental/Guardian Permission** \_\_\_\_\_

**Date Reviewed & Signed:** \_\_\_\_\_

**Parent/Guardian Printed Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

\*Please note that participants' responses are confidential, except if one shares the intent to harm themselves or others. In that case, the researcher must inform an appropriate adult or authority.\*

### **Full Interview Script:**

Intro: Hi! Thank you so much for taking the time to talk with me today. I appreciate your openness. This interview is part of a research project exploring how stress might influence eating behaviors, especially among teens. There are no right or wrong answers; I just want to understand your experiences and hear your perspective. (You can be very honest; everything we talk about will be confidential) The first two questions are just general questions about...

### **Warm-Up Questions**

1. Can you walk me through what a typical day of eating looks like for you?  
Probe: Are there certain time periods during the day when you feel hungrier than usual?
2. How would you personally define stress?  
Probe: Can you describe the last time you felt stressed?

### **Main Questions About Stress**

3. What kinds of things typically cause you stress?  
Probe: What specifically tends to stress you out?
4. How does your body usually react when you're feeling stressed?  
Probe: For example—do you experience headaches, fatigue, or a racing heart?
5. What kinds of thoughts tend to come to mind when you're feeling overwhelmed?

### **Eating Behaviors Under Stress**

6. When you're feeling stressed, do you notice any changes in your eating habits?  
Probe: For example, do you eat more, skip meals, eat quickly, or crave specific foods?
7. Can you describe a time when you felt stressed and ended up eating more than you intended?
8. In that moment, what do you think made eating feel helpful?  
Probe: Did it feel comforting, distracting, or like a reward?

### **Emotions and Cognitions Before, During, and After Episodes**

9. Right before you begin eating a large amount of food, what emotions are you typically feeling?
10. While you're eating, what thoughts are going through your mind?
11. Afterward, how do you feel—both physically and emotionally?

### **Triggers, Patterns, and Contributing Factors**

12. Are there certain times, environments, or people that make stress-eating more likely?
13. Do other influences—such as social media, sports, or family events—affect whether you engage in binge eating?
14. How do factors like sleep, academic workload, or mood (e.g., feeling down or anxious) connect to your eating behavior?

### **Coping Strategies and Alternatives**

15. What strategies have you tried—either successfully or not—to manage stress without turning to food?
16. What do you think would make it easier for you to cope with stress in healthier ways?

### **Meaning and Interpretation**

17. What do you believe your binge eating reveals about what you're experiencing?
18. If your stress were to suddenly disappear, how do you think your eating habits might change?

### **Closing Question**

19. Is there anything I haven't asked that you feel is important about the connection between stress and eating?

Ending: That's all the questions I have. Thanks again for being part of this. (add reminder stating this recording will be anonymous and their real names will not be used) (summarize why their input matters and why their input matters)

## APPENDIX B

### Sample Participant Transcript (deidentified)

Speaker 1 0:01

Okay, hi, thank you so much for taking the time to talk with me today. I really appreciate your openness. This interview is part of a research project exploring how stress might influence eating behaviors, especially among teens. There are no right or wrong answers. I just want to understand your experiences and hear your perspective. You can be completely honest, and everything we talk about here will remain confidential. To start off, I just have a couple general questions to help us ease into the interview.

Speaker 1 0:35

So can you walk me through what a typical day of eating looks like for you?

Speaker 2 0:42

So for breakfast, I usually eat really healthy like yogurt, eggs, whole grain toast, etc. And then on days I have practice at noon, I eat a little snack before, and then we get out of noon around, like two or 2:30 and I have lunch around then. And lunch is usually pretty healthy. I'll have, like, some lean protein with some whole grains. But sometimes I snack during that time, and then I don't really eat anything until after we get home from evening training, which is late, and then depending on the mood I'm in, or, like, how hard I trained, I'll either have, like, a small dinner or, like a big dinner with snacks.

Speaker 1 1:33

Got it. And during that period of day when do you, I mean, are there certain times you feel hungrier than usual?

Speaker 2 1:45

Definitely, like after a hard training session and because I don't really feel that hungry in like the morning. It's usually like dinner time.

Speaker 1 1:55

Okay got it. Moving on, how would you personally define stress?

Speaker 2 2:01

Um, stress is when something challenging is going on in your life and you have to deal with it and it's hard.

Speaker 1 2:10

Hm, can you tell me about the last time you felt stressed?

Speaker 2 2:16

Um, it was today at practice when like you feel like you're not doing as good as you could be, and it either just pushes you to, like, work harder.

Speaker 1 2:29

Mm, thanks for sharing that. Totally get what you mean, those moments can be tough. Now we're gonna talk about more about stress, and yeah. okay, so what kinds of things usually cause you stress, like, what specifically stresses you out?

Speaker 2 2:57

Arguments with family in like, family conflicts, but like nothing too major. And also like performance, about performance in sport, like Jiu Jitsu. And also sometimes like how other people perceive you, whether it be like physically or like interacting, you know.

Speaker 1 3:19

Mm got it. And in those moments, how does your body typically react?

Speaker 2 3:28

Uhm it depends, kind of like on the situation. but like, in an argument sometimes, like, I get like a stomach ache. In terms of sports, I feel like it's more emotional like, especially like at Jiu Jitsu, like, if you are stressed out because you're not, like, doing as good as you want to, like you, you feel like, more drained. You feel like, like, all your energy is gone, even when it's not.

Speaker 1 3:57

Oh yeah. I completely get what you mean. Hmm, and what kinds of thoughts tend to pop into your head when you're feeling those overwhelming emotions?

Speaker 2 4:15

Um, so, like, usually it's like feeling that you're like, not good enough or something, and sometimes like you put yourself to like blame, even when it's out of your control.

Speaker 1 4:28

Yep, mhm. Thanks for sharing. I totally feel that. I now like to ask about how stress might affect your eating habits. So first off, when you're stressed, do you notice any changes in your eating habits? Like, do you eat more, skip meals or eat faster?

Speaker 2 4:51

Um, usually it's like, the quality of food that I eat. Like, if I'm stressed out, I'm like, whatever. It doesn't matter anymore, and just like you know, eat whatever I want, because I just kind of gave up. So it could be, like, more like unhealthy food, or like, just a bunch of snacks instead of, like, actually, like one, like, actual meal.

Speaker 1 5:11

Oh yup. I totally get it. Stress can definitely throw everything off. Can you share a time when you were feeling stressed and ended up eating more than you meant to?

Speaker 2 5:33

okay, definitely, like, after losing Pans, like, I just was so drained that day. As soon as I left the bullpen, I got like, three granola bars, and like, ate them immediately. And then when we, like, went out to eat and stuff after, like, I just ate really crappy food. And like, I just ate a bunch of it until I got, like, sick, because I'm like, there's no point anymore. Like, I suck. I already lost.

There's no point in trying. You know.

Speaker 1 6:14

In those moments, what made you think eating, sorry, what do you think made eating feel helpful?

Speaker 2 6:26

Um, just like immediate pleasure, you know, like hope, like hoping to get your mind off of the loss and just on the food and, like, you know, like feeling that you, like it doesn't matter anymore because you already lost, so you don't have to stay consistent and eat well.

Speaker 1 6:45

So it was comforting in a way?

Speaker 2 6:47 Yes.

Speaker 1 6:48

Okay, thank you for being so open. And now we're gonna go into how, how those moments can affect you

emotionally and mentally. So right before you start eating a lot, What emotions do you usually feel?

Speaker 2 7:11

Um, usually, like, excited, because you know you're gonna eat a lot. Okay, um, also just like, maybe, like, guilt, but like, it's not enough to stop you from eating.

Speaker 1 7:29

Mhm, got it. And how about when you're eating? What's running through your mind?

Speaker 2 7:40

I'm like, like, you feel guilty. One problem that I have is like, if I have one bad thing, I like, I don't, like, get back on track. I'm just like, Oh, I already messed up the day eating, like, one bad thing, so I'm just gonna continue eating badly. Yeah, like, shame, I guess. But sometimes also, like, you really don't care, and you're just only thinking about, like, oh, this food's so good. Like, I don't care. It'll be better later.

Speaker 1 8:08

Thanks for being honest. I totally get you, it's easy to feel like one slip means the whole day is off track. Adding on, how about physically? How do you feel physically after eating alot.

Speaker 2 8:17

So physically, not so good. One example is after Raise and Canes, when I went with my friends after the competition. I felt so bad afterwards. And I was like, in a slump, like, the whole day, because I ate so badly that day.

Speaker 1 9:07

It's really interesting how what we eat can have such an impact, not just physically but mentally too. Sounds like that day stuck with you.

Speaker 1 8:56

Now I'm going to ask you a few questions about what might influence stress eating. So are there certain times, places or people that make stress eating more likely?

Speaker 2 9:36

Um, definitely, like, when you're at home, like, by yourself, because there's like, no people to judge you, you know, like, if it's in your house, you can reach for it anytime. It's not like, you know, like we're going out to

eat and like, it's a lot more easy to say no when you don't already have it, like you actually have to buy it, versus when it's like, in your house, and you can just take some whenever you want. So yeah, I definitely say like at your own house. Yes.

Speaker 1 10:02

And how about other things, like social media, sports? I think you mentioned that earlier. It can even be family events that affect whether you're binge eating.

Speaker 2 10:13

So first, as far as sports go, it depends on like, especially like as a competitor in a sport where you need to cut weight. Weight cutting sessions are usually a lot easier not to binge eat because there's something on the line, you're not gonna compete if you don't make weight. But also at the same time, like the day after you weigh in, you're most likely already know you're probably gonna binge eat after. Like, also just knowing there's like, a little like, limbo of knowing, like, you have to eat well, to take it seriously and be the best you can be, but at the same time, like comp, like training, like twice a day, like, helps you, like, be hungrier, so you eat more. And you're like, you can use your sport as an excuse to binge eat, you'll be like, oh, like, I'm gonna burn it all off anyway.

Speaker 1 11:04

How about sleep or homework, load or mood? Like does feeling down or anxious usually connect to your eating?

Speaker 2 11:22

Feeling down definitely does contribute to binge eating. I wouldn't say much, like sleep or homework. I think like, yeah, sleep doesn't do much. And as far as homework, I feel like me personally, I don't really care that much. So, um, yeah, it doesn't really have a big impact on what I do. Like, I'm never gonna, like, stop skip eating to do homework or be so stressed out about homework to the point where I binge eat. I'll just because for me, like, my health comes first, so I'm always going to prioritize eating, like making sure I get enough.

Speaker 1 12:06

Now we're gonna talk about how you deal with stress in general. So what have you tried to handle stress without turning to food?

Speaker 2 12:29

Definitely like spending time with friends. I actually have two guinea pigs, so spending time with them also just like trying to interest myself in something different, like doing a workout, or, like, I've been, really been trying to work out when I'm stressed. I can also always look forward to going to jiu-jitsu when I'm stressed. Yeah, also just helping to, like, be out of the kitchen, like, if you're not physically in the kitchen, I feel like it's easier to not turn right to food versus when you're right in the kitchen.

Speaker 1 13:05

And what do you think would make it easier for you to cope with stress in healthier ways?

Speaker 2 13:13

Um, maybe, like, if the things like, physically weren't available for me, because for someone with like, like me that has really bad willpower. Like, if as a family, we've, like, committed and only had good food, I'm not going to be stressed out and go into the fridge and, like, take a head of broccoli and eat it. So, um, just that would not having sweets or, like, fats in the house will just force me to do something healthier, like working out.

Speaker 1 13:44

Mm makes sense. Okay, and these final questions are about understanding what these experiences might mean to you. What do you think your binge eating says about what you're going through?

Speaker 2 14:04

Um, I think binge eating says means like, it just shows how easy we turn to immediate pleasure, and it's very hard for humans to like, really see the end goal, because in the end, we all want to be like. Most of us want to be fit and like. It's hard for people to like not mess it up, because when you're stressed out, you just want to feel better. So you're going to go to whatever is going to make you feel better the quickest, when, in reality, what's really going to make you feel better is you're like, like, like, skinny, successful, rich, like the stuff that takes work.

Speaker 1 14:50

That's an interesting perspective. It's true that people often go for quick comfort, especially under stress. How about if your stress suddenly disappeared? How do you imagine your eating might change?

Speaker 1 15:02

I think, like without stress, I'll be more focused on my end goal, like I was saying. So I think that ultimately would help me to eat better, because I know that I would always be conscious that I'm trying to be the best person I can be.

Speaker 1 15:21

And when you reflect on these patterns, what do you feel they're trying to tell you about yourself or your needs?

Speaker 2 15:34

I think it's just trying to say that you know that I need to, like, wait, I think it's just trying to say that, um, consistency is really important, and you don't need to be motivated to make the right choices. You need to have discipline. And I know for me that as a person, I'm always going to have some kind of sort of stress going on. And, like I there's no way I could and never have stress. It's just up to me now to be stronger, to make the right choices for myself that I know will benefit me in the long run.

Speaker 1 16:13

Oh, I see. Thank you for sharing that. Is there anything that I didn't ask you and you think is important about the connection between stress and eating?

Speaker 2 16:28

Yeah, I think one important thing is it is to use food, like food as a way to feel better when you're stressed. Especially when you're alone and no one's watching. Like, it's not just about being hungry. It's about wanting control or comfort when everything else feels off. And in sports like mine, where you have to make weight, it gets even more complicated. Um, yeah.

Speaker 1 16:30

Got it. I think that's such a valid point. I think that's all the questions I have. Thank you again for being a part of this, and of course, I wanted to remind you that your responses will remain completely anonymous. Your real name or age will not be used in any of the reports, and I just wanted to say thank you again for sharing your insights. And if you're ever curious about what happens with the research, or want to hear about the findings, I'd be more than happy to share.

## Swallowed By Stress Codebook & Themes

### RESEARCH QUESTION:

#### How does stress lead to binge eating in teens?

Code: Training affects eating

Definition: Intensity of training affects eating habits during the day

Participant #1 Example: "I don't really eat anything until after we get home from evening training, which is late, and then depending on the mood I'm in, or, like, how hard I trained, I'll either have, like, a small dinner or, like a big dinner with snacks." (claire)

Code: Quality of food

Definition: Stress affects the type and quality of food consumed

Participant #1 Example: "the quality of food that I eat. Like, if I'm stressed out, I'm like, whatever. It doesn't matter anymore, and just like you know, eat whatever I want, because I just kind of gave up. So it could be, like, more like unhealthy food, or like, just a bunch of snacks instead of, like, actually, like one, like, actual meal." (claire)

Participant #2 Example: "mostly I actually crave, like sweet food when I'm stressed. So, so that's a little vicious cycle going on when I'm stressed. I tend to try and look for a sweet food, and then I feel guilty after eating it, and that's still something that I need to work on." (hellen)

Participant #3 Example: Well, when I stress, I tend to crave sweet stuff like chocolate and candy and yeah." (kris)

Participant #4 Example: "when I'm stressed, I definitely eat without thinking. Just I think I eat, I binge on, like sweet things, like ice cream, candy, any junk food that I see in the kitchen." (emma)

Code: Food as escape

Definition: Under stress, the use of food for immediate emotional relief or distraction Participant #1 Example: "Just like immediate pleasure, you know, like hope, like hoping to get your mind off of the loss and just on the food and, like, you know, like feeling that you, like it doesn't matter anymore because you already lost, so you don't have to stay consistent and eat well." (claire)

Participant #3 Example: "But in this case, I think it was just like distracting me from the stress from my studies, and I just needed to get away from studying." (kris)

Participant #4 Example: "I think eating during that

moment kind of distracted me, even for a little bit of time, like it gave me a pause from everything going on.” (emma)

Code: Shame Cycle

Definition: Stress leads to rigid thinking patterns, causing easier loss of control in eating (basically like a domino effect, one trip, everything is ruined)

Participant #1 Example: “One problem that I have is like, if I have one bad thing, I like, I don’t, like, get back on track. I’m just like, Oh, I already messed up the day eating, like, one bad thing, so I’m just gonna continue eating badly.” (claire)

Participant #3 Example: “Maybe just that I think stress and eating are like a cycle. The more I stress, the more I eat, and the more I eat, the more bad, like worse I feel.” (kris)

Code: Post-stressor permission to eat

Definition: A stressful event leads to overeating as a form of reward/release

Participant #4 Example: “I’ve been pushing so hard I deserve this, even if at the point I wasn’t really physically hungry.” (emma)

Post-Eating Guilt and Compensation

Definition: Feeling guilt after eating, followed by attempts to offset it through actions like exercise or restriction

Participant #1 Example: “And you’re like, you can use your sport as an excuse to binge eat, you’ll be like, oh, like, I’m gonna burn it all off anyway.” (claire)

Participant #2 Example: “I actually feel very bad. I’m like mad at myself that I couldn’t resist this food. And then I start thinking, Okay, how do I compensate this, like, offset this food? So I immediately think about going to try to exercise, yeah, but move around to just burn it off.” (hellen)

Participant #3 Example: “Um, well, I know I should stop, but I tell myself. Uhm oh I’ll burn this off later and just keep eating even if there is this tiny guilty feeling in me.” (kris)

Participant #4 Example: “Emotionally, I feel very guilty and disappointed knowing that I lost control again. A few hours later, I always say I won’t do it again, but then it’s kind of like a cycle.” (emma)

Code: Low mood triggers binge urges

Definition: Negative emotions caused by stress contribute to the desire to binge Participant #1 Example:

“Feeling down definitely does contribute to binge eating.” (claire)

Code: Low mood triggers overeating

Participant #2 Example: “I’m feeling sad or down, the problem always is that I tend to crave sweet food.” (hellen)

Participant #4 Example: “Yeah, like I said, when I’m like, those homework piles up or like because of school and I’m feeling anxious or down, I’ll probably eat even when I’m not hungry, so like a distraction.” (emma)

Code: Perfect eating habit pressure

Definition: Stress of trying to eat perfectly creates more stress that backfires

Participant #2 Example: “I know in my mind that I shouldn’t eat this ice cream, because I know it’s not good for me, and it’ll make me gain weight, but I still want it, but I can’t eat it. So that even, like that kind of situation, stresses me out.” (hellen)

Code: Overeating due to social pressure

Definition: Stress from trying to follow cultural or social expectations cause intentional overeating.

Participant #2 Example: “Yes, especially when there’s a lot of family members relatives, either they come to our house or I visit their house, I know, I know the adults have prepared the food with care, and I feel like I have to live up to their expectation and eat a lot to show respect to them. So even though I don’t feel that hungry, I actually deliberately eat more overeat by trying to show my respect for them preparing food for us. That’s actually a lot of stress too, because I intentionally overeat.” (hellen)

Participant #4 Example: “family events, I feel like I start eating a lot without control, especially when there’s food in an open, free space with a lot of people.” (emma)

Code: School dismissal affects eating

Definition: Level of hunger increases after school

Participant #2 Example: “I’m mostly hungry when I come back home from school between right like around, like, four o’clock right before dinner time. So it’s very hard to like not eat a lot before dinner because I feel really hungry at that time.” (hellen)

Participant #4 Example: “I feel very hungry right after school, so that’s around 4 to 5pm and during those times, I tend to snack a lot like fruits, crackers, and sweets.” (emma)

Code: Appearance comparison-driven eating

Definition: Stress from seeing idealized body images on social media triggers eating urges Participant #4 Example: “I think actually, social media can be triggering. Like comparing myself to others make me feel bad, which sometimes leads me to binge eating, because seeing those people on social media kind of makes me think, what’s the point, I’ll never look like that anyway, and then I just start eating. So, I just start eating” (emma)

Code: Food Desire Tension

Definition: Push and pull between food enjoyment and self-restraint builds into stress, leading to more binge episodes

Participant #2 Example: “I think generally, I just, I just love food. I like the taste of it, either being like healthy, like fruit or veggies. I even love veggies. So for me, even without stress, I would always would love to eat food. And I don’t know if that would cause a problem, but yeah, because of that kind of nature, I think I would always have this stress with eating, anything that’s related to eating.” (hellen)

Participant #4 Example: “I usually my mind tends to go back and forth, debating whether I should really eat the stress out or not, but usually I would end up eating.” (emma)

Code: Weight related pressure affects eating

Definition: Stress related to losing, maintaining, or managing body weight that affects eating behavior

Participant #3 Example: “And after breakfast, I try not to eat so many snacks, because I’m actually trying to lose weight right now. And um, I try not eating snacks until lunch.” (kris) Participant #4 Example: “Then for dinner. I usually skip my dinners to try to maintain my weight.” (emma)

Code: Missed meals affects eating

Definition: Skipping or eating too little increases hunger later, often leading to overeating

Participant #3 Example: “Um, well, yes, if I don’t eat that much of a big breakfast, I tend to eat more snacks. And if I don’t eat snacks, I get really hungry by lunch, and that leads me to overeating.” (kris)

Code: Eating to cope with academic stress

Definition: High academic demands creates emotional stress that leads to changes in eating behavior

Participant #3 Example: “mostly whenever I have a lot of homework and um, and I also I feel down at

the moment, then I’ll definitely try eating more of my comfort foods to make distract myself from those things” (kris)

Participant #4 Example: “there was, this was when I came right after school, came home from school, and it was during finals week, and I was very exhausted already from school, and I knew I still had hours of studying left, so I sat myself down in the kitchen and started eating uncontrollably.” (emma)

Code: Large Quantity Consumption

Definition: Eating unusually large amounts of food until physical discomfort, often triggered by stress

Participant #2 Example: “And I feel like it’s not comfortable in my stomach. Because I’m really now full. So, so, sometimes to the point where I eat until I get an upset stomach.” (hellen)

Participant #3 Example: “Well, physically, I feel really bloated. And emotionally, I feel kind of guilty for overeating” (kris)

Participant #4 Example: “Physically, my stomach feels very heavy, and I feel very bloated, and sometimes, if I do eat a lot, I feel kind of sick.” (emma)

### Theme #1

Stress triggers emotional eating -> focuses on why stress makes teens turn to food in the moment (emotional relief through eating).

Codes include:

- Food as escape
- Low mood triggers binge urges
- Low mood triggers overeating
- Eating to cope with academic stress
- Overeating due to social pressure
- Appearance comparison-driven eating
- Post-stressor permission to binge

### Theme #2

Stress fuels a guilt eating cycle (Theme 2) -> focuses on the self-reinforcing cycle stress creates over time (stress -> possible episode of binge -> guilt -> more stress)

Codes include:

- Shame cycle
- Post-eating guilt and compensation
- Food desire tension
- Perfect eating habit pressure

**Theme #3**

Stress disrupts eating routines -> physical overconsumption -> focuses on how stress changes eating patterns physically and situationally

Codes include:

- Quality of food
- Large quantity consumption
- Schedule-driven eating
- Missed meals affect eating
- Weight-related pressure affects eating