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Changes in Body Image, Eating Behaviors, and Exercise During the COVID-19 Pandemic

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Abstract

The Covid-19 pandemic transformed many different aspects of life as many individuals were sent home from school or work and were confined within their homes. Within restricted life, individuals experienced changes in their social lives, eating habits, and day-to-day routine. Within this research study I chose to examine how individuals' lives changed directly from the year before the Covid-19 pandemic to the first year of domestic shutdown. A sample of BGSU undergraduate students responded to a survey questioning them on their behaviors, feelings, and attitudes among these time periods. Results showed that individuals experienced significantly more disordered eating within the first year of the pandemic including significantly more fasting behaviors and significantly fewer hours spent exercising. Participants also reported significantly greater feelings of isolation and loneliness with significantly less social communication in the wake of the pandemic. Qualitative items asking how their lives were shaped and why these changes occurred also provided deeper insight.

Changes in Body Image, Eating Behaviors, and Exercise During the COVID-19 Pandemic

This project examined changes in body image, disordered eating, and exercise behavior under the unique circumstances of the COVID-19 pandemic. There is a large body of research that explores correlates of body image, disordered eating, and exercise behaviors, but not in relation to this particular time period. The COVID-19 pandemic has been an unprecedented situation in which many have been socially isolated. This presents a unique opportunity to examine how social isolation along with individual mechanisms for coping with it, might impact body image, disordered eating, and exercise behaviors. This is an important area to study and understand because the scope of behaviors that may have changed may entirely transform an individual's day-to-day functioning, identity, and self-worth. Disordered eating can impact not only a person's physical health but also aspects of their psychosocial well-being. For example, within group belonging and social sensitivity, an individual's number of social bonds paired with self-monitoring behaviors can change when an individual engages disordered eating (Patel et al., 2016). Due to the pandemic's direct effect of restricting everyone to their homes, the nature of social interaction was transformed entirely as well as the scope of health behaviors were completely altered within many individuals. Due to the drastic changes in day-to-day living, this study seeks to explore whether body image, disordered eating, and exercise behaviors are among the areas of our lives that have been impacted by the COVID-19 pandemic and provide more information for discovering the long-term impacts of not only the virus, but also its impact on our society and individual identity.

Literature Review: The predictors, effects, and implications of disordered eating

Overall Classification of Predictors

Previous research has covered many different sectors of eating disorders including why they develop, what factors put an individual at risk, and how they transform the lives of those who have them. Overall, many research articles mention a collection of similar characteristics and occurrences that predict eating disorders across the board including problems in relationships, body image concerns, trauma-inducing occurrences such as childhood abuse or significant life events, and social or societal expectations (Salafia et al., 2015). However, researchers note that placing all causal factors under one psychological predictor model is a difficult task because of the need to encapsulate all of the various avenues that contribute to eating disorders. As a result, some claim the biopsychosocial approach represents the best fit because it encapsulates social, psychological, and biological factors (Polivy & Herman, 2002). Such predictors may manifest within an individual or reflect the interaction of an individual and their surrounding environmental influences. Furthermore, they found significance of eating disorders within individuals who, whether due to psychological or biological causes, experienced problems with obsessive thoughts, perfectionism, dissociation, and cognitive style. Specifically, sociocultural factors may involve cultural expectations that promote thinness or eating a significant amount of food which may be associated with greater development of eating disorders. Those with families who praise thinness and have troubled relationships show a higher predisposition to the development of eating disorders. Within such societies, body image and the ideal “look” is typically a reflection of the unattainable or elite status for individuals. In most areas this reflects an ideal of extreme thinness, but in locations with food scarcity, body ideals may reflect the opposite, as it is the highest-class individuals who have access to the most abundant resources. One longitudinal study aimed to discover what characteristics may be predictors for eventual development of an eating disorder by conducting a three-year examination among girls in 6th to 9th grade from California and Arizona. At the end of the study, they found that almost three percent of participants had developed eating

disorders. At the Arizona site, there was a strong relationship between eating disorders and focus on achieving the thin ideal, social pressures, incidence of negative life events, and psychological problems. Within the California site, they found that among the significant risk factors found in the Arizona site, only social pressures and preoccupation with becoming thin were significant among these participants. These findings represent that risk factors for the onset of eating disorders may be different among different geographic locations, but that both the desire to become thin, and the perception of social pressures were important predictors (McKnight Investigators, 2003). Not only culture, but also environmental factors can predispose individuals to experience an unhealthy relationship with food, or develop an eating disorder. Specifically, instances of victimization can provoke disordered eating including behaviors such as teasing and more serious infractions including abuse and trauma. As a result, individuals with an ED may struggle with lowered self-esteem paired with symptoms of depression, anxiety, and significant life stressors. Salafia et al. (2015) sought to identify the main predictors by analyzing group differences between individuals with a diverse set of eating disorders and another group with no history of disordered eating. They used criteria from a meta-analysis including the most salient causal elements related to eating disorders in their research model. The researchers then questioned the participants about what they perceived the causes of their eating disorder to be. Findings demonstrated that there were eight main categories that encapsulated all of the respondents' answers. These themes included: body image, eating struggles, problems with their family, genetic factors, sports and health concerns, emotional and psychological problems, media expectations, and traumatic events. Among these eight main themes, the most prominent were social, psychological, and emotional concerns, with biological influences being mentioned the fewest amount of times. Across different disorders, anorexia was mainly associated with psychological issues and body image concerns while bulimia was mainly paired with psychological issues and social concerns. All other disorders

were linked to traumatic life events and psychological problems. The inclusion of prominent social and emotional issues within the respondents' characterizations of their eating disorders reflected specific cognitive struggles and relational issues that may complicate eating behavior and self-image. Due to the common predictors associated with the development of an eating disorder and the grand changes that occurred during the time of the Covid-19 pandemic, I hypothesized that there would be greater developments of disordered eating during this time.

Hypothesis 1: There will be significantly more reported disordered eating behaviors during the pandemic as opposed to the year prior.

Emotional and Social Issues

Social norms and societal standards have influenced a wide range of beliefs and behaviors, including eating disorders. Past research on eating behaviors and social interactions demonstrates that social desirability contributed to the development of disordered eating as individuals aspired to have the "ideal body type" as denoted by societal norms (Fitzsimmons-Craft, 2011), and found themselves conducting self-comparisons to their peers, especially on the perfection-seeking platforms of social media (Holland & Tiggemann, 2016). Another factor of interest is social experiences during childhood. When looking at early predictors of disordered eating, Troop and Bifulco (2002) examined causal factors from social experiences during childhood that may predict women's development of eating disorders in adulthood. Specifically, they measured feelings of shyness, inferiority, and loneliness during childhood (under the age of ten) and adolescence (age eleven and older) as a result of interactions with their peers. They found that women with anorexia nervosa binge/purge subtype were more likely to report significant feelings of inferiority, shyness, and loneliness than women with no disorder diagnosis. On the other hand, individuals with bulimia showed only higher levels of shyness when compared to the no diagnosis group. They also found

that there was not a significant presence of these three elements throughout childhood up till age 10, as many of these symptoms began to appear significantly at age 11 or as an individual grows into adolescence (Troop & Bifulco, 2002).

Attachment styles and the nature of social relationships have also been found to be related to disordered eating. Caglar-Nazali et al. (2014) analyzed 154 previous works referencing the ties between both emotional and social issues that led to disordered eating patterns. In their review they found that individuals with eating disorders were more likely to have negative attachment styles and dysfunctional attachment rather than positive attachment styles and also were less likely to mention social relationships throughout their interviews with researchers. Furthermore, social anhedonia, a sort of disinterest in forming and maintaining close social bonds and tendency to withdraw socially, was present more frequently in those who had an eating disorder. Studies of social dominance showed that those with an eating disorder more frequently reported feeling socially inferior in comparison to their peers. Among each of the different findings, the researchers concluded that there were higher levels of multiple different aspects of psychopathology and deterioration of social status within individuals who had an eating disorder. Research by Tchanturia et al. (2012), centralized on the connection between disordered eating and social anhedonia by studying four separate groups: individuals with a DSM diagnosis of anorexia, individuals with a recent DSM diagnosis of bulimia, individuals who recovered from anorexia, and individuals with no family history of an eating disorder. Results showed that both the currently diagnosed anorexia and bulimia group showed a significant number of struggles with anxiety along with multiple individuals with comorbidities of a panic disorder, agoraphobia, obsessive compulsive disorder, and exactly half of the group had diagnosis of generalized anxiety disorder. Results showed that the recovered participants had much lower levels of social anhedonia than those currently struggling with anorexia, with no significant difference among the anorexia and

bulimia groups. They also discovered that rates of social anhedonia were often paired with feelings of depression in both groups of participants with an eating disorder. This data is extremely telling in the area of common struggles that are direct reflections of the disorder rather than the individual, as many recovered individuals no longer experienced social anhedonia and related challenges (Tchanturia, 2012).

One research paper specifically developed a model for the common development of social and emotional issues. After examining the past literature on social and emotional components of eating disorders, Treasure et al. (2012) developed a multistage model that represents the onset and pathway by which the disorder progresses. The first step centers around the factors that may predispose an individual to develop an eating disorder over their life course and the social emotional characteristics or experiences that may go along with the progression of the disorder. The specific predictors include complications at birth, abnormal attachment styles, and temperament. Next, the second step specifies how one's social arena is impacted once they develop anorexia nervosa, noting that often emotional recognition is impaired, and individuals often experience emotional dysregulation. Furthermore, their proposed third step focuses on the emotional cycle that ensues as the disorder develops and beyond, mentioning the interactions between close others following the diagnosis. They found that commonly experienced negative reactions or misconceptions can provide strain to the struggling individual. All in all, there are a range of social and emotional changes that either precede or follow the development of an eating disorder. Recognition of these characteristics may assist in identifying propensity to develop an ED as well as recognizing common outcomes may contribute to better understanding and assistance with common outcomes. In reference to the pandemic, I hypothesized that individuals would experience fewer instances of social interaction due to both their circumstances and perhaps any of the pathways explained above.

Hypothesis 2: There will be significantly less frequent social interactions within the first year of the Covid-19 pandemic as compared to the year prior.

Hypothesis 3: Individuals will report significantly lower feelings of companionship within social relationships during the first year of the Covid-19 pandemic as opposed to the year prior.

Social Institutions/Organizations

There are multiple social institutions and organizations that benefit from the standards that they perpetuate either directly or indirectly. This ranges from social platforms that promote sharing your best self to companies tailoring their products to human insecurity or weight change. One of the main avenues where this phenomena is observed is within online communication and media sourcing. Under the assumption that the media directly affects perception of one's body, Holland & Tiggemann (2016) investigated newer forms of media that were gaining popularity at the time, including Social Networking Sites. They outlined a pathway connecting disordered eating to societal expectations that are maintained online. This systematic review elaborated on the sources that across the board were associated with dieting and eating disorders. One finding was that the more Facebook friends one had as well as the more time an individual spent browsing social media, the more likely they were to compare their own appearance to others online and face harsher and more frequent self-scrutiny. The researchers explained that among the relationship between online behaviors and disordered eating, the ties that bind these two together lie in objectification of the self, comparisons, body surveillance, and internalization of their feelings. They concluded that the relation between social media use and dissatisfaction with the self that led to unhealthy behaviors was significant in both men and women and provides a pathway for better understanding and future inhibition in the development of unhealthy eating practices. Not only is this observed within online

sources, but also within large scale advertising and product development. In fact, one article takes a new stance in their notion that while most perceive eating disorders as “psychiatric”, they believe the development of these disorders lies in the social inner workings of our society. Hesse-Biber et al. (2006) explained there are many institutions that profit off of people’s insecurities. They focused on the particular avenues that lead only some men and women to be impacted by the messages of mass media. Findings showed that the food, diet, weight loss, cosmetic surgery and the fitness industry all reap profits based on people’s insecurities. By encouraging individuals to continually snack, start a new diet trend or take diet pills, purchase weight loss programs, fix their insecurities surgically, or begin a gym membership, they appear to have the right intentions. However, often at the penalty of the consumer, these social institutions thrive off of people never recovering from their problems or accepting themselves. Furthermore, if individuals were to overcome their insecurities and need to seek outside services or products, that is when their investment in these industries would ultimately decline or cease altogether. So, in a sense, organizations are run based on the assumption that individuals never overcome their insecurities, and continually feel the need to change their appearance to “fit in”. As a result of potential more frequent social media use during the time of the pandemic and an increased period of social comparison, I hypothesized that body image satisfaction would decline with the introduction of the pandemic.

Hypothesis 4: Individuals will report lower body image satisfaction during the pandemic as opposed to before the pandemic.

Exercise Habits

Research shows that exercise may be considered as both a health behavior and a coping mechanism. Thome & Espelage (2004) found that for females with an eating disorder, exercise

behaviors were linked with negative affect meaning that increased exercise was tied to higher levels of depression and anxiety. Conversely, non-eating disordered females' relationship with exercise reflected positive affect and exercise-oriented coping. This means that programs that assist individuals in recovering from eating disorders must consider that there are multiple cognitive and behavioral reasons that individuals choose to over exercise, and there should be different pathways to address those behaviors as a result (Holland et al., 2014). Holland & Tiggemann (2017) observed the relationship between exercise, disordered eating and social media posting, specifically promoting posts of “fitspiration” which are images or text that promote healthy eating and frequent exercise to meet fitness and image goals. They found that women who posted more fitspiration showed higher rates of bulimia, desire for thinness, and compulsive exercise behavior. Within the scope of disordered eating, not only can extreme exercise emerge from a compulsory need-an undeniable urge or a compensatory need- needing to reduce the effects of eating through heavy exercise, but also social media posting may reinforce the desire to engage in excessive exercise. More research on how the pandemic may have influenced individuals desire to begin exercising, or limited their access to gyms and resources that facilitated exercise, warranted my study of exercise behavior within this study, both from a clinical wellness and health perspective.

Research Question 1: Have there been any changes in exercise behavior from prior the pandemic to during the pandemic?

Families and Environment

Not only do eating behaviors have ties to institutions and social media, but they also connect to tight social bonds, including relationships with both friends and family. In terms of how families may predispose individuals to develop eating disorders, one study considered the causes

of eating disorders, specifically in relation to childhood experiences and family challenges. They compared a group of women with eating disorders to a group with no sign of eating disorders and analyzed the respective differences between them. Findings showed that those with an eating disorder were more likely to have depressive symptoms, relationship problems, lower degrees of education, and less siblings by comparison. In terms of childhood factors, women with eating disorders were twice as likely to report experiencing sexual abuse or physical abuse during their childhood. Childhood violence victimization proved a high causal factor, even in the absence of childhood sexual abuse, as those who experienced physical abuse were over twice as predisposed to develop an eating disorder. Not only did direct negligence and abuse from family members impact eating disorder tendency, but additionally environmental factors determined by family status, SES, and victimization from close-by people can put individuals at risk (Rayworth et al., 2004). Due to college students living on campus being sent home in the wake of the pandemic, it is important to consider how family factors may have influenced individual well-being and changes in behavior alike.

Outcomes

Not only is it relevant to consider the predictors and correlates that share a relationship with eating disorders, but it is also important to study the changes in individual life experience and how the trajectory of one's life can be changed. Among the many challenges that come with having an eating disorder, individuals may be faced with a range of social and emotional issues tied to self-esteem and reaching out to others while dealing with inner struggle. Specifically, researchers have found that individuals with an eating disorder showed a propensity towards a negative attachment style and possessed fewer close relationships (Caglar-Nazali et al., 2014). This often occurs either because they had a lower desire to have these tight bonds, as a result of isolating from

others, due to negative reactions from outsiders, or because of the nature of the eating disorder they have (Patel et al., 2016).

In terms of group identity and social connectedness, individuals showed fewer social bonds, either having less friends to begin with or losing friends over time as their eating disorder progressed as well as facing more adversity from outsiders. Self-monitoring also played an important role as individuals were often afraid of rejection and negative evaluations from others, which developed into unhealthy monitoring behaviors. Following was the absence of viable coping strategies which led to using drastic measures to decrease concerns and achieve one's goals. Patients also mentioned the positive and negative sanctions of being hospitalized and how they could better be served by these institutions (Patel et al., 2016). They found that while some individuals felt rewarded by their perception of control and higher satisfaction with their body image, they often struggled with health issues and psychological challenges. The degree to which different rewards and costs are perceived by different individuals modified their level of desire to change and recover, as viewing the eating disorder as a mental health problem helped many individuals cope with their experience. Additionally, individuals worried about the perception of outsiders who they believed may not understand the nature of such disorders as well as the presence of disorders in the media, which they believed were held secretive or even glorified at times (Ison & Kent, 2010).

In terms of recovery, as individuals balanced the rewarding feelings of control and declining health and psychological condition, readiness to change one's behavior emerged as a strong predictor for improvement (Ison & Kent, 2010). Additionally, because eating disorders often begin in early adolescence, adolescents are still living with their parents and interactions are characterized by frequent issues of tension and strain when parents approach their child with an eating disorder. Overall, the detrimental nature of disordered eating and the struggles that come

along with it led individuals to face a range of challenges and obstacles that impact their life wholeheartedly (Humphrey (1989)).

Not only is it relevant to consider the predictors and correlates that share a relationship with eating disorders, but it is also important to study the changes in individual life experience and how the trajectory of one's life can be changed. As a result, it is especially pertinent to study how the novel circumstances of the Covid-19 pandemic impact the development of eating disorders and the outcomes for these individuals as well. During shutdown, many individuals used their time at home to start a new workout regimen or diet plan and others struggled with constant access to snacks at home, so it is important to look into the nature of any new habits that emerged during this time. If more is known about the challenges of disordered eating and body image issues that may have emerged within the time of shutdown, it will assist in rectifying the destruction that occurred during this time, and provide us with more thorough information on how college students were affected by the many changes that occurred during the shutdown of the nation.

Research Question 2: If there have been changes in body image, eating behaviors, and exercises behaviors from prior to the pandemic to during the pandemic, what factors have influenced these changes?

The Current Study

In this study, I examined changes in body image, disordered eating, and exercise behavior under the unique circumstances of the Covid-19 pandemic. During the pandemic, there was a microcosm of social media posting and everyone showing off their new body, new hobby, or personal achievements because that was one of the only ways to connect with others. Restricted to their homes, some may have felt pressure to use their time wisely while others may have disregarded their goals because nobody would be seeing them anyways, so a large weight loss did

not seem like an urgent concern. With some of the predictors on the rise and lowered social contact with others who may detect or deter unhealthy behaviors, it is of interest to see how body perceptions, exercise, and relationship with food changed.

Method

I used a survey with both quantitative and qualitative items that addressed each of my research questions and associated hypotheses. Many of the questions were presented to the respondent in reference to their attitudes/behaviors/data before and after the events beginning March of 2020 in order to analyze how each behavior or perception has changed over time, perhaps directly due to the pandemic. Exempt IRB approval was received to carry out this project. The population of this study is college students, specifically students from Bowling Green State University ranging from Freshman to Senior status and between 18 to 25 years of age. Participants for this study were recruited in two ways. First, numerous professors provided the link for the survey to their students and encouraged participation. Additionally, I published an advertisement to take the survey on the Bowling Green State University Campus Update, providing all students the opportunity to take part in the study and further diversifying the array of responses. A total of 122 surveys were submitted. After eliminating incomplete surveys, the final sample consisted of 62 individuals.

Quantitative Measures

Quantitative variables measuring body image, disordered eating, and exercise behaviors were measured for two time periods. Respondents were asked these items in reference the year prior to the COVID-19 shutdown (March 2019 to March 2020) and the first year of the COVID-19 pandemic (March 2020 to March 2021).

Body Image. To measure changes in body satisfaction, respondents were asked, “How satisfied did you feel with your weight and how your body looked?” for the two time periods (variables *Body Dissatisfaction 2019* and *Body Dissatisfaction 2020*). Values were reverse coded and ranged from [0 = completely satisfied] to [5 = completely dissatisfied]. I also used a composite item of body image satisfaction for each time period that asked to what degree the respondent a) felt fat, b) had a definite fear that they might gain weight or become fat, and c) their weight/shape influenced how they thought about themselves as a person. Values ranged from [1 = not at all] to [4 = extremely], with higher values reflecting greater dissatisfaction. For each of the time periods, values of the three variables were summed to create composite variables (variables *Weight Dissatisfaction 2019* and *Weight Dissatisfaction 2020*).

Disordered Eating. Disordered eating was measured in several different ways. I first used items from the Disordered Eating Attitude Scale (DEAS), which contains twenty-five items addressing individual’s attitudes and concerns towards food as well as measuring their restricting and dieting behavior. It contains items such as “I feel guilty when I ate something that I thought I should not have eaten” and “I worry about how much a certain kind of food or meal will make me gain weight” with which participants rated their alignment with the statement by selecting from the following options: always, usually, often, sometimes, or rarely/never. Next, I used items from the Eating Disorder Diagnostic Scale (EDDS), which measures criteria for various eating disorders qualified in the DSM IV. Items used from this scale measured how many times per week on average the respondent a) used laxatives/diuretics and vomiting (variables *Purge 2019* and *Purge 2020*) and b) fasted in order to prevent weight gain or counteract the effects of eating (variables *Fast 2019* and *Fast 2020*). Respondents were asked these items in reference the year prior to the COVID-19 shutdown (March 2019 to March 2020) and the first year of the COVID-19 pandemic (March 2020 to March 2021). Items were summed, with higher values corresponding to greater

levels of disordered eating. These variables are referred to as *Disordered Eating 2019* and *Disordered Eating 2020* below.

Exercise Behaviors. In terms of exercise behaviors, I used two measures. First, I measured the number of reported hours of exercise per week during both time periods (*Hours Exercise 2019* and *Hours Exercise 2020*). Second, I used an item from the EDDS that asked the amount of times per week individuals reported exercising specifically to reverse the effects of eating (*Excessive Exercise 2019* and *Excessive Exercise 2020*).

Pandemic-Related Variables. To capture changes in social involvement and feelings about the COVID-19 pandemic, I designed new items to measure constructs that have not previously been addressed in such scales of body image, disordered eating, and exercise behaviors.

A variable was coded for loneliness and the absence of companionship during the two time periods that asked the respondent, in general, how often they felt they a) lacked companionship, b) felt left out, and c) felt isolated from others. Values for each item ranged from [1= not at all] to [4 = extremely]. The three items were summed to create a companionship and loneliness scale, with higher values indicating lower levels of companionship and higher levels of isolation (variables *Isolation 2019* and *Isolation 2020*).

For a variable of personal interaction, I summed responses from items asking participants the number of friends they had, the number of friends they spoke to in a two week period, and the number of teachers and fellow students they spoke to in a two week period (variables *Personal Interaction 2019* and *Personal Interaction 2020*). Additionally, I coded a variable for social communication for each time period, for which I included only the measures of the number of friends they spoke to in a two week period and the number of teachers and fellow students they spoke to in a two week period (variables *Social Communication 2019* and *Social Communication 2020*).

Qualitative Measures

To better understand any changes in body image, disordered eating, and exercise behaviors, respondents were asked several questions about their perceptions of changes and possible reasons for these changes. These questions are as follows: How would you say your eating habits changed as a result of the pandemic? How would you say your exercise habits changed as a result of the pandemic? How did your level of satisfaction with your body image change as a whole as a result of the pandemic? If your eating behaviors have changed across the scope of the pandemic, why do you believe they have? How did the pandemic (in totality) change your life as it previously was?

Results

Quantitative Analyses

Results for quantitative variables were calculated using paired-samples t-tests comparing differences among the mean values of each variable across the two time points of the year before Covid-19 and the first year of the Covid-19 pandemic.

Quantitative results are summarized in Table 1 below.

Table 1. Descriptive Statistics and Bivariate Results

	n	Range	M	SD
Body Image				
Body Dissatisfaction 2019	62	0 - 11	6.48**	2.59
Body Dissatisfaction 2020	61	3 - 11	7.43	2.48
Weight Dissatisfaction 2019	62	0 - 5	3.13***	1.29
Weight Dissatisfaction 2020	61	1 - 5	3.71	1.10
Disordered Eating				
Disordered Eating 2019	62	0 - 38	15.10***	8.02

Disordered Eating 2020	60	1 - 40	18.53	8.41
Purge 2019	62	0 - 7	0.26	0.99
Purge 2020	62	0 - 7	0.39	1.46
Fast 2019	62	0 - 7	1.45***	1.89
Fast 2020	61	0 - 7	2.41	2.38
Exercise Behaviors				
Hours Exercise 2019	62	0 - 50	7.11***	8.18
Hours Exercise 2020	62	0 - 40	5.00	6.52
Excessive Exercise 2019	61	0 - 7	1.34	2.08
Excessive Exercise 2020	62	0 - 6	1.21	1.77
Pandemic-Related Variables				
Isolation 2019	62	0 - 12	4.73***	2.98
Isolation 2020	62	0 - 12	6.02	3.54
Personal Interaction 2019	62	0 - 69	15.53	13.02
Personal Interaction 2020	62	0 - 50	11.63	10.27
Social Communication 2019	62	0 - 62	11.82***	11.44
Social Communication 2020	62	0 - 45	8.08	8.64

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$ for mean difference between Time 1 and Time 2

Body Image. Results show that composite measures of body satisfaction were significantly different between the year before the Covid-19 pandemic ($M = 6.48, SD = 2.59$) and the first year of the Covid-19 pandemic ($M = 7.43, SD = 2.48$), $t(60) = -2.94, p = .005$. Additionally, the specific measure of how satisfied individuals felt with their weight and how their body looked showed significantly different results from March 2019 to March 2020 ($M = 3.13, SD = 1.29$) and March 2020 to March 2021 ($M = 3.71, SD = 1.10$), $t(60) = -3.52, p < .001$. Hypothesis 4 was supported; body image satisfaction was lower during the first year of pandemic than it was prior to the pandemic.

Disordered Eating. Results indicated a significant difference in reported disordered eating during the year before Covid-19 hit ($M = 15.10, SD = 8.02$) and the first year of the Covid-19

pandemic ($M = 18.53$, $SD = 8.41$), $t(59) = -3.32$, $p = .002$. Furthermore, there was a significant increase in reported characteristics of disordered eating and damaging thoughts surrounding one's self image in the first year of the Covid-19 pandemic when compared to the year prior. Among various specific actions of disordered eating, results showed differences in the trajectory of various acts reinforcing disordered eating. Results indicated that there was not a significant difference in reported use of laxatives, diuretics, and vomiting in order to prevent weight gain or counteract the effects of eating per week between March 2019 to 2020 ($M = 0.26$, $SD = .99$) and March 2020 to March 2021 ($M = .39$, $SD = 1.46$), $t(61) = -.87$, $p = .387$. This means that in reference to methods of trying to alleviate the effects of food already eaten, including purging and using laxatives or diuretics, no significant difference was seen in the prevalence of these actions within the year before Covid-19 and the first year of shutdown. Results showed that the reported amount of fasting to prevent weight gain per week from March 2019 to March 2020 ($M = 1.45$, $SD = 1.89$) was significantly different from the reported amount of fasting per week from March 2020 to March 2021 ($M = 2.41$, $SD = 2.38$), $t(60) = -4.04$, $p < .001$. This indicated that there was a significant increase in fasting to prevent weight gain. Additionally, there was no significant difference among use of excessive exercise to counteract the effects of eating from March 2019 to March 2020 ($M = 1.34$, $SD = 2.08$) and March 2020 to March 2021 ($M = 1.21$, $SD = 1.77$), $t(60) = 0.47$, $p = .64$. Overall, hypothesis 1 was supported; there was significantly more composite reported disordered eating during the first year of the Covid-19 pandemic as opposed to the year prior.

Exercise Behaviors. Results showed that there was a significant difference among number of hours spent exercising per week between the year before the pandemic ($M = 7.11$, $SD = 8.18$) and the first year of the pandemic ($M = 5.00$, $SD = 6.52$), $t(61) = 2.70$, $p = .009$. However, there was not a significant difference in the number of reported instances of exercising specifically to

counteract the effects of eating between March 2019 to March 2020 ($M = 1.34$, $SD = 2.08$) and March 2020 to March 2021 ($M = 1.21$, $SD = 1.77$), $t(60) = .47$, $p = .64$.

Pandemic-Related Variables. Results showed that there was a significant difference in perceived loneliness and feelings of lacking companionship during the year before the Covid-19 shutdown ($M = 4.73$, $SD = 2.98$) and the first year of the Covid-19 shutdown ($M = 6.02$, $SD = 3.54$), $t(61) = -3.42$, $p = .001$. This means that there was a significant increase in perceived feelings of isolation and absence of companionship in the first year of the Covid-19 pandemic, as higher scores on these measures reflected stronger feelings of being left out, isolated, and lacking companionship. Hypothesis 3 was supported; there were significantly lower feelings of companionship within social relationships during the first year of the Covid-19 pandemic as opposed to the year prior.

Results indicated that there was no significant difference in personal interaction including number of friends and frequency of social communication from March 2019 to March 2020 ($M = 15.53$, $SD = 13.020$) and from March 2020 to March 2021 ($M = 11.63$, $SD = 10.27$), $t(61) = 2.68$, $p = .01$. However, results showed that there was a significant difference in the quantity of social communication during the year before Covid-19 began ($M = 11.82$, $SD = 11.44$) and the first year of Covid-19 ($M = 8.08$, $SD = 8.64$), $t(61) = 2.86$, $p = .006$. Hypothesis 2 was supported; there were significantly fewer reports of social interaction during the first year of Covid-19 compared to the year prior.

Qualitative Analyses

Analyses of qualitative responses revealed several themes: food proximity and availability, pressure of social changes, feelings of boredom and propensity to snack, availability of opportunities/closures, sitting around the house, and time to either make changes or dwell on inner

feelings. Qualitative items asked participants to explain ways in which different parts of their life and various habits have been impacted by the changes that have been introduced due to the pandemic.

For *“how would you say your eating habits changed as a result of the pandemic?”*, several themes were seen among many of the responses, with the number of relevant responses mentioning such topics:

Theme	# of responses
Unhealthy eating/junk food/door dash/take out	9
Eating much less/skipping meals	7
More time to cook/eat healthier	2
More time to make changes	3
Sitting at home/boredom	3
Disordered Eating	7
No one watching	2
No change	4
Snacking	7

Some quotes responding to this question include:

“Being indoors caused me to seek stimulation from food”.

“I already had disordered eating, before. In some ways, being home allowed me more food security and supervision which sometimes aided recovery, however, being understimulated during lockdown and having less physical activity and positive social interaction increased my food anxiety and created more time for me to dwell in/focus on food related thoughts, aiding my eating disorder.”

For *“how would you say your exercise habits changed as a result of the pandemic?”*, main themes included:

Theme	# of responses
More exercise/more time and opportunity to get outside	15
Gyms closing/commitments cancelled	10
More sitting around	7
No change	1
Walks	4

Some quotes responding to this question include:

“I tried to walk a lot as a form of stress relief and to combat the feeling of isolation the pandemic created, however, the pandemic removed many social or team-based exercise opportunities which would have played a positive role in my life.”

“At the beginning I went for a lot of walks. But after the initial lockdown, I felt very trapped in the house and did not exercise all the much. I didn't feel comfortable going to the gym and living in Ohio. The weather often does not work with outdoor exercise during the winter. I felt like there were so many barriers that I just did not have the motivation to overcome. And now I'm having a hard time coping with the switch to being busier so there is less time to exercise.”

For *“how did your level of satisfaction with your body image change as a whole as a result of the pandemic?”*, common themes included:

Theme	# of responses
More time to ruminate	4
More acceptance	1
No change	11

Got worse	27
Got better	8

Some quotes responding to this question include:

“I felt terrible that people were changing themselves so much better and I wasn’t.”

“If anything, I have grown to accept my body for what it is instead of hate it for what it's not.”

For “if your eating behaviors have changed across the scope of the pandemic, why do you believe they have?”, main themes included:

Themes	# of responses
More time to be critical/social media	7
Bad habits at home/no one watching	6
Available resources/food types	12
Couldn’t leave home/boredom	13
More time to make changes	5
Stress	9

Some quotes responding to this question include:

“No one is around to notice if I eat- so my restrictive eating behaviors were allowed to go unchecked.”

“I think I was feeling extremely lazy when we couldn't go anywhere and no one could see me anyways, so I started snacking more while sitting on the couch and was too lazy to cook. And then restaurants were advertising take-out for a while which made me want to get take-out everyday.”

“I think that I'm probably afraid that I won't be able to change them back. Since COVID affected so much of our lives, and I couldn't change any of it, I think I extended that belief onto my eating habits and thinking that I had no power to change them.”

For *“how did the pandemic (in totality) change your life as it previously was?”*, many participants referenced different aspects of their lives including relationships, feelings and symptoms of psychopathology, changes in health and identity, body changes, etc. I feel that the most effective way to share some of these results would be to provide some of the raw quotes:

“In. Every. Way. Possible.”

“I think that I'm probably afraid that I won't be able to change them back. Since COVID affected so much of our lives, and I couldn't change any of it, I think I extended that belief onto my eating habits and thinking that I had no power to change them.”

“Life has just been a lot harder. Feels like someone turned on the gas and I've never been able to make it go slower. I have changed career paths and am not the student I used to be, learning just isn't as enjoyable as it used to be.”

“I don't even remember the girl I was before covid happened”

“I have had to learn to adapt to different groups of people more. I feel like I have to be more sensitive to not only protect myself but also other people. It makes new interactions more awkward and challenging.”

“Allowed me to learn how to take care of myself.”

“I missed out on a lot of opportunities due to the pandemic, but I also got closer to my loved ones. There were many positives and negatives, but as of now, I think my personal positive experiences outweigh my negative ones.”

Discussion

Quantitative Results

Results within the scope of disordered eating behaviors told us a few things. First of all, overall reports of disordered eating, composed of multiple behaviors and thought processes, showed that disordered eating as a whole increased within the pool of participants within the span of a year, as the world entered into the Covid-19 pandemic. Within specific behaviors, observations showed no significant difference in purging behaviors or combative exercise behaviors, but more significant fasting in the first year of the Covid-19 pandemic. However, the mean number of reported fasting from March 2020 to March 2021 was much larger than the average reports of purging and combative exercise, perhaps demonstrating that fasting was a more common method for engaging in disordered eating. This may be why it showed as the only direct behavior of expressing disordered eating that was significantly different among time periods. Furthermore, as disordered eating did rise within the pandemic, it is not surprising that levels of body image and weight satisfaction also declined significantly. If individuals are feeling the need to engage in disordered eating behaviors and are reporting negative ideas in reference to their relationship with food and the relationship between eating and their self-image, it makes sense that individuals also struggled to feel satisfied with how their bodies looked.

Outcomes regarding exercise behaviors showed that though there was a significant difference in the number of hours individuals spent exercising per week, there was no significant change within excessive exercise behaviors. Again, excessive exercise was not observed as a comparatively frequent method for reducing or diminishing the effects of eating, which may have explained these results. Furthermore, since there was an overall significant reduction in number of hours spent exercising within the transition to the pandemic, individuals may have been less likely to use excessive exercise to combat eating because there were added obstacles to exercising which many participants mentioned directly (gym closures, clubs and campus organizations being cancelled).

Results regarding social interaction during the transition to home life during Covid-19 provided information into how social relationships and interactions were directly influenced. The coded variable of social communication differed from the coded variable for personal interaction in that one item was removed from the scale of personal interaction, specifically questioning participants' perceived number of close friends during this time. As a result, social communication was significantly different among time periods while personal interaction was not. These results may indicate that the frequency of social interaction and communications were reduced due to limiting factors of the pandemic, but the actual number of close friends remained fairly stable through this time even if communication was reduced.

Because social communication levels were on the decline and many participants mentioned being restricted to their home, it makes sense that feelings of isolation rose during the Covid-19 pandemic as well. Because individuals reported fewer interactions with friends and peers alike and likely were restricted to interactions among only individuals living with them, individuals may have felt far more alone than when their days were spent surrounded by others on campus, speaking with peers and teachers during class, and getting to spend time with large groups of friends.

Qualitative Results

Among these results, there are many differences in the nature and magnitude of changes that individuals experienced, but looking into the reasoning that individuals provide for the changes give insight into how the pandemic has transformed our society and individuals alike. While some individuals found their extra time to be an advantage, others struggled with intrusive thoughts, and more time to ruminate on their own thoughts and worries. Among qualitative responses, participants also mentioned many symptoms of anxiety and depression and explained how these difficulties contributed to various outcomes including loneliness, disordered eating,

feelings of hopelessness, and overall struggles. Among changes in eating behavior, some individuals reported that they had less access to healthy options due to living at home again while others reported that they had more access to discretionary time that they could use to cook healthy meals and avoid ordering out or getting junk food. Meanwhile, many individuals claimed that they became more tempted to order take out or fast food. While many individuals mentioned that they began a new workout regime or learned a new skill such as powerlifting or training for a marathon, others recounted how their exercise routine was derailed by the shutdown as gyms across the nation closed and activities were cancelled.

Among results on body image, many individuals simply mentioned the overall change that occurred including whether their image worsened or improved. However, those who did specify their changes explained that added time at home forced them to spend more time ruminating over their image and comparing their own looks to the looks of others. Furthermore, eating behaviors mentioned above may also explain some of the symptoms of worsening body image because many individuals mentioned eating less healthier foods and engaging in more snacking.

Responses on how the pandemic transformed participants' life as a whole showed a variety of themes and provided a deeper look into how many different aspects of life were affected either directly or indirectly by the nature of the pandemic. Some individuals even mentioned that there were far too many changes to write out in their response. Others mentioned difficulty with readjusting back to life in person and being around people much more frequently. However, some participants reported positive effects from the pandemic such as developing a new skill, learning something new about themselves, or getting closer to their family. Among the many responses and themes observed within this study, further research may be able to look into whether these changes are perceived to be permanent or to eventually change with the reopening and healing of the world following the pandemic.

Limitations

One limitation this study did have was within the composition of the sample. The sample size was relatively small with 62 individuals. While the study had 122 recorded responses, many of the responses had to be thrown out for one of three reasons. The first issue we faced was that some individuals did not answer any of the questions. Perhaps they opened the survey out of curiosity but decided not to complete it, or looked through the options but chose not to participate. The second issue was that some individuals only responded to the first set of response options. These responses had to be omitted from the data because there was no comparison data among that individual to incorporate with the rest of the study, and we cannot be sure that individuals read the directions clearly if they did not realize the second set of questions referenced a different time period, or if they were using low energy to respond and chose to cease their participation due to testing fatigue. The final issue that arose was within participants who did respond to both question sets, but did not answer a set of items that would be crucial to their data comparison. Within the participants, a limitation was also the lack of diversity in recruitment opportunities. Everyone who is an undergraduate student at BGSU was provided the opportunity to participate through their campus update. However, the other method of recruitment, having teachers disperse the survey to students, was limited in that most of the classes where the study was advertised were either psychology, sociology, or business courses, with the majority being psychology courses. So, there is a limitation in the scope of potentially which majors or individuals with specific interests were provided most advertising for the survey. Additionally, with any self-report measure there is room for error. In general, with a self-report survey individuals may answer in ways that are more socially desirable, may answer items inaccurately due to boredom, faking, or in efforts to finish the survey quickly. With this study specifically, one concern could be with issues of memory or

accurate reporting of past data. Since participants are asked about their habits from a year ago and beyond, they may have difficulty remembering exactly how they were acting or feeling, which does leave room for error. Also, with a survey asking about disordered eating, social desirability is even more of a concern because eating disorders can be a taboo topic and individuals may feel apprehensive about sharing vulnerable information even though it is anonymous.

Future Directions

Though the Covid-19 pandemic is a unique circumstance, more research can definitely measure the long lasting impact of experiences during this time. Further research could investigate the long-term effects of Covid-19 among all domains of life. Related to this study further research could look at self-concept and purpose, friendships, eating habits in particular such as snacking, eating with others vs alone, and changes in frequency of going to restaurants and getting takeout vs eating at home. Future research could also look into social media further to see what individuals were directly exposed to and how social media itself was also changed during this time. Additionally, other areas of psychology could examine the effects of flexible work hours as well as working from home and how that impacts eating behaviors (ability to snack, access to food at home). Further research could also expand upon the measures of this study to test the longitudinality of the effects observed.

Appendix

Covid-19 Eating Behaviors Survey

Informed Consent:

Please read the following information carefully before you decide whether to participate

My name is Megan Gressley and I am an undergraduate psychology student at Bowling Green State University. My research topic is eating habits, specifically how eating behaviors and relationships with one's body have changed due to Covid-19. Individuals are being asked to participate because they are students at the university. You must be a Bowling Green State University student between the ages of 18 and 25 to participate. The purpose of this research is to study the impacts of Covid-19 in the wake of the shutdown, specifically analyzing how eating behaviors have changed during this time. There are no direct benefits for participating in this study. Involvement will take place through an online survey taking approximately 10 minutes to complete. Participants will take a survey with both quantitative and qualitative items that asks participants about their attitudes/behaviors/data between March of 2019 and March of 2020 and between March of 2020 and March of 2021. This study adheres to BGSU Covid-19 guidelines. Your participation is completely voluntary. You are free to withdraw at any time. You may decide to skip questions or discontinue participation at any time without explanation or penalty. Your decision whether to participate will not affect your relationship with Bowling Green State University.

All of your responses will be anonymous, and your name will not be taken at any time during the survey, meaning there are no direct identifiers linking you to your responses. You will

be asked a few demographic questions, but these will not be specific enough to link your identity to your responses in any way. All data will be stored on my password-protected computer.

Because this is an electronic survey, we suggest taking the survey on a personal computer because some employers use tracking software on their servers. Be careful to not leave the survey open if you are using a public computer or a computer where other people have access.

Additionally, make sure to clear your browser cache and page history after finishing the survey.

If you are sensitive to the discussion or mention of disordered eating, you may choose not to participate. Otherwise, the risk of participation is no greater than that experienced in daily life. If you would like to speak to someone following participation in this study, you may schedule an appointment with the Bowling Green State University Counseling Center at 419-372-2081.

Contact Information: You may contact me at mgressl@bgsu.edu as well as the advisors of this research Dr. Gilbertson: 419-372-2294, mjanep@bgsu.edu or Dr. Braden: 419-372-9405, abbym@bgsu.edu if you have any questions regarding participation in this research. You may also contact the Chair of the Bowling Green State University Institutional Review Board at 419-372-7716 or irb@bgsu.edu, if you have any questions about your rights as a participant in this research. Thank you for your time.

I consent to participate (1)

I do not consent to participate (2)

You must be a Bowling Green State University student between 18 and 25 years old to participate.

What year of school are you in?

Year 1 (1)

Year 2 (2)

Year 3 (3)

Year 4 (4)

Year 5 (5)

Year 6 (6)

What is your gender?

Male (1)

Female (2)

Non-binary / third gender (3)

Prefer not to say (4)

Another (5) _____

How old are you?

THE FOLLOWING SET OF QUESTIONS WILL ASK YOU ABOUT YOUR HABITS AND ATTITUDES FROM MARCH 2019 TO MARCH 2020 (THE YEAR PRIOR TO COVID-19 SHUTDOWN):

Q1 From March 2019 to 2020 to what degree...

	Not at all (1)	Slightly (2)	Moderately (3)	Extremely (4)
Did you feel fat? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did you have a definite fear that you might gain weight or become fat? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did your weight/shape influence how you thought about yourself as a person? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2 From March 2019 to 2020, how many times per week on average did you use methods such as making yourself vomit or using laxatives or diuretics to prevent weight gain or counteract the effects of eating? Please respond with simply a number.

Q3 From March 2019 to 2020, how many times per week on average did you fast (skip at least two meals in a row) to prevent weight gain or counteract the effects of eating? Please respond with simply a number.

Q4 From March 2019 to 2020, how many times per week did you engage in excessive exercise specifically to counteract the effects of eating? Please respond with simply a number.

Q5 Answer the following questions based on your behaviors and attitudes from March 2019 to 2020:

	Never (1)	Sometimes (2)	About half the time (3)	Most of the time (4)	Always (5)
I felt guilty when I ate something that I thought I should not have eaten (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worried about how much a certain kind of food or meal would make me gain weight (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My relationship with food messed with my life as a whole (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, how often did you feel that you lacked companionship? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, how often did you feel left out? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In general, how often did you feel Isolated from others? (6)



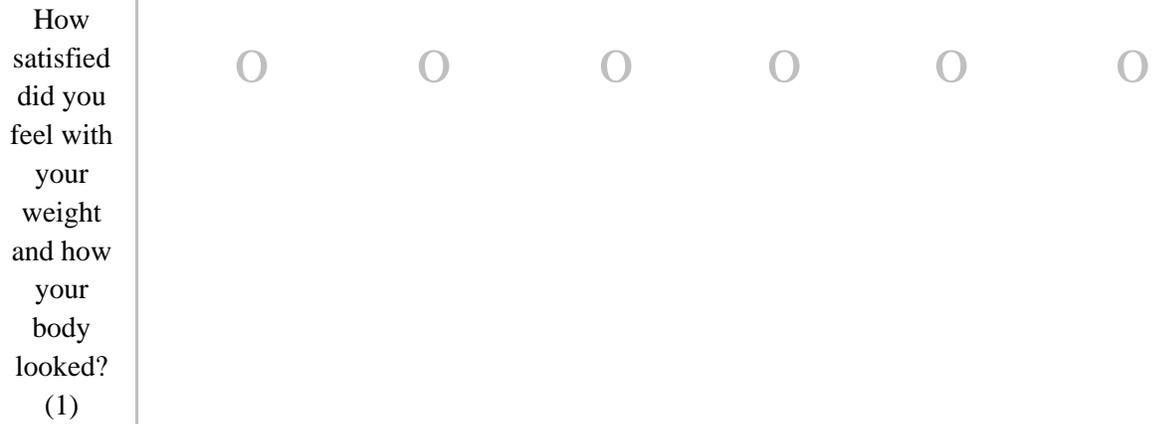
Q6 How many close friends would you say you had (meaning people that you felt at ease with, could talk about private matters, and could call on for help)? Please respond with simply a number.

Q7 How many of these friends did you see or talk to at least once every 2 weeks? Please respond with simply a number.

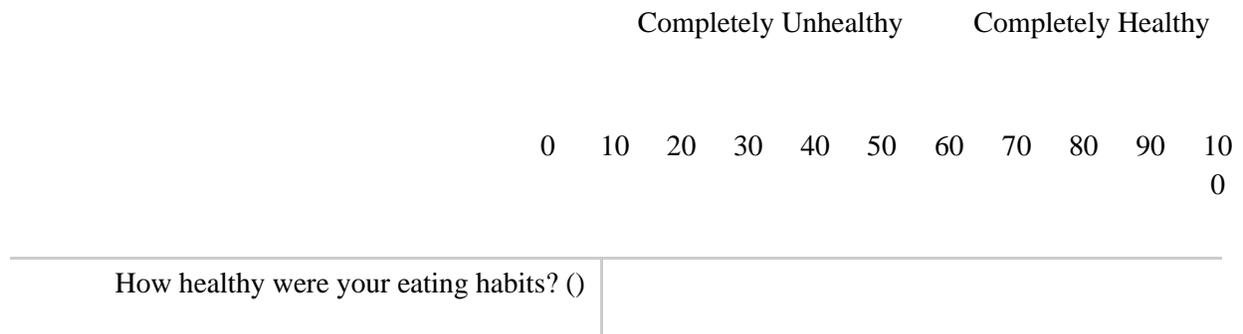
Q8 How many fellow students or teachers did you talk to at least once every two weeks? Please respond with simply a number.

Q9 Click to write the question text

Completely dissatisfied (1)	Moderately dissatisfied (2)	Slightly Dissatisfied (3)	Slightly Satisfied (4)	Moderately Satisfied (5)	Completely Satisfied (6)
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Q10 From March 2019 to 2020:



Q11 How many hours a week did you spend exercising (sports, running, working out, dancing etc.)?
Please respond with simply a number.

THE FOLLOWING SET OF QUESTIONS WILL ASK YOU ABOUT YOUR HABITS AND ATTITUDES FROM MARCH 2020 TO MARCH 2021 (THE FIRST YEAR OF THE COVID-19 PANDEMIC):

Q12 From March 2020 to 2021 to what degree...

	Not at all (1)	Slightly (2)	Moderately (3)	Extremely (4)
Did you feel fat? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did you have a definite fear that you might gain weight or become fat? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did your weight/shape influence how you thought about yourself as a person? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q13 From March 2020 to 2021, how many times per week on average did you use methods such as making yourself vomit or using laxatives or diuretics to prevent weight gain or counteract the effects of eating? Please respond with simply a number.

Q14 From March 2020 to 2021, how many times per week on average did you fast (skip at least two meals in a row) to prevent weight gain or counteract the effects of eating? Please respond with simply a number.

Q15 From March 2020 to 2021, how many times per week did you engage in excessive exercise specifically to counteract the effects of eating?

Q16 Answer the following questions based on your behaviors and attitudes from March 2020 to 2021:

	Never (1)	Sometimes (2)	About half the time (3)	Most of the time (4)	Always (5)
I felt guilty when I ate something that I thought I should not have eaten (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worried about how much a certain kind of food or meal would make me gain weight (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My relationship with food messed with my life as a whole (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, how often did you feel that you lacked companionship? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, how often did you feel left out? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, how often did you feel Isolated from others? (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q17 How many close friends would you say you had (meaning people that you felt at ease with, could talk about private matters, and could call on for help)? Please respond with simply a number.

Q18 How many of these friends did you see or talk to at least once every 2 weeks? Please respond with simply a number.

Q19 How many fellow students or teachers did you talk to at least once every two weeks? Please respond with simply a number.

Q20 Click to write the question text

	Completely dissatisfied (1)	Moderately dissatisfied (2)	Slightly Dissatisfied (3)	Slightly Satisfied (4)	Moderately Satisfied (5)	Completely Satisfied (6)
How satisfied did you feel with your weight and how your body looked? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q21 From March 2020 to 2021:

Completely Unhealthy Completely Healthy

0 10 20 30 40 50 60 70 80 90 100

How healthy were your eating habits? ()	
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Q22 How many hours a week did you spend exercising (sports, running, working out, dancing etc.)? Please respond with simply a number.

Q23 How would you say your eating habits changed as a result of the pandemic?

Q24 How would you say your exercise habits changed as a result of the pandemic?

Q25 How did your level of satisfaction with your body image change as a whole as a result of the pandemic?

Q26 If your eating behaviors have changed across the scope of the pandemic, why do you believe they have?

Q27 How did the pandemic (in totality) change your life as it previously was?

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