

**The Effect of Religiosity, Social Media, and Parental Modeling on Disordered
Eating Behaviors and Cognitions**

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Abstract

Nine percent of Americans are diagnosed with an eating disorder, and 41.9% suffer from obesity, both of which have serious cognitive, socioemotional, and social consequences (CDC, 2022). Previous research has shown that religiosity (Handelzalts et al., 2017), social media use (Rounsefell et al., 2019), and parents' eating behaviors (Handford et al., 2018) can become either risk or protective factors for the development of poor body image. However, there has been little research that investigates the effect of these on rigid healthy eating behaviors, orthorexia. This research examined the effect of all three factors (parental modeling, religiosity, and social media use) on eating behavior and cognition. A total of 113 participants ($M_{age} = 20.89$) completed the Centrality of Religiosity Scale (CRS); the Social Media Use Integration Scale (SMUIS), the Family Influence Scale (FIS), Eating Habits Questionnaire and the Body Appreciation Scale-2. Overall, results supported that public practice of religion and integrating social media into one's social routine serves as a protective factor against poor body appreciation and orthorexia, while maternal and paternal criticism of weight, being emotional connected to social media and religious ideology and intellect serve as risk factors. This research can be used in clinical settings to assess the risk of orthorexia and low body appreciation and create risk management plans.

Keywords: Eating habits, disordered eating, religion, social media, parental modeling

The Effect of Religiosity, Social Media, and Parental Modeling on Disordered Eating Behaviors and Cognitions

Food is a complex topic for many in America, from America's obesity epidemic to the 28.8 million Americans with a diagnosed eating disorder (CDC, 2022). These eating issues can lead to long-term socio-emotional, cognitive, and physical consequences. According to the National Health Statistics Report, the prevalence of obesity for adults is 41.9%, a 10% increase from 20 years ago, while childhood obesity has risen by 3.7% in the same time period (CDC, 2022). Alimoradi et al. (2020) found that overweight people face discrimination in many areas, including in healthcare, the workplace, and school (such as increased experiences of bullying and social isolation), which leads to increased levels of anxiety and depression, as well as general feelings of distress. Moreover, obesity predicts an increased risk of high blood pressure and cholesterol, dental issues, heart disease, cancer, sleep apnea, other respiratory problems, including mortality (CDC, 2022). This increased risk is compounded by discrimination from healthcare professionals leading to late diagnoses and delayed treatments (Puhl & Suh, 2015). Obesity also is associated with mental health disorders, such as anxiety, mood disorders, ADHD, and eating disorders such as binge eating (Avila et al, 2015; Alimoradi et al, 2020). Furthermore, children who experience obesity also are at higher risk for adult obesity (Simmonds et al., 2015) Eating disorders have the second-highest mortality rate of all mental illnesses, and about 10,200 deaths annually can be directly linked to an eating disorder (Arcelus et al., 2011).

Disordered eating, defined as the practice or endorsement of unhealthy eating behaviors, such as bingeing, purging, and restrictive eating, and poor body image lead to increased risks of eating disorders and obesity (Reba-Harrelson et al, 2009). These are serious and long-lasting issues, and research into these areas is vital, especially in areas of risk and preventative factors. This research focuses on risk factors associated with social media use, religiosity, and parental modeling of eating behaviors on disordered eating cognitions, specifically orthorexia,

and body image. Orthorexia was first introduced by Bratman (1997) and is severe restrictions in diet but for health reasons. The restrictions focus on the quality of food rather than the quantity, though this often results in entire categories of food being eliminated, leading to malnutrition and rigid behaviors that impair everyday functioning. While there is no official diagnostic criteria, there is evidence that orthorexia is separate from other eating disorders (Dunn & Bratman, 2016). There are no reliable prevalence rates of orthorexia, Niedzielski and Kazmierczak-Wojtas (2021) found heavy social media use for health, fitness and beauty information can increase the risk of it, especially in young people. Social media often models unrealistic beauty standards which people try to conform to, since it is easy to photoshop pictures or add filters which makes people look unrealistic, sometimes to the point of seeking cosmetic surgery or fasting diets (Seekis & Barker, 2022; Rounsefell et al., 2019). This could be a risk factor for poor body image as well. Parental modeling shows children the eating habits that they should replicate in their lives, and if parents display unhealthy eating habits, such as overeating or excessive dieting, may be a risk factor for developing orthorexia and poor body image (Handford et al., 2018). Certain religions may give those who participate in both a community and culture to increase well-being (Handelzalts et al., 2017; Kertechian & Swami, 2016), as well as creating rules and expectations surrounding food and diet, creating a protective factor against orthorexia and poor body image (Handelzalts et al., 2017).

However, studies on parental modeling often focus on mother-daughter relationships, neglecting the father's modeling behaviors. Studies on religion's influence on disordered eating cognitions often focus on Islam, Christianity, and Judaism, which leaves out non-organized religions, such as personal practicing, as well as other major religions such as Hinduism, Buddhism, and Paganism. While there is a growing body of social media research examining

social media content and its relation to eating behavior, body image, and eating disorders, the current research is not done in conjunction with parenting behavior and religion. For example, some users may spend time on social media interacting with pro-eating disorder content, while other users may spend time with communities that may be harder to connect to in-person, such as the LGBT community, in order to feel connected with their community (McInroy et al., 2019). This study addresses these gaps to expand the current literature on orthorexia and body image and expect these results to be informative for treatment plans.

The social cognitive theory (SCT; Bandura, 1991) provides the farmwork for how social media, parental modeling and religion influences eating behaviors and body image. It is a learning theory which states that people can learn vicariously through the observation of another's behavior, and not only from direct experience. According to SCT, people change their behavior based on environmental influences, though these influences have to be central to the person's life and/or represent desirous cultural values. These behaviors are often maintained through reinforcement. In the case of social media, beauty posts and influencers on SM often use filters, are photoshopped, and include staged lighting, which reflects unattainable beauty standards. This extends to fitness content as well. The desire to fit these beauty and fitness standards, which are highly valued in the United States, may increase rigid behaviors revolving around food and exercise. Religion teaches behaviors from religious texts and messaging, but also observing people practicing religious norms. Religious practices may also inform food choices, for example, religious fasting or religious eating practices, such as halal for Muslims. Lastly, parental modeling of behaviors surrounding food teaches children observationally how they should think and act around food. For example, a parent who comments on the amount another parent eats during mealtimes (e.g., "you eat too much, you're going to get fat") may

unknowingly be teaching their children to engage in restrictive eating behaviors or have poor body image. Parental modeling is particularly effective, because parents and children spend so much time together, especially during mealtime, so the behaviors are observed repeatedly.

The following sections will review the relevant literature as it pertains to the effects of religion, social media and parental modeling of eating behaviors on body image and disordered eating.

Religion

Previous research has shown that certain religions are a protective factor against negative body image as well as eating disorders. Religion, in this case, is defined as identification with a religion with more organized and behavioral connotations which may include attending religious services, praying individually, following religious diets and doctrines, and interacting with a religious community (Jackson & Bergeman, 2011). Religious norms are observed, attended to, and replicated in one's life. For example, religions that place an importance on eating, and saying a prayer of thanks before eating may inform religious people that food is important, and they should be thankful for the food they have. However, if a religion emphasizes guilt, people may translate that into guilt about tasks like eating, especially more unhealthy foods. Religious diets, such as Kosher, Halal, or Vegan/Vegetarian diets may also be learned and practiced.

Religious practices also extend to wearing religious clothing and head coverings as well. Kertechian and Swami (2016), examined the hijab as a protective factor against disordered eating and poor body image. Using a survey sent out to French Muslim women which measured hijab use, body image, religiosity, weight discrepancies between the weight of a person in a picture and their actual weight, support from Allah, and perceived discrimination. Religiosity was operationally defined in this study as how much religion was integrated into one's life. They

found that Muslim women who wear the hijab reported a significantly lower body dissatisfaction rating and drive for thinness, and rated higher social support from community members when facing discrimination, showing that religion can be a protective factor against both body image and disordered eating (Kertechian & Swami, 2016).

This phenomenon is not specific to just Islam but may extend to Judaism as well. Handelzalts et al. (2017) examined woman's satisfaction with their body image among three denominations of Judaism in Israel: Ultra-Orthodox (following strict religious rules, wearing identifiably Jewish attire such as tichels, or head coverings, and wigs, and dressing modestly, staying mostly in the Jewish community), Modern-Orthodox (following most religious rules, but staying open to modern society), and secular women. Secular is defined as those who identify as Jewish, but do not often practice religious activities or integrate religion into everyday life. Handelzalts et al. (2017) used measures of positive and negative body image, and body care, and found that Ultra-Orthodox Jewish women had significantly higher body appreciation and were more inclined towards self-care than Orthodox and Secular Jewish women.

Both Kertechian and Swami (2016) and Handelzalts et al. (2017) concluded that more positive attitudes toward the body may be associated with community support that comes with strongly identifying with a religious group, as well as the lessened exposure to Western beauty ideals in the form of wearing "modest" clothing that shield's bodies from the gaze of the Western world, and the unrealistic body type expectations that the West emphasizes. This objectification theory (Fredrickson & Roberts, 1997) is supported by Wilhelm et al. (2019), in which veiled Muslim women reported lower levels of thin-idealization and better body image than both atheists and Christians, though all groups reported a more negative body image after comparing themselves to other women.

Unlike Judaism and Islam, Christianity, especially more conservative sects, can be a risk factor for negative outcomes, such as poor body image and disordered eating. Gates and Pritchard (2009) investigated the relationship between religion and “religious angst” and disordered eating. They studied undergraduates, mostly women, and used measures of eating behaviors, body dissatisfaction, religious affiliation, and religious angst (defined as anxiety or dread towards one’s religion/religious affiliation). They found that Catholic and non-Catholic Christians displayed more disordered eating than other groups, in part due to their higher scores on religious angst. These results show that though in many situations, religion can be a protective factor against disordered eating, and negative feelings towards religion, as well as more conservative religions such as Christianity may predict negative outcomes.

There is, however, a gap in the literature regarding those practicing non-Abrahamic religion, such as Buddhism, Hinduism, and Paganism. In this study, will add to the existing body of research by intentionally recruiting those from organized religions such as Buddhism and Hinduism, as well as more personal spiritual practices, such as Paganism and spirituality by using a scale of religiosity instead of only asking for religious affiliation. This study also tries to bridge this gap by using qualitative questions which allow participants to better explain their relationship with religion and spirituality, so that participants can discuss their own personal thoughts and feelings about their religiosity and practice. This allows for a better understanding of how other organized and more personal-practiced based religions understand and relate to food.

Social Media

Social media (SM) is defined as websites and online communities where people can communicate with others (such as Twitter, Facebook, Snapchat, Instagram and MySpace).

According to the Pews Research Center (2021), 72% of American adults use at least one social media site. Social media can be a great way to connect with friends, find community, and engage with creative content, like literature, art, and music. However, a substantial amount of social media is dedicated to health, beauty and fitness. Social media sites such as Instagram constantly and repeatedly show people with unrealistic body types, due to either surgery, photoshop, lighting, or filters. Users also only post their “best” pictures, referring to pictures in which they look the best as well as pictures in which they seem happy and content (Saiphoo & Vahedi, 2018). Viewing posts with more idealized bodies, such as skinny women and muscled men, can lead to increased body dissatisfaction (Saiphoo & Vahedi, 2018; Rodgers & Melioli, 2016). The repeated exposure and observation to these carefully curated and edited pictures also subtly teaches users what they should look like. These posts of idealized bodies are also rewarded with more likes, shares, and comments, reinforcing the need to have the same type of body. Bodies that are non-compliant to the beauty standard (not edited, not the image of an “ideal” body) get less likes and more negative comments, such as hate comments and harassing direct messages. Social media may also teach people how they should eat and think about food. Some influencers, especially male exercise and health influencers are constantly pushing overexercising and diets, such as mainly protein diets, to build muscle and “bulk up”. Influencers may also advertise various weight-loss methods, whether it be a magical pill or eating a balanced diet. Social media also harbors disturbing content, such as pro-anorexia (“pro-ana”) and “thinspiration” posts and forums both of which encourage users to engage in unhealthy behaviors such as body comparison, excessive fitness, extreme food restriction and dieting, and other weight loss behaviors (Branley & Covey, 2017; Lewallen & Behm-Morawitz, 2016).

Lewallen and Behm-Morawitz (2016) examined how interaction with fitness posts on the SM site Pinterest affect women's eating behaviors and social comparisons. They measured participants' ideal female body type, motivations for exercise, social comparison, BMI, eating behaviors, and interaction with fitness content. Results revealed that those who interacted with more fitness content displayed more disordered eating behaviors and engaged in more social comparison than those who interacted with other content. These results provide evidence of the negative effect certain social media sites can have on body image and how certain content on social media sites may serve as a risk factor for disordered eating behaviors. This conclusion is supported by Rodgers et al. (2016)'s meta-analysis, which found that content surrounding weight, body image, and eating can negatively influence users, and any exposure to eating disorder-related content can lead to negative outcomes, such as lowered body image and self-esteem.

Engelna et al. (2019) studied the effects of the type of medium used on social media. College women were asked to play a matching game, use Facebook, which is a combined photo and blog type interface, or use Instagram, a photo-based app. The participant was asked to log onto their own social media accounts, and were allowed to post, like, and share but were prohibited from private messaging. If participants were in the control group (matching game condition), they played the matching game *Bejeweled*, where the player is asked to match the same type of jewels to clear a board. Those who were asked to use Instagram displayed more negative affect, increased social comparison, and lower body satisfaction as compared to both the Facebook and the matching game control group. Compared to Facebook, which centers text and photos on the platform, Instagram's photo-centric design which often shows pictures of people (which are often edited or specifically chosen to create the most ideal look) was harmful

to participants. Interaction with photos and videos of people may indicate a higher risk for disordered eating behaviors.

However, there is evidence that social media can be helpful in creating community in-person and online, for example, through sharing information and/or art. SM, such as Instagram, Twitter, and Tiktok have become an important part of community organizations, (Sobré-Denton, 2016) and play a marked role in helping activists plan protests and spread information during the Black Lives Matter movement (Mundt et al., 2018; Mourão & Brown, 2022). Communities on SM have also been there to share information and support to marginalized communities such as the disabled community and LGBT people and their parents (Blackwell et al., 2021; Selkie et al., 2020; Sweet et al., 2019). Positive content, like interaction with community can create bonds and feelings of belonging and emotional support, whereas negative content like fitness and body-checking content can cause negative eating behaviors, negative body image, and increased social comparisons. It seems that the SM content itself has an effect on users, instead of the SM use or website itself having an effect.

Parental Modeling

Parental modeling is defined as the behavior of parents in front of a child, which can then later influence the child's cognitions and behaviors (Abraczinskas et al., 2012; Kral & Rauh 2010; Handford et al., 2018; Ferris et al., 2016). Parental modeling in the context of food includes the way parents approach food in a household, such as how parents talk about food, diet and exercise, their bodies, and others' bodies. This relates to Social Learning Theory, as the behavior that parents are displaying surrounding food and body satisfaction are being repeatedly observed and repeated by children, who are beginning to build up their relationship with food and their body. For example, a parent making comments about how much a family member is

eating models to a child that eating is not about enjoying food and stopping when sated, but about body size. Food, then, also becomes value laden, revolving around positive or negative judgements for eating or not eating too much. Parent's modeling of their relationships with food is the foundation for the child to create their own relationship with food and their body. For example, if parents' model healthy eating by consuming fruits and vegetables, the child is more likely to develop a taste for those foods (Kral & Rauh 2010). Parents may also help to develop healthy relationships with food by emphasizing that food is energy for the body, teaching children that no food is inherently "bad", and avoiding commenting on weight and peoples' bodies. Parents may send negative messages about eating and food by praising children for being thin or losing weight, assigning food the label of "good" or "bad," and restricting certain foods from the household.

Parental modeling does not take long to influence children's eating behavior. In Handford et al. (2018), girls and their mothers were asked to come in to look at the effect of mother's making comments about weight. The mother-daughter pair were asked to rate advertisements. Mothers in the control condition were told to make comments about the clothing in the ads, while the experimental condition mothers were instructed to make six weight or body related comments (e.g., "looking at these pictures makes me feel like I need to lose a bit of weight" or "I should go on a diet to look like those girls."). All conditions had the children sit alone in a room while they completed surveys. There was a bowl of exactly 50 pieces of candy placed next to the child, and they were told they could eat as much as they wanted. The amount of candy eaten was measured after the child was finished with the surveys. Researchers found that girls in the experimental condition experienced problematic eating attitudes, restrained eating habits, and decreased body satisfaction. Girls in the experimental condition also ate less candy than those in

the control group. Handford et al (2018) concluded that mothers speaking about weight and body to their child in just once interaction affected their children's subsequent eating habits and attitudes, showing how impactful parental modeling can be.

Parental modeling can also positively influence children's eating habits. Ferris et al. (2016) examined the effect of education on healthy eating and parents' rules for their children. They measured adolescents' food consumption, body image satisfaction, unhealthy eating behavior, and parental communication and rules. They found that if parents talked to their children about healthy eating behaviors, and created rules to enforce those behaviors (such as rules about how much junk food, like fast food can be consumed), as long as children were given some autonomy with their food choices, their children were more likely to practice healthy eating and avoid unhealthy foods, like fast food, even when the adolescents were allowed to make food choices independently. Instead of negative messaging, such as complaining about weight and diets, a line of communication was established that modeled healthy behavior for the adolescent.

Parental modeling, religiosity, and social media use are all connected to eating behaviors and cognitions about food through exposure to others' behaviors, as well as to cultural ideals and norms. The child then learns their parents' expectations for their bodies, and translate those ideals to themselves, possibly displaying those same behaviors, as this is what they were exposed to. Religious ideals surrounding food can also be modeled to religious community members. Many religions also model the viewing of food through the lens of connection with one's cultural or religious foods, and as a way to connect with a higher power. Social media models society's standards for how people should look, think, and act. For example, a substantial portion of Western social media posts about eating and body image idealize skinny body types, which are

usually achieved by photoshopping, filters, staged photos, with posts on how to detoxify or increase one's health through diets that may eliminate an entire food group, and intensive fitness routines. All these factors come together to create an individual's worldview of how they should eat and how they think about food.

This study also has clinical implications in the prevention and treatment of eating disorders, for example, informing the creation of risk management plans. In the treatment of eating disorders, risk management plans for eating disorders are often created to outline the path of treatment, which can include therapy goals, monitoring patients eating habits, and regular contact with members on the treatment team (Herpertz et al., 2011; Robinson, 2014). Family therapy and interpersonal relationship integrated therapies are also established and effective forms of treatment for eating disorders. Working with parents of those with diagnosed eating disorders and disordered eating to create healthier eating habits and cognitions surrounding eating so that they are able to model more positive behaviors may be effective in helping their children recover as well as spend more time with family without interfering with the healing process (Kass et al., 2013; Lock & le Grange, 2005).

Current Research

The goal of this study is to examine the effect of social media use, religiosity, and parental modeling on individual's risk for orthorexia and poor body image, both of which are risk factors for obesity, eating disorders and mental health distress. I am not aware of any research examining the interdependent effects of these, and can better inform interventions in terms of risk and protective factors. For this study, participants took a series of validated psychometric tests to measure each variable of interest: predictor variables include the 10-item Centrality of Religiosity Scale (CRS-10) to measure religiosity (Esperandio et al., 2019), the

Social Media Use Integration Scale to measure social media use (Jenkins-Guarnieri et al, 2012), the Family Influence Scale for parent's eating behavior (Kluck, 2010), and outcome variables include the Eating Habits Questionnaire (Graham, 2003) and the Body Appreciation Scale-2 (Tylka & Wood-Barcalow, 2015) were used to measure participant's orthorexia scores, which is defined as a rigid and disordered preoccupation with healthy eating, and body appreciation respectively. In addition, explanation questions were included for participants' relationship with parents' eating habits, social media use, and religion.

Based on previous research, I predict:

1. Practicing religion or being spiritual, with the exception of Christianity, will predict lower levels of orthorexia and higher body appreciation (Kertechian & Swami, 2016; Handelzalts et al., 2017; Wilhelm et al., 2019; Gates & Pritchard, 2009).
2. Certain SM content will be more of a risk factor than others (Berryman et al, 2018; Branley & Covey, 2017; Lewallen & Behm-Morawitz, 2016):
 1. SM content that may create a higher risk of low body appreciation scores and higher orthorexia scores may include fitness, diet, influencers, and health content (Branley & Covey, 2017; Lewallen & Behm-Morawitz, 2016)
 2. SM content that may pose a moderate risk for low body appreciation scores and higher orthorexia scores may include fandom, activism, news, cooking and recipes, comedy, and cosplay content, because topics mentioned may discuss and interact with information and comments on bodies and diet, but are not directly interacting with it such as in high risk content.
 3. SM content that may be a protective factor against low body appreciation scores and higher orthorexia scores may include art, music, literature, science, video

essays, and connecting with friends and community (Sweet et al., 2019; Blackwell et al., 2021; Selkie et al., 2020).

3. I predict that maternal and paternal modeling of unhealthy eating behaviors, all components of religiosity, integration of social media into one's social routine, and emotions connected to social media will be significant predictors for orthorexia and body appreciation. Specifically, maternal and paternal modeling of unhealthy eating behaviors will predict higher levels of orthorexia and lower body appreciation; higher levels of religiosity encompasses will predict lower levels of orthorexia and higher levels of body appreciation; integration of social media to one's social routine and emotional connected to social media will predict higher levels of orthorexia and lower levels of body appreciation.

Methods

Participants

Participant recruitment occurred at Stockton University and the area community. Stockton participants were either recruited through Stockton's SONA system or were contacted through religious clubs and organizations on campus. Non-Stockton participants were recruited by contacting directors and religious leaders of religious institutions, such as Synagogues, Mosques, and Churches. If participants completed the survey via SONA, two research credits were awarded, and if completed through community outreach, a \$10 Amazon.com e-gift cards were emailed to them.

A total of 113 participants 18 to 47 ($M_{age} = 20.89$, $range = 18$ to 47) completed the survey. 78.8% of participants identify as female, 13.3% identify as male, 3.5% identify as non-binary or a third gender, 0.9% identify as agender, 0.9% identify as bigender, and 0.9% chose not to

answer. 78.8% of participants identified their race as White, 11.5% identify as Hispanic or Latinx, 8% identify as Asian, 6.2% as African American, and 0.9% choose not to answer. 68.1% of participants identified as straight or heterosexual, 12.4% identify as bisexual, 3.5% identify as pansexual, 6.2% as queer, 2.7% as gay, 2.7% as questioning, 1.8% as other, and 0.9% as lesbian. 81.4% of participants identified their civil status as single, 13.3% partnered, 2.7% married, and 0.9% other.

Materials

Scales were selected for this study to measure the participants' religion, social media use, parental eating habits and behaviors, and participants' propensity toward orthorexia and body appreciation.

Predictor variables

Religion. The 10-item Centrality of Religiosity Scale (CRS-10) validated by Esperandio et al (2019), is a shortened version of the Centrality of Religiosity Scale (Huber & Huber, 2013) and were used to measure religiosity. There are 2 questions for each of the 5 dimensions, which are intellect (e.g., "How often do you think about religious issues?"), ideology (e.g., "To what extent do you believe that God or something divine exists?"), public practice (e.g., "How important is it to take part in religious services?"), private practice (e.g., "How important is personal prayer for you?"), and religious experience (e.g., "How often do you think about religious issues?") The questions are answered on a five-point Likert scale, either by frequency 1 (*Never*) to 5 (*Very Often*), or by importance 1 (*Not at all*) to 5 (*Very much so*). Higher scores on both scales indicates higher levels of religiosity. In addition, a forced choice question on religion was included with the following options: Catholic, Protestant, Baptist, Orthodox, Muslim, Jewish, Hindu, Buddhist, Pagan, Spiritual, none, or other. Participants were also asked "What is

your relationship with your religion” in a qualitative question. Participants were then asked if their household ever followed religious diets (Kosher, Halal, vegetarian for religious reasons, vegan for religious reasons, or other). They were also asked to indicate if they have ever fasted for religious holidays (yes or no).

Social Media Use. The Social Media Integration Scale (Jenkins-Guarnieri et al, 2012), is a 10-item questionnaire, answered on a Likert scale from 1(*Strongly Disagree*) to 5 (*Strongly Agree*). There are two dimensions to this scale, social integration and emotional connection (6 items) and integration into social routines. This was used to measure participants’ use of social media, how emotionally connected they are to social media, and how integrated social media is in the participants’ daily life. Lower scores on the scale indicate less social media integration. For the purposes of this study, I replaced “Facebook” with “Social Media” (e.g. I feel disconnected from friends when I have not logged into Facebook, is changed to I feel disconnected from friends when I have not logged into social media, and using Facebook is part of my everyday routine is changed to using social media is part of my everyday routine). In addition, participants were asked which social media apps they use (e.g., Facebook, Instagram, Tumblr, Pinterest, Tiktok, Twitter, YouTube, Snapchat, Reddit, or other, where subjects can indicate any missed social media sites they use), and the content that they interact with: music, art, cosplay, fandom, activism, news and current events, health, fitness, diet, cooking/baking, healthy eating, influencers, science, video essays, literature, comedy, and interacting with friends and community. Participants were also asked what their relationship with social media is in an open-ended qualitative question.

Parental Eating Habits and Behavior. The Family Influence Scale was used to assess participants’ experiences in the family, and type of food information a parent modeled to their

children (FIS; Kluck, 2010). The FIS has 6 items, answered on a 5-point Likert scale 1 (*Never*) to 5 (*All the time*). Participants answered three questions for the maternal influence and 3 for the paternal influence (e.g., “Please think about the person who fits the role of mother (father) while you were growing up and rate how often she (he) did each of the following: Criticized your weight/size?”). Higher scores indicate that parents criticized weight and food choices, thereby modeling unhealthy behaviors about food. The questions are the same for both.

In addition, participants were asked to indicate if their parent followed any diets in the household, excluding religious diets, answered as either yes or no. If the participant indicates yes, they indicated what kind of diet, where the choices are food restrictive (cutting out certain food groups, like in keto diets), size restrictive (restricting portion sizes, such as in Weight Watchers), vegetarian, vegan, gluten-free, or other. Participants were able to select more than one choice, and if other is selected, they were able to write in any missed diet type. Participants were asked to explain their parent’s relationship with food in a qualitative question.

Outcome Variables

Eating Habits Questionnaire. The Eating Habits Questionnaire (Graham, 2003) was used to measure participants’ eating behaviors and cognitions about food. The Eating Habits Questionnaire (Graham, 2003), or the EHQ, is a 21-item questionnaire that measures participants’ eating habits (e.g., I feel great when I eat healthily). The questions are answered on a 4-point Likert scale 1 (*False, not at all true*) to 4 (*Very true*), where higher scores indicate higher orthorexia, or an unhealthy preoccupation with healthy eating. There are three subscales, knowledge (5 items), problems (12 items), and feelings (4 items).

Body Appreciation. The Body Appreciation Scale 2 (Tylka & Wood-Barcalow, 2015), or BAS-2, is a 10-item questionnaire that measures the participants’ appreciation for their body

as it is (e.g. “I appreciate the different and unique characteristics of my body”) and in comparison to others (I feel like I am beautiful even if I am different from media images of attractive people). Questions are answered on a 5-point Likert scale 1 (*Never*) to 5 (*Always*). Lower scores indicate lower body appreciation.

In addition, participants were asked to indicate if they follow, excluding religious diets, where the answers are yes or no. If the participant responded yes, they indicated what kind of diet from the following choices: food restrictive (cutting out certain food groups, like in keto diets), size restrictive (restricting portion sizes, such as in Weight Watchers), vegetarian, vegan, gluten-free, or other. Participants were able to select more than one choice, and if other is selected, they were able to write in any missed diet type. Participants were then asked to explain their relationship with food in an open-ended question. See Appendix A for all survey questions.

Procedure

The study was conducted as an online study via Qualtrics. The survey took approximately fifteen minutes to complete.

After providing consent, participants were then asked to respond to one of two orders of the survey. One version had participants take the CRS-10 and religiosity questions, followed by the SMUIS and social media questions, and lastly the FIS and household eating questions. Another version of the survey will have them in the opposite order. Following this, participants will then answer questions regarding the outcome variables. Half took the BAS-2 and then the EHQ, and half reversed the order. After those last questions, demographic information was gathered. After taking the survey, participants were thanked, and provided with numbers and links to the National Eating Disorder Hotline, ANAD Eating Disorder Hotline, the Crisis Text line, and Suicide and Crisis Lifeline in case the content of the questionnaire was upsetting.

Results

The Family Influence Scale (FIS) was divided into Mother and Father scales, each with three items. These scores were separately summed and divided by three for an average score for each. The Social Media Use Influence Scale (SMUIS) was comprised of two subscales, Social Integration and Emotional Connection subscale (6 items) and Integration into Social Routines subscale (4 items). Scores for each subscale were summed and divided by the number of questions for an average score for each. In addition, the average score for the full SMUIS scale was calculated. The Centrality of Religion Scale was comprised of five subscales: intellect, ideology, public practice, private practice, and religious experiences, each with 2 items, which were each averaged. Then, all 10 items were averaged to create an overall score. The average scores for the Body Appreciation Scale-2 (BAS-2) and Eating Habits Questionnaire (EHQ) were calculated by summing up the scores of each question and dividing by the number of questions.

See Table 1 for all descriptive statistics. Items that were reported less than 3% by participants were not included.

The distribution of scores met all assumptions for independence between predictors, homoscedasticity, residuals evenly distributed and a linear relationship between predictors and responses.

Body Appreciation Scale-2

Using the enter model, Body Appreciation Scale-2 scores were regressed on the predicting variables of parental modeling (Family Influence Scale Mother and Father [FIS]), social media use (integration into social routines and social integration and emotional connection, SMUIS), and religiosity (subscales of Centrality of Religion Scale [CRS]), and whether the participant was currently following a diet. Results revealed the combination of

predictors significantly predicted changes in BAS-2 scores, $R^2 = .432$, $F(10,104) = 7.14$, $p < .001$. When examining the factors individually, it was found that public practice of religion (CRS subscale), integration of social media to one's social routine (SMUIS subscale) and currently being on a diet were significant predictors of higher body appreciation, while religious ideology and intellect (CRS subscales), emotional connection to social media (SMUIS subscale) and maternal and paternal criticism of weight (FIA) were significant predictors of lower body appreciation. See the coefficients for this model in Table 2, and Table 3 for all correlations of the model.

Eating Habits Questionnaire

Using the enter model, scores of the Eating Habits Questionnaire were regressed on the predicting variables of parental modeling (Family Influence Scale Mother and Father), social media use (integration into social routines and social integration and emotional connection), and religiosity (subscales of Centrality of Religion Scale) and whether the participant was currently following a diet. Results revealed the combination of predictors significantly predicted changes in EHQ scores $R^2 = .303$, $F(10, 104) = 4.08$, $p < .001$. When examining the factors individually, it was found that public practice of religion and religious experience (CRS subscales) were significant predictors of higher orthorexia, while trending towards significance was paternal modeling of problematic eating behaviors ($p = .05$). Religious intellect (CRS subscales) and currently being on a diet were significant predictors of lower orthorexia. See coefficients for this model in Table 4 and correlations in Table 5.

A Spearman's correlation was conducted to analyze whether self-reported religion predicted higher or lower levels of body appreciation and orthorexia. The results revealed Orthodox Christianity was positively significantly correlated with the EHQ ($r = .314$, $p <$

.001). No other significant correlations were found. I also examined whether content of social media predicted higher or lower levels of body appreciation and orthorexia. The content included for high risk was weight, diet, healthy eating, fitness, and influencer content; for moderate content, it was fandom, activism, comedy, news, current events, cooking and baking, and cosplay; and for low risk, it was art, music, literature, science, video essays, and interacting with friends and online communities. Counts were created for each of these to create three variables: High Risk, Medium Risk and Low Risk. A Spearman's correlation was conducted on content risk of social media and BAS-2 and EHQ scores. The results revealed high risk content was negatively correlated with higher EHQ scores ($r = .502, p < .001$) and not significantly correlated with BAS-2 scores. Moderate risk content was negative correlated with lower EHQ scores ($r = -.294, p < .001$) and BAS-2 scores ($r = -.204, p = .032$). Low risk was negatively correlated with EHQ scores ($r = -.321, p < .001$) and BAS-2 scores ($r = -.217, p = .029$).

Explanations were collected to better understand the results. See Tables 6, 7, 8, and 9 for examples of explanations of participants' parents' relationship with food, participants' relationship with social media and participants' relationship with their religion.

Discussion

The results supported that maternal and paternal criticism of eating behaviors, thus modeling unhealthy eating habits, religiosity and social media use would be significant predictors of body appreciation and orthorexia. However, closer examination revealed only certain components of each were significant predictors, thereby providing partial support for my hypotheses. I will discuss these results for each (religiosity, social media integration, social media content, and parental criticism of weight) in the following sections.

Those dimensions of religiosity that were focused on religious intellect and ideology were significant predictors of lower body appreciation, while public practice of religion was a significant predictor of higher body appreciation. For orthorexia, religious intellect was a significant predictor of lower orthorexia, while public practice of religion and religious experience were significant predictors of higher orthorexia. Even though private practice was not a predictor when accounting for the other variables in the model for body appreciation, it did have a significant positive correlation, such that those who engage in higher rates of religious private practice had higher rates of body appreciation. The protective nature of religion is consistent with previous research (Kertachian & Swami, 2016; Geller et al., 2021; Handelzalts et al., 2017), though studies such as Gates and Pritchard (2009) have shown religion to be a risk factor for disordered eating, which may explain why the hypothesis was only partially supported.

Religious private practice may be related to higher body appreciation due to the health benefits to praying, such as relaxation, and healthy outlet to express negative emotions, and as a possible placebo (Jantos & Kiat, 2007). Solo prayer may also allow for more personal interpretation of religious texts and the creation of personal religious ideals instead of ideal of a separate community. Religious experience, which measures experience where someone feels divine intervention in their life, may predict higher orthorexia scores because healthy eating may become stricter and more obsessive if one feels that a divine power is interfering in their lives; they may feel like they are beholden to that divine power to keep their bodies healthy and strong. In addition, if they felt a divine power was watching over them and keeping them safe, then they may be more likely to keep as healthy as possible.

Religious public practice based on attending religious services, and interacting with their religious community where modeling eating behaviors and norms can occur, which may explain it as a predictor of higher body appreciation and higher orthorexia. This may be where people are interacting with their communities' rules, norms, and opinions about how bodies should be valued and cared for, as it was given by a divine power, and how to eat and eat "well". In other words, participants who go to more religious services and place more importance on them may be interacting more with other people's ideas and opinions about food and eating, where people who are practicing on their own may be able to interpret religious texts on their own and come to their own conclusions about ideals. Religious intellect was a significant predictor of lower body appreciation and orthorexia, and religious ideology predicted lower body appreciation. This could be due to strict religious ideals within the reported religions, which may place importance on restriction. Many religious participants in this study identified themselves as some form of Christianity, which may have affected the results. This is consistent with Gates and Pritchard (2009), who found that strict religions predicted more negative eating habits and more disordered eating behaviors.

The hypothesis that different types of social media content would present different levels of risk on body appreciation and orthorexia was partially supported. High risk content was associated with higher orthorexia scores, and both moderate and low risk content were associated with lower orthorexia scores. A possible explanation may be the high-risk content focuses on food and the body (health, fitness, diet, and influencer content), possibly increasing the exposure to healthy eating content, therefore putting the person at risk of becoming more preoccupied with healthy eating. This may be true especially for diet content, which pushes overly healthy diets that may not actually be healthy, such as fasting diets. In addition,

moderate and low risk content do not consist of any content that relates heavily to health and healthy eating, which may decrease the risk of orthorexia. However, contrary to my predictions, moderate and low risk social media content was associated with lower body appreciation and there was no association between high-risk social media content and body appreciation. This may be due to the unrealistic body standards on social media that are hard to avoid, especially with the prevalence of photo alterations and filters. It may be possible that those who interact more with moderate and low risk content feel they focus less on their health, and therefore appreciate their body less.

These findings do, however, support the theory that different types of social media content do have different effects. This is somewhat supported by Lewallen and Morawitz (2016), which found that specifically thinspiration content on Pinterest increased the likelihood that participants engaged in extreme weight loss behaviors, as well as Engeln et al. (2020), which found that participants that interacted with Instagram scored lower on body satisfaction scores than those that used Facebook. This is also supported by studies such as Blackwell et al. (2021) which found that social media may help LGBT parents connect with community, and Selkie et al. (2020), which found that social media helped transgender youth connect with a community. All of these studies display, as well as the results found here, that different content that users interact with has a different effect.

Integration of social media into one's social routine was a significant predictor of higher body appreciation, while it was not a predictor for orthorexia. Having an emotional connection to social media was a significant predictor of lower body appreciation, while it was not a predictor of orthorexia. The emotional connection to social media measures one's emotional connection to social media, such as using social media as the primary means in

which one connects socially with friends and emotionally with the world. The increased time spent on social media, which thereby increases the probability of interacting with negative content, which may explain the lower body appreciation. It may also indicate that those who score high on this subscale are mostly communicating with friends on social media and may interact with them less in person. Past research also shows the link between social media use and body appreciation, including Branley and Covey (2017) and Lonergan et al. (2019) establish a relationship between social media use, body image, and eating habits.

Integration of social media into one's social routine was a significant predictor of higher body appreciation. This may be because the integration of social media into routine may not necessarily connote an emotional connection to social media, such as being upset when they are unable to log into social media accounts, and may aid people in keeping in contact with friends and family. Not being emotionally connected to social media may allow those who score higher on integration into social routines and lower on emotional connection to social media to spend a moderate amount of time on social media instead of relying on social media for all forms of communication. It could also map onto the different risk groups, those who spend less time on social media may spend more time connecting with family and friends or looking at art instead of following influencers or interacting with fitness content.

Lastly, maternal and paternal criticism of weight, and thus modeling of unhealthy behaviors around food and eating, were significant predictors of lower body appreciation. However, these were not significant predictors for orthorexia, though trending towards significance for paternal criticism. Even though paternal criticism of eating behaviors was not a predictor when accounting for the other variables in the model for orthorexia, it did have a significant positive correlation, such that those who experienced paternal criticism had higher

rates of orthorexia. Criticism by parents, as examined by Hanford et al. (2018), is shown to decrease body satisfaction, which may be directly related to body appreciation. For example, making children feel like their body is not good enough. The results are also consistent with previous research, such as Hanford et al. (2018), which showed that maternal negative comments about the weight of others decreased their daughter's body satisfaction and increased unhealthy eating attitudes.

Participant explanation supports this finding as well. For example, a participant, who reported that their parents did not criticize their weight, still reported that "My mom always struggled with food and finding a healthy balance between diets and lifestyle." They wrote the following about their relationship with food:

"My relationship with food has always been a balancing act between going extreme on restricting foods and then binging later in the night after I have restricted all day. I feel like I have been yoyo dieting my whole life and am just starting to learn the balance between working out and eating unhealthy foods."

For this participant, modeling was separate from maternal criticism. Another participant reported that parents, "...My parents wanted me to lose weight all my life and will always bring it up in conversation about food." The same participant wrote, "I have had a difficult relationship with food but am learning that it is fuel for my body and not a bad thing," in response to a question about their relationship with food.

An unexpected finding was that maternal criticism did not predict changes in orthorexia, however paternal criticism was associated with higher rates of orthorexia. It appears from these results that paternal criticism about eating behaviors is more internalized,

such that children are more affected by them and change eating behaviors to become more rigidly healthy. However, this was not for maternal criticism of eating behaviors.

Implications

As stated in the introduction, this study has implications not only for research, but for clinical applications as well. Findings suggest that parental modeling, social media use, and religiosity all have an effect on disordered eating behaviors and cognitions. Based on the results of this study, clinicians can create risk management plans that restrict high risk social media content, or high social media use in general, and can advise families on how to discuss food and weight, as well as how to model healthier eating behaviors. Results of the study may allow clinicians and other mental health or healthcare professionals to screen patients to assess them for risk of disordered eating based on the predictor variable, and may allow for patients to monitor their own risk.

This study may also inform parents on how to interact with topics concerning food, weight, body image, and other related topics. The negative effect of negative parental modeling on BAS-2 score is shown in the results, and the effects of even watching a parent struggle with eating issues or criticizing themselves in front of the child is clear in the qualitative data. This study will help parents to make decisions about how they will treat food and their bodies in the household. Knowing the effect of modeling behaviors such as parents criticizing their own or each other's weight, food intake, or body type on their children will hopefully allow parents to make choices such as making changes to their own eating habits, or teaching their children that food is for nourishment and energy. Parents will also be more informed about how negative comments about oneself can affect their children in the long term, which will allow them to make the possible choice to seek treatment themselves.

Limitations

Since most participants in this study were Stockton students, the study is limited in its subject pool. There were some community responses, however, many contacted religious organizations did not reply to communications. Participants were also mostly college-aged women, which limits the generalizability of the study to all genders (men and gender-diverse participants) and ages.

A second limitation is the scale used for parental modeling of unhealthy eating behaviors measured criticism about eating behaviors and weight specific to the individual or child. While I expected that criticizing someone's weight is modeling unhealthy behaviors, a measure that is specific to modeling may be more effective in determining the influence of a parent unhealthy eating behaviors and rigid restrictive dieting and exercise behaviors on their children's eating behaviors.

Future Research

Based on limited existing research, it is critical for future research on body appreciation and image, and propensity for eating disorders to examine a more diverse population, such as those who follow non-Abrahamic religions, men, gender diverse participants, and more varied ages, data should be collected from targeted samples. Future research should include measures for disordered eating that maps onto the symptoms of other eating disorders, such as anorexia, binge eating, or bulimia. This study only focuses on criticism from the parents to the child, and according to qualitative data, it seems that just modeling unhealthy behaviors, such as dieting, commenting on one's own body, and overeating have a long-lasting effect on children. Lastly, this study should be replicated intergenerationally, to better understand the effect of generational modeling. Future research should also measure more parental modeling behaviors,

such as excessive dieting, comments about eating behaviors, body types, or weight towards themselves or others. Future research should also study the effect of different social media content on orthorexia symptoms. As found in this study, different types of content have different and varied outcomes, and studying how specific social media content, such as influencers, content about health and dieting, such as diet cleanses, fasting, or fad diets, or exercise routines effect orthorexia may add to the literature surrounding orthorexia, and help researchers and clinicians to understand what content may be a risk factor for increased restrictive and ridged eating behaviors.

Conclusions

In conclusion, results of this study show that parental modeling, social media use, and religiosity have an effect on body appreciation and rigid healthy eating behaviors, known as orthorexia. Parental criticism of eating behaviors and weight, religious intellect and ideology, being emotionally connected to social media and medium and low risk social media content are potential risk factors of body appreciation and orthorexia., while public practice of religion, integrating social media into one's routine and high risk social media content are potential protective factors. Results expand our knowledge of potential risk and protective factors, which in turn can help to promote awareness on strategies to reduce poor body appreciation and rigid adherence to healthy eating. These results will be informative particularly to understanding influences on orthorexia. Clinicians will be able to use this information to create risk management plans and inform recovery plans, as well as to inform those with high risk factors so that they may individually monitor their intake of risky content.

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Table 1

Means Descriptive Statistics for Parental Modeling, Religiosity and Social Media (N = 113)

Measure	M (%)
Household Diet	
Size Restrictive	15%
Food Restrictive	14.2%
Religious Diet (Yes)	
Other	10.6%
Vegetarian	6.2%
Halal	3.5%
Fasted (Religious Reasons)	
No	78.8%
Yes	21.2%
Religion	
Catholic	27%
None	25.7%
Spiritual	12.4%
Other	11.5%
Jewish	8%
Protestant	4.4%
Orthodox	3.5%
Non-Religious Diet Past	
Food Restrictive	22.1%
Size Restrictive	19.5%

Other	8.8%
Gluten-Free	4.4%
Current Diet (Yes)	
Food Restrictive	7.1%
Other	6.2%
Size Restrictive	8%
Vegetarian	4.4%
Vegan	3.5%
App Used	
Instagram	93.8%
TikTok	82.3%
Snapchat	81.4%
YouTube	68.1%
Facebook	56.6%
Pinterest	54%
Twitter	30.1%
Reddit	16.8%
Tumblr	11.5%
Other	5.3%

Table 2

Coefficients for Multiple Regression Predicting Body Appreciation-2 Score

Model	Unstandardized		Standardized		
	Coefficients		Coefficients		
	B	Std. Error	β	t	Sig.
1 (Constant)	2.832	0.574		4.930	< 0.001
CRS Subscale Intellect	-0.196	0.089	-0.259	-2.210	0.030
CRS Subscale Ideology	-0.176	0.085	-0.252	-2.077	0.040
CRS Subscale Public Practice	0.314	0.105	0.403	3.004	0.003
CRS Subscale Private Practice	0.171	0.087	0.269	1.963	0.053
CRS Subscale Religious Experience	-0.070	0.106	-0.096	-0.663	0.509
SMUIS Subscale Social Integration and Emotional Connection	-0.322	0.106	-0.295	-3.051	0.003
SMUIS Subscale Integration into Social Routines	0.425	0.142	0.300	2.989	0.004
FIS Mother	-0.165	0.073	-0.194	-2.539	0.026
FIS Father	-0.173	0.068	-0.214	-2.539	0.013
Current Diet	0.478	0.152	0.252	3.146	0.002

*CRS Total and SMUIS Total Excluded by SPSS

Table 3

Correlations for Body Appreciation-2 Score

	Pearson's R	Significance
CRS Intellect	-0.092	0.167
CRS Ideology	-0.034	0.361
CRS Public Practice	0.192	0.022*
CRS Private Practice	0.215	0.012*
CRS Religious Experience	0.012	0.415
CRS Total	0.076	0.214
Social Integration and Emotional Connection	-0.159	0.047*
Integration into Social Routine	0.128	0.090
FIS Mother	-0.345	<0.001*
FIS Father	-0.234	0.008*
Current Diet	0.251	0.004*

Table 4

Coefficients for Multiple Regression Predicting Eating Habits Questionnaire Score

Model	Unstandardized		Standardized		
	B	Std. Error	β	<i>t</i>	Sig.
1 (Constant)	2.590	0.354		7.323	< 0.001
CRS Subscale Intellect	-0.126	0.055	-0.298	-2.297	0.024
CRS Subscale Ideology	-0.009	0.052	-0.023	-0.173	0.863
CRS Subscale Public Practice	0.147	0.064	0.340	2.284	0.025
CRS Subscale Private Practice	-0.093	0.053	-0.263	-1.734	0.086
CRS Subscale Religious Experience	0.152	0.065	0.374	2.329	0.022
SMUIS Subscale Social Integration and Emotional Connection	0.035	0.065	0.057	0.536	0.593
SMUIS Subscale Integration into Social Routines	-0.079	0.087	-0.101	-0.908	0.366
FIS Mother	-0.044	0.045	-0.092	-0.969	0.335
FIS Father	0.083	0.042	0.186	1.988	0.050
Current Diet	-0.406	0.093	-0.385	-4.339	<0.001

*CRS Total and SMUIS Total Excluded by SPSS

Table 5

Correlations for Eating Habits Questionnaire

	Pearson's R	Significance
CRS Intellect	0.032	0.367
CRS Ideology	0.086	0.181
CRS Public Practice	0.185	0.025*
CRS Private Practice	0.102	0.140
CRS Religious Experience	0.246	0.004*
CRS Total	0.152	0.054
Social Integration and Emotional Connection	-0.061	0.260
Integration into Social Routine	-0.067	0.241
FIS Mother	-0.016	0.434
FIS Father	0.173	0.037*
Current Diet	-0.389	<0.001*

Table 6

Sample Explanations of Parent's Relationship with Food

Parent's Relationship with Food

My dad generally had a normal relationship with food. My mom, however, constantly went to the gym, tried different diets, and filled the house with weight watchers and low cal snacks.

It's a Middle Eastern diet so bread, rice and meats are essential. There's a variety of fruits and vegetables but you get the idea.

Try to eat healthy foods for the majority, unhealthy foods were fine to eat as long as it wasn't a major amount.

My mother doesn't eat all day and then eats one meal late at night and has a few unhealthy snacks. Overall, it is a very unhealthy one.

They are both obese and have the worst eating habits ever. My mom had gastric sleeve surgery a few years ago and still struggles with her weight and getting enough nutrients into her diet. My dad has high blood pressure and eats like he is still a teenage boy, now in his 50's it's starting to catch up to him and he makes me worried for his health.

Table 7

Sample Explanations for Relationship with Social Media

Relationship with Social Media
Mine is very good, I use it as an outlet for fun, and entertainment, but I don't use it as a main source of communication or friends. I post whatever I want to on there and don't really care what others will think when they see what I post.
I have a love hate relationship. I love to see what my friends post and I like to interact with them, but I'm constantly comparing myself to what I see online.
I don't have the healthiest relationship, but certainly not the worst. I stay on social media apps for longer than I should, but it is not an absurd or concerning amount of hours either. I do use and check social media when I wake up and before I sleep, but it is more out of boredom rather than a necessity to see what's going on in others' lives, or to feel connected.
I have a strange relationship with social media. I hate it, but I still use it. I don't use it to "keep up" with my friends and things on it. I just use it when I'm bored. It is kind of a last resort thing or when I'm in an uncomfortable situation I'll just go on social media to avoid that situation. On Tiktok I don't post videos or anything, I just use it to watch videos. I want to delete social media but, snapchat has all of my memories from concerts, my cousin being babies, sports and my friends so that's why I don't want to delete it. Instagram everyone is so fake! people post fake picture or photoshopped pictures to make them look better, and everyone thinks likes/ comments on a post and the amount of followers matter. social media is just toxic and thats why I'm just a ghost follower maybe I should call myself? since I don't really post I just observe.
I deleted most of my social media off of my phone in the 12th grade, I found myself just constantly comparing and berating myself, asking why doesn't my life look like theirs or being constantly concerned and informed what was going on in other peoples' lives. Now I use it more as entertainment and sometimes a way to motivate myself to read or workout. I have definitely been recently using it as a form of numbing, where if I am overwhelmed I will just scroll on YouTube to be entertained.

Table 8

Sample Explanations for Relationship with Religion

Relationship with Religion
I don't have a relationship with religion I have never really cared for it
My family identifies as Buddhist but I personally identify as an atheist. My family never pushed any religion on me but we have participated in some Buddhist religious practices mainly for community/cultural purposes.
I do not have a strong relationship with my religion. When I was younger I would go to Hebrew school twice a week and Temple once a week. Once I has my Bat Mitzvah, I stopped attending as much. Once COVID hit, my family rarely attends services on holidays now.
I pray 5 times a day, and read the Quran daily. I try to stay away from sin and remember Allah (God) as much as I can throughout my day to do the correct things.
I love my religion. I believe in God, I go to church on occasions. I love my nationality.

Table 9

Sample Explanations for Relationship with Food

Relationship with Food Overall

I had an eating disorder for 2 years and am now much healthier and happier. I restricted myself and ate very small portions, but realized my health was declining rapidly and made me snap out it. Food is fuel!

I grew up thinking any unhealthy foods were bad and disgusting. We rarely had unhealthy food in the house but when we did, I would often eat it sneakily and eat a lot. As I have gained more independence, my relationship with food has gotten better. Since I have access to unhealthy foods if I really want them, I do not binge on them or crave them as much. I try my best to eat healthy and drink a lot of water, but I am not usually afraid of eating unhealthy foods anymore.

I have always had a rough relationship with food, from sneaking "bad" and "unhealthy" foods around my parents to skipping out on meals. It has been such a rollercoaster and even now, food is always on my mind. I have been trying to be more intuitive and mindful when I eat, but it also means that food is still on my brain 24/7, which can make me go crazy. I tend to binge eat a lot and then not eat at all another day. It has been getting better, especially that I have been working out, but there still days that I give up. I am still trying to get a hold of my relationship with food.

I try to regularly eat healthy but sometimes binge on snacks and junk food.

I have a good relationship with food, I feel if I include healthy food into my diet and exercise regularly, I can eat the foods that aren't "healthy" as well.

Appendix A

Social Media Use Integration Scale (Jenkins-Guarnieri et al, 2012)

“Facebook” replaced by “social media”

1= Strongly Disagree, 2= Disagree, 3= Neither agree nor disagree, 4= Agree, 5= Strongly Agree

1. I feel disconnected from friends when I have not logged into Facebook
2. I would like it if everyone used Facebook to communicate
3. I would be disappointed if I could not use Facebook at all
4. I get upset when I can't log on to Facebook
5. I prefer to communicate with others mainly through Facebook
6. Facebook plays an important role in my social relationships
7. I enjoy checking my Facebook account
8. I don't like to use Facebook
9. Using Facebook is part of my everyday routine
10. I respond to content that others share using Facebook

- Which social media apps do you use? (Facebook, Instagram, Tumblr, Pinterest, Tiktok, Twitter, YouTube, Snapchat, Reddit, or other)
- What content do you interact with? (music, art, cosplay, fandom, activism, news, current events, health, fitness, diet, cooking/baking, healthy eating, influencers, science, video essays, literature, comedy, and interacting with friends and community)
- What 3 social media content topic do you interact with most? (Open-ended)
- Qual: What is your relationship with social media?

Centrality of Religion- 10 (CRS-10)

(Esperandio et al., 2019)

1. How often do you think about religious issues?
 1. 5- Very often, 4- Often, 3- Occasionally, 2- Rarely, 1- Never
2. To what extent do you believe that God or something divine exists?
 1. 5- Very much, 4- Quite a bit, 3- Moderately, 2- Not very much, 1- Not at all
3. How often do you take part in religious services?
 1. 5- Very often, 4- Often, 3- Occasionally, 2- Rarely, 1- Never
4. How often do you pray?
 1. 5- Very often, 4- Often, 3- Occasionally, 2- Rarely, 1- Never
5. How often do you experience situations in which you have the feeling that God or something divine intervenes in your life?
 1. 5- Very often, 4- Often, 3- Occasionally, 2- Rarely, 1- Never
6. How interested are you in learning more about religious topics?
 1. 5- Very much, 4- Quite a bit, 3- Moderately, 2- Not very much, 1- Not at all

7. To what extent do you believe in an afterlife—e.g., immortality of the soul, resurrection of the dead, or reincarnation?
 1. 5- Very much, 4- Quite a bit, 3- Moderately, 2- Not very much, 1- Not at all
 8. How important is it to take part in religious services?
 1. 5- Very much, 4- Quite a bit, 3- Moderately, 2- Not very much, 1- Not at all
 9. How important is personal prayer for you?
 1. 5- Very much, 4- Quite a bit, 3- Moderately, 2- Not very much, 1- Not at all
 10. How often do you experience situations in which you have the feeling that God or something divine wants to communicate or to reveal something to you?
 1. 5- Very often, 4- Often, 3- Occasionally, 2- Rarely, 1- Never
- Has your household ever followed religious diets? (Yes/No)
 - If yes is selected: Which diet has your household followed? (Kosher, Halal, vegetarian for religious reasons, vegan for religious reasons, or other)
 - Have you ever fasted for a religious reason? (Yes/No)
 - Qualitative: What is your relationship with your religion?

Family Influence Scale (Kluck, 2010)

1= Never, 2= Rarely, 3= Sometimes, 4= Often, 5= All of the time

Instructions: Please think about the person who fit the role of mother while you were growing up and rate (using the response scale below) how often she did each of the following

1. Criticized your weight/size?
2. Teased you about your weight/size?
3. Encouraged you to control your weight/size through dieting exercise, or other weight control behaviors?

Instructions: Please think about the person who fit the role of father while you were growing up and rate how often (using the same response scale) he did each of the following.

4. Criticized your weight/size?
5. Teased you about your weight/size?
6. Encouraged you to control your weight/size through dieting exercise, or other weight control behaviors?

- Did your parents follow any (non-religious) diets in your household? (yes/no)
 - If yes is selected: What kind of diet was followed in your household? (food restrictive (cutting out certain food groups, like in keto diets), size restrictive

(restricting portion sizes, such as in Weight Watchers), vegetarian, vegan, gluten-free, or other)

- What kind of relationship did your parents have with food?

Eating Habits Questionnaire (Graham, 2003)

1= False, not at all true 2 = Slightly true 3 = Mainly true 4 = Very true

1. I am more informed than others about healthy eating.
2. I turn down social offers that involve eating unhealthy food.
3. The way my food is prepared is important in my diet.
4. I follow a diet with many rules.
5. My eating habits are superior to others.
6. I am distracted by thoughts of eating healthily.
7. I only eat what my diet allows.
8. My healthy eating is a significant source of stress in my relationships.
9. I have made efforts to eat more healthily over time.
10. My diet affects the type of employment I would take.
11. My diet is better than other people's diets.
12. I feel in control when I eat healthily.
13. In the past year, friends or family members have told me that I'm overly concerned with eating healthily.
14. I have difficulty finding restaurants that serve the foods I eat.
15. Eating the way I do gives me a sense of satisfaction.
16. Few foods are healthy for me to eat.
17. I go out less since I began eating healthily.
18. I spend more than three hours a day thinking about healthy food.
19. I feel great when I eat healthily.
20. I follow a health-food diet rigidly.
21. I prepare food in the most healthful way.

Body Appreciation Scale-2 (BAS-2; Tylka & Wood-Barcalow, 2015)

1= Never, 2= Rarely, 3= Sometime, 4= Often, 5= Always

1. I respect my body.
2. I feel good about my body.
3. I feel that my body has at least some good qualities.
4. I take a positive attitude toward my body.
5. I am attentive to my body's needs.
6. I feel love for my body.
7. I appreciate the different and unique characteristics of my body.
8. My behavior reveals my positive attitude toward my body; for example, I walk holding my head high and smiling.
9. I am comfortable in my body.

10. I feel like I am beautiful even if I am different from media images of attractive people (e.g., models, actresses/actors).

- Have followed a non-religious diet? (yes/no)
 - If yes is selected: Which of the following diets have you followed? (food restrictive (cutting out certain food groups, like in keto diets), size restrictive (restricting portion sizes, such as in Weight Watchers), vegetarian, vegan, gluten-free, or other)
- Are you currently following any diet? (yes/no)
 - If yes is selected: Which of the following diets are you currently following? (food restrictive (cutting out certain food groups, like in keto diets), size restrictive (restricting portion sizes, such as in Weight Watchers), vegetarian, vegan, gluten-free, or other)
- How often do you diet? (1= Never, 2= Rarely, 3= Sometime, 4= Often, 5= Always)
- How was food viewed in your household (good, bad, neutral)
- Please explain your relationship with food.

Demographics

- What is your date of birth? (MM/DD/YYYY)
- Initials
- What city do you permanently reside in?
- Sex (Male, Female, Intersex, prefer not to answer, other)
- Gender (Male, Female, NB, Prefer not to answer, other)
- I identify my race as: (Asian, Native Hawaiian/Pacific Islander, African American, White, Native American/Indigenous, Hispanic/Latinx, Prefer not to answer, other)
- Ethnicity (Hispanic/Latinx, Non-Hispanic)
- Civil Status (Single, Married, Separated, Widowed, Partnered, Other)
- Sexual Orientation (Lesbian, Gay, Stright/Heterosexual, Bisexual, Asexual, Queer, Questioning, Pansexual, Other)