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Eating Disorder Prevention Measures for High Risk Populations in the College Campus Setting

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Interdisciplinary Senior Project for the Antonian Honors Program

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Abstract

Eating disorders (EDs) are complicated and dangerous illnesses that affect mental and physical health. Symptoms may include, but are not limited to, food restriction, vomiting or using laxatives, and/or excessive exercise to prevent weight gain. College students, particularly females, are at an increased risk for ED onset due to external factors such as a change in environment, eating habits, diet culture and high risk of food insecurity in the campus setting. Since St. Catherine University (SCU) has a College for Women, the author wondered why she hadn't seen more information or initiatives to support ED prevention and recovery within the SCU community.

In this honors project, the author analyzes what previous research reveals about ED prevalence and prevention in the college environment, specifically as it pertains to ED awareness and food availability. She also shares the information from interviews with three Registered Dietitian Nutritionists who work in college settings. The author finishes by offering some suggestions for how SCU as an institution can more effectively fight ED onset and diet culture, and promote healthy body image. These suggestions include changes such as adjusting cafeteria structure or menus, offering regular ED screenings, educating students on how to alert faculty and staff about a student at risk, and hosting ED awareness workshops through programs like The Body Project.

Key Words: eating disorders, food insecurity, university, college, cafeteria, eating disorder prevention

Introduction to Eating Disorders in a College Setting

Imagine the following scenario: A fresh-faced young woman steps on campus for the first time, begins the move-in process, meets her floormates, hugs her family goodbye, and starts unpacking her dorm room. As the sun sets, she follows the crowd of students flocking to the cafeteria. Her new acquaintances are unaware that she is in recovery from anorexia nervosa, a serious ED with both physical and mental ramifications. They laugh together, joking about gaining the "freshman fifteen", oblivious to the discomfort their insensitive comments provoke in their peers. The cafeteria looms ahead, full of sharp smells and bustling people. The student starts to feel overwhelmed. This is her first time making independent food choices, and although she has prepared with her dietitian and therapist for this moment, it is no less terrifying. As she scans her meal card and steps through the gated entrance, numbers bombard her. Calorie counts are everywhere in bold, black letters, and she hears the voice inside her whispering insistently to ignore her hunger pangs. Resolutely, she suppresses her doubts, and hurries after her floormates. She decides to go for the shortest line to limit her time in this chaotic environment, getting a sandwich with a side salad. As she tries to find the silverware and napkins, her floormates brush past her to a nearby dining table. Sighing, the young woman drags her feet to join them. She has a hard time focusing on eating, and one by one her floormates finish their meal and hurry back to continue unpacking. Now sitting alone, she forces herself to take bites of food. She feels stressed. She misses her family. And she doesn't want to finish eating alone. Holding back tears as her anxiety rises, she squishes the remaining portion of the sandwich into a napkin, closes the disposable salad container, and drops them both in the trash before making a beeline back to her dorm room.

The above story is fictional, but it paints a realistic picture for many female college students, who experience a disproportionate risk for developing or reverting to disordered eating behaviors. The ED prevalence rate is as high as 17% in undergraduate students (Woodhall et al. 2015). EDs come in many appearances and forms, affecting both men and women, although women are at a higher risk statistically, across all races and ethnicities (Eisenberg et al., 2011). According to a recent thesis, the prevalence for ED and disordered eating behaviors among female college students may be as large as 37.9% (Postich, 2020). Although the start of school with its excitement of orientation and countless new friends can distract from the task of eating, many students face isolation and stress as the year progresses, and may decide that skipping meals is preferable to eating alone as they struggle with disordered eating (DE). In addition, dieting is common practice among women in particular, and EDs often go unreported (Feibelman & Turner, 2014). Therefore, the prevalence of ED's threaten the holistic health of students and should be regularly screened and addressed in a college environment.

Defining Common Terminology around Eating Disorders

To begin this review and discussion of best practices for eating disorder prevention in the college setting, including how cafeteria environment and food insecurity (FI) status impact risk, it is important to define common terms. According to the Academy of Nutrition and Dietetics, disordered eating (DE) is described as, "[A] range of irregular eating behaviors that may or may not warrant a diagnosis of a specific eating disorder," whereas a mature ED must meet the qualifications outlined in the latest iteration of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM 5), which can be quite narrow for a specific eating disorder type like anorexia nervosa (AN) (Anderson, 2018). Symptoms and examples of DE include, but are not limited to frequent dieting and meal skipping, feelings of guilt or shame when eating certain foods, and

rigid food routines (Anderson, 2018). Many of the articles and research reviewed in this essay will place participants into specific categories of diagnosable EDs or general DE. In particular, AN, characterized by severe food restriction, lethargy, and weight loss, has a mortality rate of as high as 18%, in part due to the high risk of depression and suicidal thoughts in addition to the physical impact of the ED (Khalsa et al., 2017). Agonizingly, within a year of successful hospital treatment for AN, the likelihood of relapse remains at 50% or greater (Khalsa et al., 2017). Whereas Binge Eating Disorder (BED) and Bulimia Nervosa (BN) may not have life-threatening consequences immediately, they are serious illnesses that affect a person's quality of life to a debilitating extent. Particularly with BN, electrolyte imbalances from the frequent purging can cause sudden death. Finally, throughout this review it is acknowledged that the incidence of mental health illnesses such as anxiety and depression are elevated in people with EDs and mental health should be assessed as part of ED screening (Eisenberg et al., 2011).

Why St. Catherine University Students Should be Considered High Risk

Of particular note for a college population, the risk of developing an ED like AN or BN increases until approximately age 20 and then starts to decline. In contrast, BED diagnoses increase after age 20 (Postich, 2020). Clearly, ED behaviors of various types should be a cause for concern in a college setting, especially in an institution with a 99.8% female population in the undergraduate program like SCU (St. Catherine University, 2020). While SCU students are quite diverse as far as age, information gathered by a third-party website estimates that about 15% of SCU students are between ages 18-19, with the other 85% being aged 20 or older (see Figure 1) (College Factual, 2021). In light of these statistics, ED types such as BED may be commonly found at SCU. In addition, approximately 10.6% of the SCU student body identifies as Asian American, which is significant because recent research has suggested that certain DE behaviors

may be more prevalent among Asian Americans due to cultural norms, racism, and idealization of Western beauty standards (Uri et al, 2021; Forbes 2020). Specifically, evidence indicates that this student group is more likely to purge, use cognitive restraint, and struggle with body dissatisfaction and negative body weight attitudes. Inarguably, the demographics indicate that SCU should recognize the increased need for extra ED prevention measures.

Calorie Posting and Cafeteria Considerations

Calorie Posting as Obesity Epidemic Intervention

The obesity epidemic is forcing health professionals to get creative by searching for new ways to prevent and reduce obesity in the world population. One initiative to address this is the mandatory labeling of calorie posting for restaurants or cafeterias of a certain size and customer count, such as university cafeterias. The Patient Protection and Affordable Care Act stipulates that restaurants and cafeterias label the calories of every food item on their menu as a way of promoting the customer's "right to know" (Martinez et al., 2012). The reasoning behind this rule is to encourage more informed choices for eating, prompting customers to think about the nutrition of a food item before eating it. In other countries such as Canada, the public health push behind mandatory calorie posting is to decrease the amount of calories that obese and overweight induviduals eat when dining out (McGeown, 2019). While meals eaten outside the home are often higher in calories, any food that is particularly abundant in saturated fats, sodium, and processed sugars can be risky for obese people. This is because diet intake is just one contributing factor for this chronic disease; an unbalanced diet may cause hormone dysregulation, as well as lead to cycles of overeating and further accumulation of fat (McGeown, 2019). Zeroing in on calories alone may promote feelings of guilt or low self-esteem, however, and ignores the many complex interactions that maintain obesity (McGeown, 2019). In fact, the

populations most at risk for obesity are usually the least likely groups to seek out and analyze calorie information, prompting the question, “If the target population isn’t paying attention, why not develop a more effective and engaging intervention instead?” (McGeown, 2019). More tailored interventions might include teaching intuitive eating principles and hunger-cue recognition. The positive impact of exercise should not be ignored either, and encouraging joyful movement and engaging in physically taxing activities such as biking, as well as lowering the salt, saturated fat, and processed sugar content of restaurant food items would be beneficial for reducing obesity rates (McGeown, 2019). Therefore, the cause of obesity is not simple or linear, and forcing calorie posting produces more guilt than sustained behavior change.

College Students and Calorie Posting

Because college students are a particularly vulnerable population, some believe that posting calories at on-campus cafeterias will be triggering. In a survey completed by 497 university students, 34% stated that calorie posting may make the recovery from an eating disorder more difficult (Martinez et al., 2012). However, the majority of the surveyed students did support the calorie labeling overall. It should be noted that female students seemed to have a higher concern for calorie labeling and its impact on ED initiation and maintenance. However, if the whole point of the labeling is to cause students to read and consider the calorie information to make healthier choices, the cafeteria may not be the best-suited place for these displays, as about one third of the participants, because of embarrassment, stated they would be unwilling to hold up the line by reading the calorie information. Contradicting this feeling of discomfort, however, students also supported the in-person availability of the calorie information when compared to an online platform (Martinez et al., 2012). In order to meet the legal requirements, establishments with 20 or more locations “must disclose the number of calories contained in standard items on

menus and menu boards [and information for] self-service foods and foods on display… must be listed in close proximity and clearly associated with the standard menu item" (Center for Food Safety and Applied Nutrition, 2020). Perhaps the best compromise based on this information would be to physically post a menu and calorie information in a more inconspicuous area near both the self-service counter and standard service lines, so only students who want the nutrition facts access it.

Additionally, two studies consisting of 403 predominantly female college students with both unrestrained (UR) and restrained eaters (RE) represented found that calorie labeling of food items did not affect the calories consumed for the UR group (Girz et al., 2011). The labels did not cause students in either group to consume a smaller portion of a high calorie food item either, and failed to promote more nutrient dense choices (Girz et al., 2011). If the salad on the menu had more calories than the pasta dish, REs tended to opt for the lower calorie option without considering the actual nutrition quality of the dish (Girz et. al, 2011). In a Canadian study encompassing just under 300 college women who had DE behaviors that did not meet ED diagnosis threshold, calorie posting did not significantly affect the amount of calories eaten during a meal (Lillico et al., 2015). Narrowing in on the female perspective through an online survey with ED risk assessment, 716 women participated in a study investigating the effect of labeling on those who meet and do not meet diagnostic criteria for an ED (Haynos & Roberto, 2017). As one might expect, participants who screened positive to AN or BN ordered significantly fewer calories than those who had no eating issues or who had BED. For patients with BED, the opposite was seen, with participants ordering more calories than on an unmarked menu. This demonstrates that for those with a diagnosis of ED, calorie information is not helpful for recovery (Haynos & Roberto, 2017). Also, people who consistently use calories to make food

choices often have more harmful beliefs about food and unhealthy ideas about weight loss, or have no problem maintaining a healthy weight (Haynos & Roberto, 2017). While it is admirable that calorie labeling initiatives want to make healthy eating easier, hyperfocusing on calories will not solve the issue of obesity for anyone, and can possibly create a stumbling block for people struggling to develop a healthy relationship with food.

Impact of Attaching Moral Labels to Food Items

Although there is some conflicting evidence due to different methods and formats of various research studies, labeling foods as "good" or "bad" does not significantly reduce the amount of calories consumed (Lillico et al., 2015). A specific type of moral labeling called Traffic Light Labeling (TLL) is in use at several institutions, with colors like green and red indicating whether a food is a "good" or "bad" choice. Although Harvard University removed calorie information from their dining halls in 2008, two dining areas from the university trialed TLL in their buildings for several weeks, surveying students after the trial period was complete (Seward et al., 2018). While women were more likely to report that TLLs would make ED recovery more difficult, in general, students reported that the TLLs did not cause them to change their food choices or to eat "healthier". Indifferent to the moral labels, the students expressed they did not need or use the calorie information provided in the cafeteria, further supporting that calorie labeling is ineffective in facilitating improved eating behaviors.

College Cafeteria Arrangement and Operations

While calorie labeling has rather mixed conclusions in the research, ED recovery and cafeteria-style eating presents multiple perspectives as well. Although this research is dated, a 2004 study of hospital patients ages 13-18 found that the switch from a controlled, hospital-style meal to a cafeteria-style one caused stress in patients initially, but did provide benefits later in

their ED recovery (Sandy et al., 2007). These patients were specifically enrolled in the hospital's ED treatment program, and were completing treatment with the goals of self-efficacy and comfort around food. Independence is a crucial skill to learn as teenagers transition from high school to adult life since their reliance on their guardians naturally declines in this aspect of food preparation. Instead, they will need to plan, select, and prepare food on their own, hence the difficulty for young adults who struggle with an ED or DE. Understandably, the participants involved in this study experienced a great amount of fear and stress when eating in a cafeteria setting, especially if it was very crowded. However, after several weeks of exposure, the patients began to feel hopeful and more comfortable in this stimulating environment (Sandy et al, 2007). Applying this to university settings, a short cafeteria introduction session built into orientation week might benefit students, especially those in ED recovery, feel more confident choosing food selections and building a balanced plate.

The cafeteria layout itself could have an affect on the amount of food chosen and consumed. According to a short article in the *Clinical Nutrition* journal, buffet-style eating environments promote excessive eating because customers often want to get the most food for their money (Temple & Nowrouzi, 2013). In addition, since the 1970's, portion sizes have been increasing, and when a portion is larger, more food is often eaten, whether it is needed or not (Temple & Nowrouzi, 2013). Many college cafeterias use a buffet-style service that may prove a hardship for students struggling with BED or BN because it makes it easier for them to binge at no extra cost. However, cafeteria environments, aside from choosing to post calorie information directly by the service areas, also have the power to improve student food choices by adjusting the menu layout. In a recent study, a cafeteria with a buffet-style arrangement, although it did enforce a single main dish limit, began to offer a new lunch item consisting of a balanced paper

lunch bag as a grab-n-go option instead of the traditional buffet. Results showed that with the change in structure and options, 19% of students chose the bagged lunch instead of the buffet, demonstrating that offering nutritious and convenient alternatives can encourage healthful eating choices in the lives of busy students. While the novelty of the bagged lunch may be suspected motivation in its selection, the number of students purchasing this option stayed consistent even after many weeks (Carins et al., 2020). Profit is always a concern for cafeterias, making them reluctant to offer healthy options they fear will be unprofitable. However, this research concludes that even in environments that sell predominantly unhealthy food, nutrient dense options can bring in revenue and promote customer satisfaction if convenience is catered to as well (Carins et al., 2020). In summary, the cafeteria environment in the university setting has the potential to significantly reduce eating stress for consumers, and with the right motivation and support for cafeteria administrators, healthy food-student relationships will be the positive outcome.

Focusing on food service at SCU, the cafeteria's layout and service hours leave room for improvement. Although SCU is largely a commuter campus, a substantial group of students live on campus. Both during the semester and school breaks, the short operating hours at the cafeteria present barriers to obtaining food; barriers that students in ED recovery may not feel prepared to overcome. For example, breakfast at the main cafeteria is served from 7:30-9:30 am, and then the cafeteria closes until 11 am. If a student has an 8 am class that she woke up for at 7:30, she would not have time to get ready and eat breakfast before heading to class. If her class finished at 9:40 and her next class started at 10:35, she would not eat until after her second class, effectively causing her to skip either breakfast or lunch, depriving her brain and body of needed energy. On the weekends, the hours of the cafeteria are even more limited, with hot food only served from 9:00-10:30 am, and limited, grab-n-go options available until 10:30 pm. From personal

experience, if a student works from 10:00 am- 2:00 pm, this student would not get a hot lunch or dinner unless she planned in advance to keep food in her dorm kitchen or spent money eating out (Sodexo, n.d.). While the decreased student population on the weekends may require the cafeteria to adjust its services, there are many creative solutions to maintain the bottom line while meeting all the nutrition needs of students.

Interviews with Experts in the College Eating Disorder Field

Because EDs are such complicated diseases, experiences of experts in college food service settings provide valuable insight. The first expert interviewed is a dietitian at Northern Arizona University (NAU), Megan Elisabeth Meyer, MPH, RD. While she works with students as part of a care team of faculty and staff that treat patients with EDs, she also works to raise awareness of ED signs and symptoms within the campus community. In recent times at NAU, Meyer has witnessed an increase in her ED cases due to the COVID-19 pandemic. However, she acknowledges that, in general, the food culture of college life is much less structured than students are accustomed to at home, and this contributes to the relapses for students with a history of an ED. When questioned about the connection between calorie posting and ED relapses, Meyer explains that it is a very personal trigger, and is not applicable to every person in recovery. Some students are highly bothered by it, others are quite indifferent to the information. Without a doubt, the complete flexibility of eating catches some students off guard, most-likely those fresh out of treatment. When living in a dorm or apartment, there is often no authority figure to tell one when, what, or how much to eat which can contribute to stressful decision-making around food consumption. When considering ED development versus relapse in college, Meyer guesses that the ratio of her standard case load would be about 25% new cases and 75% relapses. In order to prevent ED behavior, the campus screens students for ED

symptoms during ED Awareness week, as well as hosts targeted events throughout the year for high-risk student groups such as student athletes or sorority members. Various peer-health educators also play a role in promoting a healthy body image at NAU, and there is an anonymous care form where students, family members, or faculty can raise concern for a student. The concern may relate to physical or mental health, finances, housing security, or all of the above. Meyer identifies that the primary challenge in the field involves the lack of robust and diverse ED research studies, as those currently published include a small number of participants that are primarily white women. Because of the lack of diversity, it is difficult to infer effective treatments for the general population, much less male, LGBTQ+[1] or BIPOC[2] patients. In the future, Meyer hopes to educate more colleagues and students on the fact that EDs occur in all body types and in people from all different backgrounds and lifestyles.

In addition to Meyer, I spoke with two Sodexo dietitians, Lexi Cournoyer, RDN, LDN and Julie Lee, MS, RD, CDN. Cournoyer serves over 13 districts with Sodexo, including SCU, splitting her time between campuses while Lee currently works at Binghamton University (SUNY). Lee in particular has a vast amount of experience working with EDs in the college population, and some of the main triggers she notices for students include the overwhelming meal options with crowded seating areas yet social isolation. Although a student may be surrounded by numerous peers, she may not know any personally, and feel uncomfortable both sitting with acquaintances and eating alone in the chaotic cafeteria. This is because EDs present with intense feelings of fear around food that is heightened by eating alone. According to Lee, for people with EDs, “People and food are a combined threat.” Further, Lee explains that people with EDs do take notice of calories, but this is often an increased issue when Obsessive

[1] Lesbian, Gay, Bisexual, Transgender, Questioning, etc. (LGBTQ+)
[2] Black, Indigenous, and People of Color (BIPOC)

Compulsive Disorder is comorbid with an ED. This comorbidity is common. The person with both conditions may fixate on having a certain calorie number, or follow very specific food rules, making it impossible to achieve a balanced diet. At Binghamton, the university dining system is set up á la carte, while some of the campuses Cournoyer serves are all-you-can-eat or buffet-style. While Cournoyer has not witnessed an increase in uncontrolled eating with buffet-style dining arrangements, she agrees that it is logical to assume this environment may be more difficult for a person with BN or BED to navigate. While á la carte is a favorable option to reduce food waste, it may make ED recovery difficult if money is spent too quickly or not quickly enough, tempting students to restrict or indulge. The idea of having to select several á la carte options rather than a single meal is likely to discourage the student who finds it difficult to pick more than one or two items, feeling that she is overeating.

When working as a university dietitian, it is very likely one will encounter EDs and must be prepared to provide nutrition counseling within an interprofessional care team. Lee is firm that dietitians must work with other faculty and healthcare staff members to support students who are dealing with an eating disorder because holistic care is mandatory for mental and physical recovery. While campus staff are only equipped to manage outpatient care, it is important to have a system in place for outside referrals when a student has a more serious case. Professionals from the counseling center, health center, and nutrition services should be part of this coordinating care team. A persistent concern for Lee is ED college reporting. Since many students will not recognize or acknowledge their ED, few report it. Rural universities may also struggle with finding a qualified clinic to support students who require more intense treatment. In regard to ED formation, both Lee and Cournoyer believe that most students' ED behaviors are present at some level prior to college, and it is rare to find a case where an ED initiates in the

college setting. Providing perspectives from multiple universities, the dietitians all agreed that reporting and prevention are the main barriers for ED recovery in the college environment. Although it is the experience of all these clinicians that most ED root behaviors exist prior to entering college, understanding how to reduce them and prevent new ones from forming through stressful situations and environments can play a role in preventing a mature ED.

Food Insecurity Connections to Eating Disorder Prevalence

Food insecurity also plays a role in the high rate of ED in university settings. Meyer, Lee, and Cournoyer work at campuses where food shelves are available for students and generally well-used. At SCU, as well as at other institutions like Binghamptom, students are able to donate extra meal "points" or "dollars" to students in need. At SCU, one student reported eating nothing but a small portion of oatmeal for breakfast for the last month of one semester because she was running out of meal points and was nervous to ask her parents for more money. To prevent students from worrying excessively about food insecurity, the advertisement and utilization of food shelves and cafeteria vouchers should be normalized, as well as budgeting education and compliance. However, the process for establishing a meal point donation program is not straightforward, and SCU is still facing challenges on the best way to implement this service for optimal student use. Resource workshops like "Meal Planning on a Budget" and "How to Shop on Budget" are helpful if students are able to attend, which are run mainly through the Career Development Center at SCU. For ED awareness specifically, Binghamton University has an ED awareness team that educates the student body on common ED signs and symptoms through activities such as tabeling in common spaces, though not necessarily in the cafeteria environment. While it is exciting that free food resources are becoming more available for

university students, challenges such as poor reporting, lack of a strong care team including a dietitian, and isolating cafeteria environments remain formidable obstacles.

Food insecurity (FI) is prevalent for college populations in general, but there is a large interest in the connection between FI and EDs, and some associations have already been discovered. In fact, The Hope Center questioned over 85,000 college students on over a hundred campuses, finding that 45% had struggled with food access within a 30 day period (Goldrick-Rab et al., 2019). Contrastingly, the average American household's FI rate is only about 12% (see Figure 3) (Rasmusson et al., 2018). Strengthened by FI, BED is higher among adults who struggle with FI, with cycles of restriction and binging commonly occurring as food is more or less accessible (Rasmusson et al., 2018). Feeling unable to control one's appetite when food is finally attainable occurs more frequently as well (Becker et al., 2017). However, it should be noted that relationships between EDs and FI have not been found among all racial groups; for example, Black Americans are not more likely to have BED if they are food insecure according to the research (Rasmusson et al., 2018). Furthermore, Trinity University conducted a study that involved approximately 500 participants, finding that higher food insecurity was connected to higher weight stigma, night eating, and BED, which accounted for about 17% of participants (Becker et al., 2017). As FI increased, more frequent compensatory behaviors like vomiting occurred as well. (Becker et al., 2017). While the emerging evidence of a relationship between EDs and FI is new and must be studied more widely, it is useful to consider this possibility to prevent DE and ED among students who have inconsistent access to food.

Eating Disorder Prevention Programs for the University Setting

Over the last several decades, various research has proven that EDs are notably prevalent among college students, due to factors such as dieting and body dissatisfaction, although many of

these behaviors began to form prior to adulthood (Vohs et al., 2001; Woodhall et al. 2015). Recognizing the need, many different intervention and prevention programs have been tested to keep students eating normally. Even so, only 22% of colleges provide access to ED screening year-around, while 45% offer ED screening periodically such as once a semester (Fitzsimmons-Craft, Karam, Monterubio et al., 2019). Hosting a screening program will positively set SCU apart as it competes with several small, private institutions in the Minneapolis-St. Paul area for enrollment. Studies on prevention strategies and intervention effectiveness, many with promising evidence, are beginning to accumulate as the general public becomes more aware of EDs.

One literature review from 2019 reports that the most common programs utilized for EDs are the Healthy Body Image (HBI) and The Body Project (TBP); however, other articles laud the Healthy Minds Study (HMS) and Healthy Weight (HW) ED prevention program as effective interventions (Fitzsimmons-Craft, Balantekin, Eichen et al., 2019; Stice et al., 2013). While the HBI is delivered online, TBP is conducted in person over several weeks. Creating a barrier to implementation, however, TBP costs several thousand dollars to purchase materials and train the initial staff and students (National Eating Disorder Association [NEDA], 2020). TBP training involves a substantial time commitment as well, requiring student leaders and or faculty to complete a 1-2 day workshop prior to hosting workshops on their own campus. (NEDA, 2020) However, once the first group has completed professional training, the new facilitators are able to run as many workshops as they please at no additional expense. It must be stated, however, that TBP is tailored specifically to students identifying as female (NEDA, 2020). Although costly initiation of the TBP is unfortunate, several studies have emphasized that completing the program reduces eating disorder risk factors including low self-esteem, high body weight, body

dissatisfaction, negative mood, unhealthy dieting, and other eating disorder symptoms. TBP workshops may also reduce the risk for later onset of clinical and subclinical eating disorders. In another vein, the HBI program is not as costly and may be implemented more easily at the sacrifice of a more impersonal experience. The HBI is a platform that screens participants for a low risk, high risk, or diagnosable clinical or subclinical ED, offering evidence-based virtual treatment interventions or referring people to in-person care (Fitzsimmons-Craft, Balantekin, Eichen et al., 2019). Although this program doesn't involve face-to-face interactions, it does suggest evidence-based online interventions or refer students to in-person practitioners to address more serious conditions. In studying the effectiveness of HBI implementation for college students, it was found that allowing students to self-select resulted in a number of identified ED behaviors, with about 60% of participants having a high risk for ED development or currently meeting ED diagnostic criteria (Fitzsimmons-Craft, Balantekin, Eichen et al., 2019). However, it is important to note that the majority of the participants recruited through the self-select method were women.

Another intervention for college students may be the Healthy Minds Study, which is an online, annual survey that studies mental health, health resource utilization, and similar issues among undergraduate and graduate students. Although this is not a tool limited to college students, NEDA offers an easily accessible ED screening survey on their website, and in a recent study from 2019, in a given 6 month time period, approximately half of the survey respondents were college students. Of the students, a large percentage screened positive for a subclinical or clinical ED (Fitzsimmons-Craft, Balantekin, Eichen et al., 2019). Finally, the HW ED prevention program, both the original and the revised edition, has demonstrated sustained success in lowering ED rates among female college students. Upon a two year follow up, there was an

encouraging decrease of 60% in ED onset overall (Stice et al., 2013). This initiative is tailored for women who have a great risk of DE or EDs due to severe dissatisfaction with their current weight. About 400 students participated, and were assigned to either a control group who simply had a hand on healthy weight control or enrolled in a four hour group session involving food and exercise recommendations. The interventions were especially helpful for participants already experiencing elevated levels of ED symptoms and high BMI (Stice et al., 2013). In summary, any or several of these programs would be beneficial to implement at SCU to increase healthy eating behaviors among students, and possibly save the lives of those suffering from these complicated illnesses.

St. Catherine University's Current Prevention System

Because SCU's student body consists of high ED risk groups like female students and Asian Americans, safety measures should be in place to prevent students from succumbing to ED behaviors while at school (Uri et al., 2021; Feibelman & Turner, 2014). As far as the author has found, SCU has no special organizations or initiatives to combat eating disorder development or raise awareness at this time. While the campus does have a chapter of the National Alliance of Mental Illness (NAMI), NAMI spreads broad awareness for mental health in general, and does not focus on the genetic dispositions and physical/biological components of ED pathology. Of course, peer health educators offer single events every semester or so around healthy eating, but these are rarely well attended. Considering the information collected from the three experts in the field of college dietetics, namely Meyer, Lee, and Cournoyer, one is able to surmise that most colleges have a process for reporting students of concern to the university, including students who are exhibiting eating disorder behavior. If classmates, teachers, or family members are concerned about a student, they can often submit a form on the university website, triggering a

response from a care team who will follow up with the student in question. After a quick search through the SCU website, no form for reporting student health concerns, or, indeed, any straightforward way to request help for a current student with ED risk was found. In a platform called Student Success, there was an option for students to submit a “help” request under various topics such as mental health or financial concerns. Investigating the matter further, the author spoke with the current Associate Dean of Students at SCU, Lindsay Whipple. Upon questioning the existence of such a form, the author learned that while there is a student concern form, it is listed on the staff and faculty page of the website instead of the student page. Plainly, this location is not intuitive, and may be difficult to find in a stressful situation. Ms. Whipple acknowledged this, indicating that there is work to be done to make the website more user friendly. She also expressed willingness to add the care form link to the student page if her team was in agreement. However, Ms. Whipple stated that in her experience students tend to talk to professors and staff they trust when there is a concern, instead of locating the impersonal form. Although this does make sense, it seems reasonable that the form should be posted in both locations as there are many students who may be uncomfortable broaching such a personal subject face-to-face with a faculty member or staff person. Additionally, Ms. Whipple shared that SCU does have a small healthcare task force to handle various student emergencies of serious nature, including ED and self-harm behavior. This team includes representatives from the Counseling Center, Public Safety, Residence Life, Health and Wellness Center, as well as the Dean of Students. However, there is no counselor with significant experience or training in ED counseling, and there is no on-campus involvement from a dietitian since the campus does not have a dietitian on staff. Though a full-time dietitian may not be necessary for such a small

campus since many patients can be referred to local practitioners for coordination of care, a part-time dietitian would bring valuable insight and aid to the minimal care team at SCU.

Conclusions and Proposed Recommendations

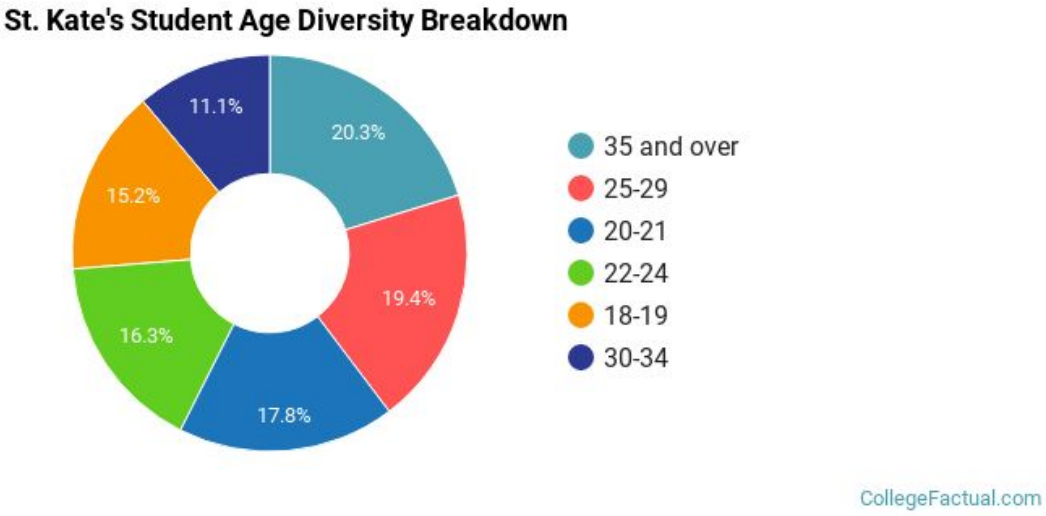
After reviewing the above information, there are five recommendations the author puts forward for SCU's consideration (see Figure 2). Firstly, SCU should implement a program like the TBP or HBI at least once a semester, giving students opportunities to assess their eating habits and prevent further ED development. Current research shows that initiatives such as the HBI and TBP are helpful with screening for and preventing ED in college students (Fitzsimmons-Craft, Balantekin, Eichen et al., 2019). Because the author has a strong desire to see a prevention program established at SCU, she is in discussion with the Nutrition and Dietetics faculty as well as Emmelene Romer, MPH, the Health Promotion Coordinator at SCU to bring the TBP to the campus. Next, the calorie information at the SCU cafeteria should be removed if possible. If there are rules imposed by Sodexo regarding the display of calories, the information can be made easily available online or confined to one sign or area of the cafeteria, making it less overwhelming to a student trying to avoid calorie information in her ED recovery.

Thirdly, the SCU Food Shelf should consider offering an online ED screen during their shopping time, and have information for students struggling with an ED due to the higher risk for ED's among those who live with FI (Rasmusson et al., 2018). Perhaps they could also have information on community resources to help with ED diagnosis and recovery. For the fourth recommendation, a short information session about a balanced plate and the importance of regular eating should be introduced when the meal plan is being explained to students. Perhaps Cournoyer, the dietitian, the Sodexo dietitian covering SCU, should be asked to attend and facilitate this discussion. Finally, every student is required to take a health and fitness class

before they graduate (EXSS 1100). If possible, a dietitian or nutrition student should visit each class section for a presentation on healthy eating and weight management, to prevent a focus on calories and dieting. The student or dietitian could explain the difference between DE and EDs as well and provide resources if students want to learn more or connect with a professional. This will be helpful because many students are not required to take any sort of nutrition class, and therefore may be exposed to this knowledge for the first time. Another positive is that many students take this course early on in their college career, so an evidenced-based nutrition talk may set them up for greater success.

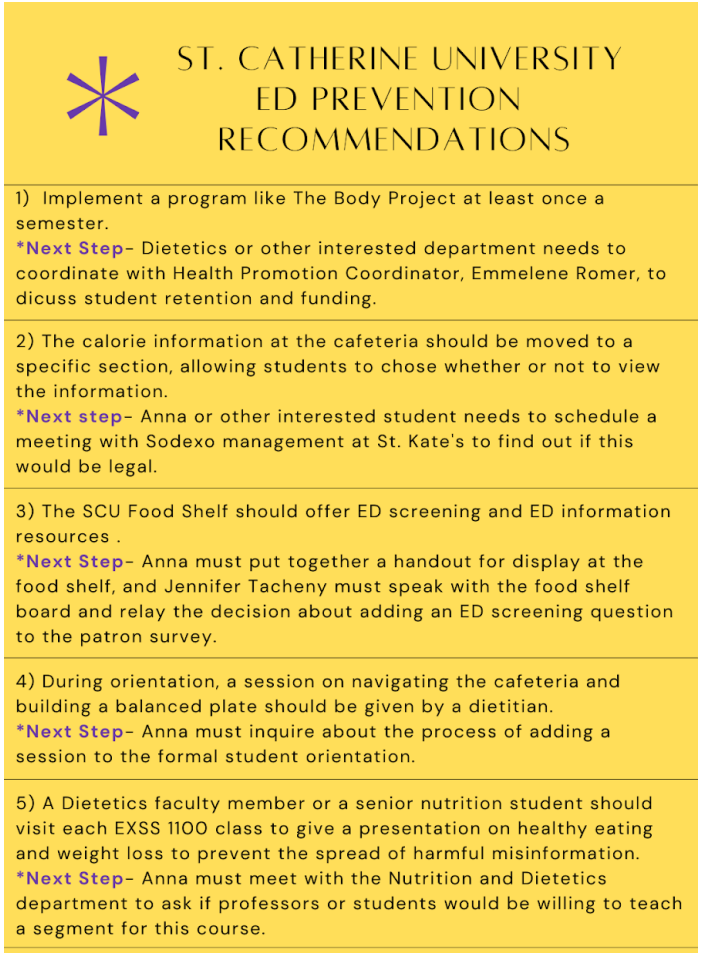
In summary, to reduce ED and DE behaviors in the high-risk population at SCU, the university should implement a standing ED prevention workshop, work with Sodexo to move calorie information, communicate with the food shelf to offer ED resources, and incorporate nutrition education into both new student orientation and the mandated health and fitness course. These recommendations are based on the research done by the author, as well as information given by current dietitians who work with college . While EDs affect people from all types of backgrounds and experiences, the female college student population is at particular risk, and SCU should incorporate all or several of these suggestions to empower and protect the health of their community.

Figure 1



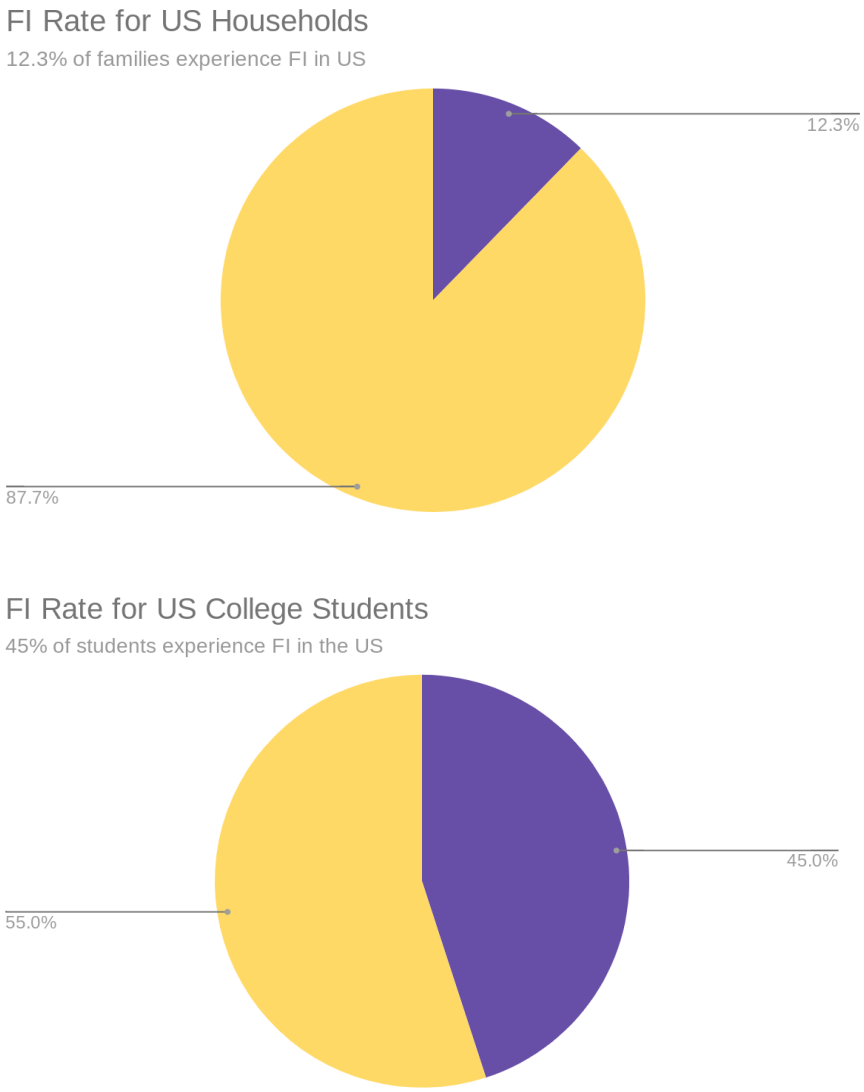
Note: "St. Kate's Student Age Diversity Breakdown" by College Factual. (2021). *St Catherine University diversity: Racial demographics & other stats*. St Catherine University Diversity: Racial Demographics & Other Stats - College Factual.

Figure 2



Note: List of SCU ED recommendations created by the author.

Figures 3 & 4



Note: Two pie charts created by the author, illustrating the striking differences in FI rate among different groups in the US. Please note that the percentage for each population was not from the same source, so the population sizes were not exactly the same. Data for the graph was taken from Rasmusson, G., Lydecker, J. A., Coffino, J. A., White, M. A., & Grilo, C. M. (2018). Household food insecurity is associated with binge-eating disorder and obesity. *International Journal of Eating Disorders*, *52*(1), 28–35 and Goldrick-Rab, S., Baker-Smith, C., Coca, V., Looker , E., & Williams, T. (2019, April). *College and University Basic Needs Insecurity: A National #RealCollege Survey Report*. The Hope Center.

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