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A FEASIBILITY STUDY ON THE IMPLEMENTATION OF A WEB-BASED INTUITIVE EATING EMPLOYEE WELLNESS PROGRAM IN A UNIVERSITY SETTING

A Master's Thesis

Presented to

The Graduate College of

Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science, Health Promotion and Wellness Management

By

Jaime Gnau

May 2020

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A FEASIBILITY STUDY ON THE IMPLEMENTATION OF A WEB-BASED INTUITIVE EATING EMPLOYEE WELLNESS PROGRAM IN A UNIVERSITY SETTING

Kinesiology

Missouri State University, May 2020

Master of Science

Jaime Gnau

ABSTRACT

This research reports on the feasibility of implementing a web-based intuitive eating (IE) program to employees through a university employee wellness department at Missouri State University (MSU). Barriers and facilitators to program participation were also identified and discussed.

Background: Ten IE principles present an evidence-based strategy for reducing incidence of weight cycling and improving one's relationship with food and self, and reducing health risks associated with chronic dieting and weight regain. Offering web-based programming reduces barriers to program enrollment but is also associated with high rates of attrition.

Methods: The program was developed utilizing the PRECEED-PROCEDE model with application of self-determination theory (SDT). Constructs of SDT that relate to IE principles are autonomy, relatedness, and competence. These constructs were addressed through each module of the program to support building internal motivation and program participation. The program consisted of 10 weekly modules containing informational videos, handouts and worksheets, and IE counselor interviews. The participants accessed the program through Blackboard. Flipgrid (an audio/video application) was used as a communication platform and for weekly prompt reflections on module exercises. Qualitative and quantitative data were assessed to determine participation rates, acceptability of program constructs, and barriers to program participation. A phenomenological approach was used to discern themes of barriers and facilitators to program participation.

Results: Primary barriers for participation were time constraints, overwhelming amount of information, and aversion to Flipgrid platform use. The quality and usefulness of program information were identified as facilitators of participation.

Conclusion: The research concludes that feasibility of program implementation was dependent on stakeholder support, available platform resources, interdepartmental communication. Program participation was influenced by the time frame available to complete program modules and participant feedback for acceptable platform interpersonal communication platform applications.

KEYWORDS: Intuitive eating, employee wellness, web-based programming, PRECEDE-PROCEED, weight cycling, self-determination theory

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May 2020

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In the interest of academic freedom and the principle of free speech, approval of this thesis indicates the format is acceptable and meets the academic criteria for the discipline as determined by the faculty that constitute the thesis committee. The content and views expressed in this thesis are those of the student-scholar and are not endorsed by Missouri State University, its Graduate College, or its employees.

ACKNOWLEDGEMENTS

I would like to thank the following people for their support during the course of my graduate studies. First and foremost, I could not have completed this thesis without the support of my dear husband. Thank you for shouldering the burden of managing our household through countless hours of me sitting at my computer, as well as providing a safe space for my occasional outburst of emotion. I thank my daughters, Nataly and Adalyn, for their understanding in the sacrifices that were necessary to complete this undertaking. I would also like to thank my thesis committee members: my advisor, Dr. Melinda Novik, who provided me with encouragement, support, and invaluable feedback through this process; Dr. Daniela Novotny who never faltered at offering her support, guidance, and perspective, even through fighting her own battles; and Dr. Sara Powell whose expertise provided a refreshing perspective to help me develop my skills in research and writing.

I dedicate this thesis to my husband Phillip and my daughters Nataly and Adalyn. Thank you for your patience and your support as I persevered through such a daunting task while the world turned upside down.

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INTRODUCTION

This thesis describes and summarizes the research, development, and implementation stages conducted to initiate the first web-based, intuitive eating (IE) program offered through Employee Wellness at Missouri State University (MSU). While face-to-face programs allow for in-person discussion and feedback for a deeper understanding of concepts, web-based platforms can improve accessibility to health programming and provide a more convenient alternative to face-to-face programming. This research explores the barriers and facilitators to implementing successful online programming focused on intuitive eating concepts for university employee wellness.

It is not uncommon for physicians and health practitioners to recommend weight loss to their patients who are classified as "overweight" or "obese" due to the increased health risks that are associated with these categorizations (Timmerman, Reifsnider & Allan, 2000). It is uncommon for these patients to receive referrals to a qualified nutrition professional, such as a registered dietitian nutritionist, to assist them with making sustainable changes to improve their health (Timmerman et al., 2000).

Dietitian services are typically an out of pocket expense for outpatient weight management counseling; therefore, cost is a primary barrier for dietitian referrals from physicians (Aboueid, Poiliot, Bourgeault, & Giroux, 2018). Additional barriers to receiving a referral to a dietitian include lack of confidence in sustainability of weight loss practices and physicians not prioritizing dietitian services in the patients care plan for weight management (Aboueid et al., 2018). Due to limited access to services provided by a dietitian, those seeking answers to improve their health through weight loss turn to other, less evidence-based, sources of

nutrition information. Fad diets and "too good to be true" quick weight loss interventions are known to be unsustainable and possibly harmful. Many times, these strategies lead to more weight gain than loss over time (El Ghoch, Calugi & Dalle Grave, 2018; August; Fothergill, Guo, Howard, Kerns, Knuth, Brycha, Skarulis, 2016; Oh, Moon & Choi, 2019).

Increased health risks associated with overweight and obesity, such as type 2 diabetes, cardiovascular disease, and hypertension, are well documented and standards of care for those with obesity include weight loss recommendations (El Ghoch et al., 2018). Yet, when weight loss is regained, any improved health benefits such as lower blood pressure, LDL cholesterol, plasma glucose and serum triglycerides, are reversed (El Ghoch et al., 2018). It is reported that 80% of patients who have lost weight intentionally return to their baseline weight within 3-5 years (El Ghoch et al., 2018).

The physiological mechanisms behind the failure of diets to promote sustainable weight loss are multifactorial. The decrease in metabolic activity during times of energy deficit, the body's ability to break down muscle tissue for energy metabolism, which further lowers the metabolic rate, and the hormonal changes that lead to increased fat storage are all mechanisms that affect weight loss efforts (El Ghoch et al., 2018; Fothergill et al., 2016; Oh et al., 2019).

Research shows after a period of unsustainable energy restriction, the body initiates metabolic changes that increase ghrelin production causing increased appetite, and increase adiposity over lean muscle mass (Oh et al., 2019). Weight cycling also negatively affects mental health through increased feelings of failure, guilt, and inadequacy, and has been associated with poor body satisfaction, lower self-esteem, and an increased risk of disordered eating tendencies (Tylka, Annuziato, Burgard, Danielsdottir, Shuman, Davis & Calogero, 2014).

Unfortunately, patterns of weight cycling can increase health risks such as type 2 diabetes, cardiovascular disease (Strohacker, Carpenter & McFarlin, 2009), and all cause-mortality (Oh et al., 2019). Weight cycling is associated with increased incidence of type 2 diabetes and this highlights the importance of reducing weight cycling and preventing weight gain as complimentary objectives in diabetes prevention (Delahanty, Pan, Jablonski, Aroda, Watson, & Bray, 2014). Survey research conducted by Madigan et al. (2017) on a cohort of 10,428 women concluded that 40% of the patients with diabetes reported weight cycling, and this group was more likely to be obese. Likewise, the group had a higher incidence of poorer mental health at baseline and higher odds of depressive symptoms after 12 years of follow up (Madigan, Pavey, Daley, Jolly & Brown, 2017). Oh and colleagues used average successive variability (ASV), which calculates body weight variability, in a research study to determine health outcomes associated with weight cycling; they found statistically significant elevations in blood pressure, HbA1c, and fasting blood glucose in the group with higher ASV. Mortality rates were also statistically elevated in this group (Oh, et al., 2019). Interestingly, research has shown an association between weight cycling and increased mortality risk, yet excluding statistical extremes, review of the literature does not support the narrative that adiposity directly causes increased mortality risk (Bacon & Aphramore, 2011).

An IE approach has been researched and proven to be effective at reducing behaviors associated with weight cycling (Tylka et al., 2014). This approach focuses on breaking the cycle created by habitual yo-yo dieting (Tribole & Resch, 2012) . Programmatic strategies including principles of IE, an evidence-based approach, have been shown to increase body attunement, reduce disordered eating behaviors, improve factors associated with self-esteem and body image, and improve overall health and well-being (Smith & Hawks, 2006).

At the time of this study, the MSU Employee Wellness only offered in-person programs at the primary campus location. All programs were offered at the primary campus location. MSU also has two satellite locations that range between 67 and 110 miles away from the primary campus location. Distance of travel to employee wellness programs offered at the MSU Springfield campus presents a barrier to employees at other MSU campuses. It is theorized that offering an online wellness program will increase access to wellness programming for these employees.

An increase in information technology resources expands how wellness programming can be accessed. Web-based programming provides an opportunity to offer programs to reach more employees within an organization as in-person programming may restrict access for individuals with schedule and time constraints (Braithwaite & Fincham, 2009). Web-based wellness programming increases access and decreases limitations to those that otherwise would not be able to participate (Cook, Hersch, Schlossberg & Leaf, 2015 ; Levin, Pistorello, Seeley & Hayes, 2013).

Web-based delivery methods can also improve accessibility, program engagement and impact, if implemented effectively (Braithwaite & Fincham, 2009; Lima-Serrano, Martínez-Montilla, Lima-Rodríguez, Mercken & De, 2018). Several considerations should be accounted for with implementation of web-based wellness programming. Assessment of available technological resources such as platforms and programs, current wellness program offerings, organizational policies and procedures, and organizational support should all be determined prior to implementation. In this case, program content was determined through interactions with employees discussing health risks of weight cycling, currently offered wellness programming, and expertise of moderator.

A key part of wellness programming provided in a group setting is the feedback and discussion of key program concepts among the group for improved participation and understanding (Levin et al., 2013). Online programming can utilize discussion board platforms that use video and audio recordings, rather than in-person interactions, in order to replicate this environment.

Program Development Overview

The PRECEDE-PROCEED model was utilized in applying self-determination theory to assess and develop the program *Finding Peace with Food: An Intuitive Eating Approach* for MSU. This model was used to conduct an assessment of environmental and behavioral factors that increase risk for weight cycling. Expertise and experience of the author was used to determine predisposing, reinforcing, and enabling factors that support behaviors that could lead to weight cycling.

Self-determination theory is used to support the constructs of the IE-based program. This theory highlights the importance of satisfying psychological needs autonomy, competence, and relatedness to improve wellbeing. The principles of IE align with this theory in that they provide strategies to rely on internal cues and body attunement rather than external rules when making food choices.

Self-determination theory (Deci & Ryan, 2012). states that need substitutes and compensatory behaviors are often used when people fail to have their basic psychological needs met (Verstuyf, Patrick, Vansteenkiste & Teixeira, 2012). The factors used as substitutes for these unmet needs rarely bring the outcome desired. An example of need substitutes in the context of weight cycling is the need for social approval and anticipated power leading oneself to

engage in eating behaviors to obtain the thin-ideal body type. Compensatory behaviors include the need for control or the desire to rebel against control. The restrictive eating patterns that come with dieting to meet the thin ideal often lead to a "diet rebel" mentality that often involves binging. Binge-eating has also been linked as a coping mechanism for negative emotions (Verstuyf et al., 2012).

Alternately, rigid eating patterns and rules have also been discussed as compensatory behaviors to achieve a feeling of stability and predictability. Any failure to achieve the "perfect" standards set by an individual can lead to negative emotions such as guilt and failure (Verstuyf et al., 2012). For example, one may place strict dietary restrictions such as avoiding food groups or creating a severe calorie deficit. Ultimately, the body will adjust to avoid starvation; metabolism stalls and hunger hormones surge, often leading to weight gain. This pattern can lead to weight cycling over time (Fothergill et al., 2016; Oh et al., 2019; El Ghoch et al., 2018).

The proposed program *Finding Peace with Food: An Intuitive Eating Approach* will provide strategies in identifying highly changeable and important determinants that increase risk of weight cycling. The program will also address predisposing, reinforcing and enabling factors that increase risk for weight cycling. Once these factors are identified, the program will provide activities and information to assist participants in developing a better relationship with food and their bodies to reduce the risk of weight cycling.

This study is based on the implementation of a program developed by the author utilizing materials from the Intuitive Eating Workbook (Tribole & Resch, 2017) and the program *A New Day: Health for Every Body* (A New Day, 2011). The program *A New Day: Health for Every Body,* was implemented by organization Wellness IN the Rockies. It is a Health at Every

Size (HAES) based program and focuses on promoting healthy lifestyle behaviors rather than a weight-loss approach (Liebman, 2005).

Purpose of the Study

The purpose of the study was to answer the following questions:

1. What is the feasibility of implementing a web-based, intuitive eating program into the existing MSU Employee Wellness Program?

2. What are the barriers of implementing a web-based, intuitive eating employee wellness program a university setting?

   What are the facilitators of implementing a web-based, intuitive eating employee wellness program a university setting?

Delimitations

1. Target audience for study outcomes is limited to author and employee wellness program stakeholders.

2. Target audience for intuitive eating programming is limited to Missouri State University employees.

3. The scope of the study is limited to employee wellness programming in a university setting.

4. Program development will be based on the PRECEDE-PROCEED model.

5. Program workbook materials will be utilized from currently existing and validated sources.

Limitations

1. This feasibility study has limited generalizability to employee wellness programming in university settings in other geographical areas.

2. Program platform will consist of programs that are available through and compatible with Missouri State University's informational technology resources.

3. Author has limited expertise of data collection and platform program tools utilized at Missouri State University at time of research study.

4. Author has limited time constraints for improving self-efficacy with online platforms utilized in program development and implementation.

5. Author has not previously implemented an online intuitive eating program.

Assumptions

It is assumed that all self-reported responses with programmatic strategies are true representation of the participants experience with the program. It is assumed that participants will respond to surveys regarding program implementation.

Definition of Terms

Intuitive Eating: A weight-inclusive, evidence-based, self-care eating framework designed by registered dietitians; used to increase attunement to body signals and developing strategies to identify and disregard attunement disruptors.

Weight Cycling: The repeated loss and regain of body weight, which may occur in those on weight-loss diets, in either small cycles of 5 to 10 pounds, or large cycles of 50 pounds or more. The opposite of weight maintenance.

PRECEDE-PROCEED model: A comprehensive structure to assess health needs for the development, implementation, and evaluation of health promotion programming to meet determined needs. PRECEDE stands for Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation. PROCEED stands for Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development. Self-Determination

Theory: a framework for studying extrinsic and intrinsic motivation with a focus on the psychological needs of competence, autonomy, and relatedness.

Significance of the Study

The author of this study has not identified research studies conducted on the feasibility of implementing a web-based IE program 1) in a university setting, 2) to improve health outcomes related to weight cycling/ yoyo dieting behaviors 3) to identify participation patterns in comparison to already existing health and wellness programs within the same organization. This study describes the steps, facilitators, and barriers in program implementation, providing a framework for other organizations who wish to implement web-based programming within their organization. This study also contributes information highlighting practical application in implementing a web-based intuitive eating program including the author's perspective and reasoning behind program implementation decisions and how these contrast with participant expectations and experiences. This can be useful in future program implementation to improve engagement and participation of similar programming.

LITERATURE REVIEW

Weight Cycling and Intuitive Eating

Weight cycling in the general population varies from 20-55%, which corroborates with an MSU employee survey that was conducted by the author prior to this study (Montani, Schutz & Dulloo, 2015). Research also indicates that of those with a BMI >30kg/m^2, 65-68% of men and women are trying to lose weight (Strohacker et al., 2009). Yet sustained weight loss is very rare. It is reported that 80% of patients that have lost weight intentionally return to their baseline weight within 3-5 years (El Ghoch et al., 2018). Weight stigma from society and health care professionals can induce a cycle of weight loss and weight regain. This weight cycling can increase health risks such as type 2 diabetes, cardiovascular disease, and all cause-mortality (Oh et al., 2019; Strohacker et al., 2009). Moreover, those that experience weight stigma and discrimination are over twice as likely to be diagnosed with depression and anxiety (Pearl, 2018). Internalized stigma, or the self-belief that the stereotypes of those in larger bodies is true, is strongly associated with chronic stress, depression, poor self-esteem, disordered eating, and increased risk for metabolic syndrome (Pearl, 2018).

Delahanty et al. (2014) looked at how weight change impacted incidence of diabetes and cardiometabolic factors over the course of two years. It was concluded that weight loss reduced incidents of diabetes, improved fasting blood glucose, reduced triglycerides, and improved insulin sensitivity and that these positive effects are not as pronounced if weight loss is not maintained (Delahanty et al., 2014). In this study, weight cycling was associated with increased incidents of diabetes and highlights the importance of reducing weight cycling and preventing weight gain are complimentary objectives in diabetes prevention (Delahanty et al., 2014).

The physiological mechanisms behind the failure of dieting to induce sustainable weight loss are multifactorial. Research indicates that reduced metabolic activity to conserve energy in times of energy deficit, the body's ability to break down muscle tissue for energy metabolism, and hormonal changes leading to increased fat storage all are adaptive mechanism that impair the body's ability to sustain weight loss and result in weight gain after dieting (Fothergill et al., 2016; Oh et al., 2019; El Ghoch et al., 2018).

This cycle of weight loss and gain not only impacts the dieter's physical health, but also their mental health as well. Many dieters report how, at first, dieting was easy. As each subsequent diet become more and more difficult; with the physiological adaptations highlighted above, dieters relate increased feelings of failure, guilt, and inadequacy (Tylka et al., 2014).

Additionally, those that report weight cycling have a higher drive for thinness and lower body satisfaction and self-esteem, than those who maintain a consistent weight, even if that weight is considered "overweight" (Osborn, Forys, Psota & Sbocco, 2014). Survey research conducted by Madigan et al. (2017), 40% of 10,428 women in the study reported weight cycling. The weight cyclers in this group were more likely to be obese, were associated with poorer mental health at baseline, and higher odds of depressive symptoms after 12 years of follow up (Madigan et al., 2017). This study suggests that weight management programs should counsel women about the likelihood of weight regain and as well as have strategies in place to control weight gain to prevent against negative psychological outcomes.

Dieting imposes rigidity and food rules that drown out the body's natural signals indicating hunger, fullness, and satisfaction and increases incidence of disordered eating patterns, food cravings, body dissatisfaction, and reduced self-esteem (Bacon & Aphramor, 2011; Pearl 2018; Tylka et al., 2014).

Interestingly, it should be noted that weight loss is not mandatory for achieving health benefits and one cannot assume health status by just using BMI. Other factors such as laboratory values, activity levels, diet, blood glucose levels, and inflammatory factors may be more reliable health indicators than BMI. Additionally, BMI does not account for body composition (muscle vs. fat mass) and data does not necessarily support the link that a higher BMI, excluding extreme outliers, leads to poor health (Tylka et al., 2014).

Due to gaps in support and limited access from health care providers, many patients may end up turning to friends, family, and the Internet for dietary and weight loss information, which can lead to unhealthy and unsustainable weight loss and behaviors (Tylka et al., 2014). Moreover, research has suggested that traditional dieting actually leads to weight gain due to its strict and often unsustainable eating rules and requirements (Tylka et al., 2014).

Focus on relapse prevention in weight management programming is needed (Lissner, Odell, D'Agustino, Kreger & Belanger, 1991). For many individuals, a more health-focused than weight-focused intervention approach such as IE and Health at Every Size may be indicated to avoid exacerbating weight stigma, iatrogenic weight loss practices, and poor mental health (Bombak & Monaghan, 2017). Utilizing a weight-inclusive rather than a weight-normative approach can negate the damaging effects of weight-bias and avoid the potentially harmful practice of prescribed weight loss with the knowledge that it is predominately unsustainable (Tylka et al., 2014).

Due to the mounting evidence supporting the inadequacy of dieting to improve health and the evidence that dieting, in fact, could be harmful to health. It is proposed that a different, evidence-based, approach be taken in to help those that have been negatively impacted by dieting and weight cycling. This author did not identify any studies on web-based health programming

to address this issue, and so developed a web-based IE program to implement through employee wellness in a university setting.

IE principles focus on eating in response to internal hunger, fullness, and satiety cues rather than emotional cues or external rules (Camilleri, Méjean, Bellisle, Andreeva, Kesse-Guyot, Hercberg, & Péneau, 2017). Strategies for coping with negative emotions without using food is also a construct of IE (Tribole & Resch, 2012). Foods that are used to cope with negative emotions are typically energy-dense and nutrient poor (Camilleri et al., 2017).

Critics of IE principles express concern over nutrition adequacy of intake when individuals eat unrestricted and unregulated by diet rules (Smith & Hawks, 2006). Yet research shows that when individuals are allowed to eat in accordance to their own preferences and hunger cues there is a reduction in feelings of deprivation and incidence of binge eating (Camilleri et al., 2017; Smith & Hawks, 2006). What's more, IE is also negatively correlated with BMI and positively correlated with diet quality (Camilleri et al., 2017; Smith & Hawks, 2006). IE principles present an evidence-based alternative to traditional restriction-based weight management approaches (Smith & Hawks, 2006).

Web-Based Programming

Web-based programming has been identified as an effective means of prompting behavior change among populations including those with depression and anxiety, older workers, rural midlife and older women, and families with youth in grades K-5 (Boeckner, Hertzog, Pullen, Hageman, & Walker, 2011; Cook et al., 2015; Cukrowicz & Joiner, 2007; MacNab & Francis, 2015).

Benefits of online programming methods include cost effectiveness, greater reach of participants across multiple locations, utilizing a multifactorial approach to target a range of risk factors within one program, reduced training needs, and increased engagement with populations who do not typically engage in onsite wellness programming (Cook et al., 2015; Levin et al., 2013). Cukrowicz and associates (2007) also reported that web-based interventions have been shown to facilitate increased compliance with self-monitoring and skills generalization in health behavior change. Web-based interventions can also improve the integrity of program delivery and improve achievability of objectives if implementation does not involve additional facilitator training (Lima-Serrano et al., 2018). Additionally, web-based interventions have been concluded as a valid form of treatment for mental health and relationship relevant outcomes (Braithwaite & Fincham, 2009).

Even though there are many benefits, web-based intervention implementation by health professionals has been found to be low (Walthouwer, Oenema, Soetens, Lechner & De Vries, 2013). In accordance with this finding, there has not been a web-based intervention implemented in the Employee Wellness Program at MSU. Research suggests reluctance to accept and utilize information technology for health programming is influenced by several factors such as limited available resources, time, and staff, competition with other offered programming options, usability of platform, data collection measures, low levels of engagement and participation, high attrition, difficulty forming positive relationships among participants, and effective support (Casarez, Agan, Self, Anderson, Atwood, & Heron, 2019; Levin et al., 2013; Walthauwer et al., 2013).

Facilitators of web-based programming include ease of integration with current online platforms, low cost, and interest in new program research (Walthauwer et al., 2013).

Additionally, participants can access to program materials from their computers, phones, tablets, or other electronic devices with internet access. This makes web-based programming a convenient option for those with limited transportation or a busy schedule. Web-based interventions also have the capability of providing tailored content to participants (Walthauwer et al., 2013).

Depending on what resources are already available, a web-based program within an organization can range from relatively inexpensive to very costly. Higher learning organizations typically have sufficient infrastructure in place for online learning that may be utilized for wellness programming making this mode of delivery a cost-friendly option (Levin et al., 2013). Assessment of available platforms for online program delivery should be conducted prior to program development and implementation. When assessing available platforms for delivery, it is important to also assess methods of collecting data and analytics through the platforms that will be utilized. These resources are typically readily available within the higher education setting as well, making it an ideal site for implementation of online wellness programming.

Key factors in implementing web-based programming are program participation and engagement. Several studies on web-based programming highlight the need for stringent attention to these factors when developing online programs. Research has found that web-based interventions promoting self-efficacy in the target population has been shown to increase intervention effectiveness among the participants (Cook et al., 2015). Other key factors for program success are identified as self-monitoring, facilitator feedback, and social support (Boeckner et al., 2011). Mihuta and colleagues propose that low levels of engagement and high attrition rates threaten fidelity of web-based interventions and report that attrition rates in web-based programming may be as high as 40% (Lima-Serrano et al., 2018; Mihuta & Green

(2017). Eysenbach's law of attrition is cited as a phenomenon where participation in program activities decline over time (Mihuta & Green, 2017).

Kelders' and colleagues (2012) published a systematic review of 101 publications focused on web-based interventions. In the review, an average of 50% of participants adhere to the program intervention (a range of <10% adherence to 90% or higher). The review reported strong predictors of adherence were increased interaction with a counselor, more frequent intended usage, more frequent updates, and more supportive dialogue (Kelders, Kok, Ossebaard & Gemert-Pijnen, 2012). The review also indicated that social facilitation is an important strategy in behavior change interventions yet social support did not affect adherence in the reviewed studies (Kelders et al., 2012).

Strategies have been identified to enhance reliability and validity of intervention programs by the National Institutes of Health (NIH) and Behavior Change Consortium (BCC). Important elements highlighted in these guidelines include study design, provider training, treatment delivery, and enactment of treatment skills (Mihuta & Green, 2017). Web-based programming elements associated with increased engagement include personal feedback to participants, feedback from target population in planning stages, support, social networking opportunities with other participants, dynamic interventions, and accountability (Lima-Serrano et al., 2018; Mihuta & Green, 2017).

Assessment of target population needs and abilities with utilizing online platforms and preferred method and comfortability of interaction are important considerations when assessing mode of delivery with online programming. As with weight cycling and diet practices, content may be sensitive and participants may be unwilling to share personal details about their experiences in a group setting, even online.

Worksite Wellness Programming in the University Setting

The workplace has been identified as a primary access point for implementing targeted health behavior programmatic strategies (Fink, Smith, Singh, Ihrke, & Cisler,2016). Wellness programming can impact social and attitudinal change among employees and provide opportunities for education, communication, and peer support (Fink et al., 2016; Merrill & Hull, 2013; Terrell, 2015). Employers continue to look for cost effective programs that can positively influence employee health, reduce insurance claims, and increase productivity (Richardson, 2017). Data supports this; a longitudinal study over a span of seven years showed that participation in worksite wellness programming targeted at disease management was associated with a decrease of $30 in healthcare costs per employee per month (Richardson, 2017). The same study indicated that programming targeted at lifestyle management was associated with reduced absenteeism. Worksite wellness programming has also been highlighted as a means of recruitment and retention (Beck, Hirth, Jenkins, Sleeman, & Zhang, 2016). Healthy People 2020 has included increasing the number of worksites that offer employee health promotion programs as one of their goals (Lloyd, Schmidt, Swearingen & Cavanaugh, 2019).

Research shows participation and engagement are key areas of focus in implementing employee wellness programming (Terrell, 2015). The social support and sense of community in a workplace setting can be important factors in improving program participation and health behaviors (Merrill & Hull, 2013). The social aspect of health programming can be difficult to provide in a web-based program. Program participants who enroll in online programming benefit from the flexibility of being able to engage in program content when it is convenient, but this is also a barrier in engaging with other program participants. It is recommended to provide a

medium for program participant interaction and engagement to increase participation and program effectiveness (Fink et al., 2016; Merrill & Hull, 2013).

Implementing a worksite wellness program in a university setting allows for utilization of existing technological and social structures. Maximizing available resources is fundamental in organizations with limited funding for wellness initiatives. Additionally, utilizing established community partnerships can facilitate increased awareness of new wellness programming initiatives throughout the community and strengthen partnerships (Tapps, Symonds & Baghurst, 2016). Programs developed and implemented in the university setting can be used as a model for other community organizations (Tapps et al., 2016).

Tapps et al. (2016) found in a recent study that a small percentage (4.8%) of faculty and staff working in a higher education setting reported that they would not participate in wellness programming, if offered. In this study, the majority of employees were interested in lifestyle activities rather than weight loss programming (Tapps et al., 2016).

Even with elevated interest in worksite wellness programming, improving participation continues to be a struggle and can vary greatly (Beck et al., 2016) Descriptive studies show higher rates of participation among women that are younger and more educated, employees that perceive a benefit of the program, and those with reported higher levels of self-efficacy (Beck et al., 2016)

Studies have been done to determine if varying patterns of participation exist depending on what types of incentives are used (Beck et al., 2016) In a study spanning five years that focused on wellness program participation factors among university employees, it was found that tailored communications to participants correlated with improved participation among those who were statistically less likely to participate (Beck et al., 2016) Low participation groups included

men, faculty and union members, employees of minority racial or ethnic background, and low-wage workers (Beck et al., 2016) Those with diabetes and hypertension were also less likely to participate (Beck et al., 2016) Program strategies to improve participation were identified as marketing and outreach, program features, and incentive amounts (Beck et al., 2016).

Program Development

Successful health promotion programming begins with sufficient planning and leadership support. The initial steps of identifying and communicating with key program stakeholders is important in health promotion intervention. Bonde et al. (2018) found that the early stages of communication and the initial time spent in planning was crucial to program success. Too little time spent in this phase can lead to poor program success and the quality of intervention, which in turn affects the program's benefit to health of program participants (Walthauwer et al., 2013). It is suggested to include representatives from leadership and the target population to assist in program planning (Bonde, Stjernqvist, Sabinsky, & Maindal, 2018).

Adoption of an intervention must be decided before intervention implementation (Walthauwer et al., 2013). Organizational support has been found to be improved when the program implementation will be profitable to the organization in some way and the proposed intervention does not compete with other program offerings (Walthauwer et al., 2013). Integrating online interventions to complement already existing program offerings may be beneficial in gaining organizational support. Utilizing familiar platforms for program participants has been shown to improve program acceptability (Walthauwer et al., 2013). It was determined through a study of facilitators and barriers to web-based program implementation that tailored

implementation strategies may be helpful due to program adoption variables based on leadership characteristics (Walthauwer et al., 2013).

PRECEDE-PROCEED. The PRECEDE-PROCEED model, developed by Lawrence W. Green, was used in order to identify important needs of the target population. This model is utilized as a map to apply theories when planning and evaluating health behavior change programs (Glanz, Rimer & Viswanath, 2011). It is constructed of nine steps. The beginning four steps focus on assessment of social, epidemiological, behavioral, and environmental constructs, educational and ecological constructs, and policy that impact the target population (Glanz et al., 2011). The program is then developed based on target population needs determined by the thorough assessment phases. This model is built around the idea that thorough assessment of the target population should define high-priority problems and goals that influence program interventions (Glanz et al., 2011).

The PRECEDE phase of the model is used to assess perceived and actual needs in addition to the resources available to operate the planned intervention. Social assessment is needed to determine the perceived needs of the target population. This can be done through interviews and focus groups. Epidemiological assessment is done to collect data to establish program goals. Behavioral and environmental assessment can be done by reviewing established literature and utilizing applicable theory (Rimer & Glanz, 2005). Educational and ecological assessment takes into context predisposing, enabling, and reinforcing factors; administrative and policy assessment is used to determine resources available and organizational policies that may help or hinder program implementation (Rimer & Glanz, 2005).

As noted, web-based program implementation in a university setting requires a great deal of assessment prior to implementation. Logic models provide evidence-based framework on

which to build a health promotion program. For example, the PRECEDE-PROCEED model has been successfully utilized in the development of IE -based programming (Cole, Meyer, Newman, Kieffer, Wax, Stote & Madanat, 2016). The multi-phased model heavily focuses on assessment in planning to target health behaviors and improve quality of life. In the aforementioned study, an IE-focused program was developed targeted towards military spouses. Similarly to university employees, this study's target population has environmental and social factors that increase risk for unhealthy behaviors. In the case of military spouses, a needs assessment identified increased daily stressors associated with single-parenting, frequent relocation, and limited family support (Cole et al., 2016). Increased stress may lead to unhealthy compensatory behaviors such as disordered eating, binging, and increased intake of energy-dense, nutrient-poor food (Cole et al., 2016).

University employees are similarly associated with increased environmental stressors such as high workloads and decreased funding allowing for fewer resources (Karnes, Neimeirer, Ksobiech & Fischer, 2018). In a study that surveyed 170 university employees on stress, health, and work performance, over 20% of university employees reported difficulty managing stress related to their work and 80% reported eating less than three servings of fruits and vegetables per day (Karnes et al., 2018).

Cole and colleagues (2016) successfully utilized a condensed version of the PRECEDE-PROCEED model to develop a program titled, "My Body Knows When" based on IE principles to address the health behavior concerns associated with military spouses. In the PRECEDE phase, a needs assessment was initiated using the model to identify primary target issues that impact health behaviors in the population. Issues identified include physical activity, self-image,

emotional eating, and hunger/fullness cues (Cole et al., 2016). Twelve targeted program objectives were set during the PRECEDE program planning phases.

In the PROCEED phase, process, impact, and outcome evaluation was done to determine effectiveness of program implementation and evaluation. Process evaluation included biweekly surveys allowing for corrective action, a program post-test, and a six month follow up survey (Cole et al., 2016). Impact evaluation included was used to determine program's immediate impact on target behaviors and the reinforcing, enabling, and reinforcing factors that contribute to them. This was measured using a survey focused on diet mentality and IE concepts (Cole et al., 2016). An outcome evaluation to assess quality of life and epidemiological outcomes was not a priority of this research study due to the focus of a slow transition to IE behaviors for increased sustainability of health behavior changes (Cole et al., 2016).

The program was implemented successfully due to its tailoring to meet specific population needs. Nine of the twelve objectives were met by the end of the program (Cole et al., 2016). The IE program was effective at reducing the diet mentality, reducing emotional eating responses to stress through attention to hunger and fullness cues, and improving self-worth (Cole et al., 2016). The study identified follow up support and access to childcare services as important factors in future programming success for the target population of military spouses or single mothers. Research has not been identified on using PRECEDE-PROCEED to develop a web-based IE program.

Self-Determination Theory. Self-Determination Theory (SDT) directly aligns with the issue of eating regulation and disordered eating behaviors such as yoyo-dieting and weight cycling (Verstuyf et al., 2012). There are several theoretical constructs within self-determination theory. As stated by Verstuyf and colleagues (2012), only a few of these constructs have direct

relevance to eating regulation. These constructs will be discussed further without focusing on the less applicable theoretical constructs within SDT. The primary constructs that relate to eating behaviors in SDT are the psychological needs autonomy, relatedness, and competence (Verstuyf et al., 2012).

SDT takes into consideration the role of the individual as well as social context in intrinsic and extrinsic motivating factors (Ryan & Deci, 2000). SDT assumes that the satisfaction of psychological needs (autonomy, competence, and relatedness) is the key to development of intrinsic motivation (Leblanc, Hudon, Royer, Corneau, Dodin, Bégin & Lemieux, 2015). Within the construct of psychological needs SDT recognizes that although people may independently act on internal and/or external forces to grow and integrate, social context can thwart or support this process (Verstuyf et al., 2012). Verstuyf et al (2012) describes autonomy, competence, and relatedness as "psychological nutriments necessary for growth and integration". These psychological needs align with self-efficacy and the perceived ability to reach ones goals, the importance of a sense of belonging and value from others, and the need to operate volitionally (Verstuyf et al., 2012). It is suggested that the psychological needs are just as critical for well-being as physiological needs such as hunger.

It is proposed that when these basic needs are not realized, coping strategies are developed to manage the deficit (Ryan & Deci, 2000; Verstuyf et al., 2012). In the context of eating behaviors, extrinsic factors such as diet culture and the thin ideal give a false sense of satisfaction and thwart happiness. Disordered eating behaviors can indicate compensatory need thwarting to cope with negative emotions. Additionally, rigid dietary rules exemplify security and structure (Verstuyf et al., 2012). In short, disordered eating patterns developed as coping

mechanisms for unmet basic psychological needs do not result in lasting positive behavior change, health, or well-being.

Ng and colleagues (2012) published a meta-analysis of 184 data sets (cross-sectional, longitudinal, and RCT studies were all included) using SDT in the context of health promotion and health behavior change with the intent of estimating associations between indicators of SDT and variables of mental and physical health. Autonomy support from health providers is positively associated with satisfaction of psychological needs identified in SDT (Ng, Ntoumanis, Thogersen-Ntoumani, Deci, Ryan, Duda & Williams, 2012). It was also found that satisfaction of these needs predicted improved patient welfare and participation in health behaviors associated with longevity (Ng et al., 2012).

Interestingly, this analysis also found that motivation related to guilt, shame, and external approval (introjected regulation) was positively associated with some physical health outcomes such as increased physical activity and improved diet quality. But, introjected regulation was also linked with negative psychological outcomes including depression and anxiety (Ng et al., 2012). The authors addressed this dichotomy by highlighting research showing any positive effects from introjected regulation are short-lasting whereas supporting autonomy leads to longer lasting positive benefits (Ng et al., 2012). The meta-analysis also analyzed the connectedness of SDT constructs. A prominent and important result of this analysis shows that positive health outcomes associated with autonomy were positively regulated by perceived competence to a great extent (Ng et al., 2012).

Therefore, research supports the development of a program targeted at increasing attunement to intrinsic factors and psychological needs and increasing self-efficacy in making volitional food choices. Based on the literature, this program may improve health behaviors and

well-being in those that have experienced disordered eating patterns due to compensatory behaviors for unmet psychological needs.

The purpose of this feasibility study was to describe the processes used to implement *Finding Peace with Food: An Intuitive Eating Approach*, the first web-based employee wellness program offered at MSU , explain barriers and facilitators to program implementation, and summarize participant experiences pertaining to feedback of program content and platform usability.

METHODS

There is an absence of online programming available through the Employee Wellness (EW) Program at MSU. That said, the university has a well-established online learning platform, Blackboard, that is utilized and familiar to many MSU employees. In an assessment using the PRECEDE-PROCEED model conducted by the author for a project prior to this research, it was found that weight cycling was a prevalent issue among employee wellness program participants. Due to these factors, it is proposed to offer an IE program online to MSU employees through the EW program. This section will describe the proposed development and process of implementation of the program.

Setting of Program Implementation

MSU is a public university located in Springfield, Missouri with satellite campuses in West Plains, Missouri and Mountain Grove, Missouri. As of a 2019 report, there were 1,143 faculty and 1,794 staff members working at MSU. Out of 2,937 MSU employees there are approximately 400 that have opted in to receive communication from the MSU wellness dietitian and approximately 250 employees that have opted in to receive the EW newsletter. Wellness initiatives are also communicated to all MSU employees through a weekly email called Inside Missouri State.

The Employee Wellness Program at MSU offers programming, "that addresses all components of the human being", with focus on social, emotional, spiritual, environmental, financial, intellectual, physical and occupational factors (About employee wellness. N.d.). Nutrition-focused programming offered includes the Complete Health Improvement Program

and Weight Watchers at Work. The program also hosts several nutrition talks and cooking demos through the year. The Weight Watchers program is offered at multiple campus locations, but the majority of programs are only available at the main campus site. Currently, there were no programs offered solely online.

Assessment Phase of Program Development

In order to gain a greater understanding of the target population's needs, steps outlined in the PRECEDE phase of the PRECEDE-PROCEED model were utilized for an initial assessment prior to program development. Behavioral determinants that were assessed to be of the highest importance and highly changeable were food restriction, sedentary lifestyle, and poor-quality diet, all of which increase the risk of weight cycling. Environmental determinants that were assessed to be of the highest importance and highly changeable were misinformation from poor quality sources on diet and health and failure of diet to be sustainable with lifestyle. Tables showing assessment results of behavioral and environmental determinants that increase potential for weight cycling can be found in Appendix A.

Lastly, an assessment was conducted of predisposing factors that are in place prior to a health behavior and provide motivation to act, reinforcing factors that provide feedback after the behavior has occurred, and enabling factors that allow for the behavior to be realized. The summary of this assessment can also be found in Appendix A. The assessed determinants listed in Appendix A have been measured by the author through a culmination of professional, personal, and educational experiences in the fields of health and nutrition.

The proposed program *Finding Peace with Food: An Intuitive Eating Approach* provided strategies to identify highly changeable and important determinants that increase risk of weight

cycling. The program also addressed predisposing, reinforcing and enabling factors that increase risk for weight cycling. Once these factors were identified, the program provided activities and information to assist participants in developing a better relationship with food and their bodies to reduce the risk of weight cycling.

Policy Assessment. An assessment was conducted of policies in place at MSU that may influence program implementation. Two policies were identified, one as a facilitator for the program and the other as a barrier. The policy identified as a facilitator allows for MSU employees to utilize $150 per year toward non-credit course fees. This non-credit fee waiver includes wellness programming offered by the MSU EW program.

The policy identified as a barrier to program implementation limits email communications for program promotion. The policy prohibits mass emails from being sent to MSU employees from any department with the exception of the Office of the President, office of the provost, vice president for student affairs, vice president for administrative services, computer services, university communications, web strategy and development or safety and transportation. This prevents the EW program from sending mass emails to market programs to MSU Employees. The EW Program does have a list serv of employees that have voluntarily signed up to receive emails promoting wellness programming. This email list was be utilized to market the program.

Assessment of Available Resources. Evaluation of available resources is an essential step in program planning. MSU employees have access to several online platforms. For the implementation of this program a checklist was created to decide which platform would best suit the needs for program modules, participation and communication between members and facilitator as well as member to member communication, and data analytics. The checklist can

be found in Table 1. To assess resources available for program implementation, contact was be made with the IT department at MSU.

Since this program was implemented through the EW Program at MSU, it is imperative to have open communication on all program logistics with the EW coordinator. It is proposed to have several meetings occurred with the EW coordinator and other wellness staff directly involved in implementing this program throughout its development and implementation.

Table 1. Program Platform Needs Checklist

Program Module Content: 10 Weekly Modules	• 20-30 minute video in Mp4 format • Workbook containing 3-8 PDF files • 5-15 minute interview with Registered Dietitian in Mp4 format
Communication Platform	• Discussion board
Data Analytics	• Pre- and Post-Program Survey • Post Module Survey • Qualitative data analysis from discussion board participation

Program Development and Implementation

The web-based program, *Finding Peace with Food, An Intuitive Eating Approach*, addresses weight cycling, disordered eating, poor body image, and feelings of guilt and failure around food to help MSU employees find peace with food and their bodies. These factors are considered need substitutes and compensatory behaviors as identified utilizing SDT.

The program utilizes the fundamental teachings of IE, an evidence-based approach developed by dietitians, Evelyn Tribole and Elyse Resch, which is backed by over 100 research studies (Studies, 2018). The principles guide participants in relearning instincts buried by years

of dieting and regaining trust /connection to one's body by increasing body attunement and decreasing barriers to body attunement. The ten principles of IE were used to develop a 10-week program available online for MSU Employees.

Program materials are divided into ten weekly modules and consisted of video recordings with informational text, worksheets, handouts, and several interviews with dietitians that are Certified Intuitive Eating practitioners or counsel clients utilizing IE concepts. The content was developed by a registered dietitian nutritionist utilizing the *Intuitive Eating Workbook*, *Intuitive Eating: A Revolutionary Program That Works,* and materials from an open sourced program titled, *A New Day: Health for Every Body,* along with expertise of the program developer (A new day: Health for every body, 2019; Tribole & Resch, 2017). Program goals and objectives were measured utilizing post module surveys and a validated IE scale provided before and after program completion. The program objectives can be found in Appendix B.

Program implementation was conducted through the MSU EW Program and web-based platforms available through the university. The program was developed to give those that are stuck in a yoyo-dieting cycle tools to improve their overall health through an approach that is not weight-focused, but health focused. The program study was submitted and then approved by the MSU Institutional Review Board on August, 16th, 2019. See IRB-FY2020-48 in Appendix C.

Finding Peace with Food: An Intuitive Eating Approach is an evidence-based, compassionate program to assist in healing one's relationship with food, provide instruction on letting go of the "diet mentality", and ultimately teach that health is multidimensional and not just a number on a scale. The goals of the program are to 1) achieve program objectives based on the Intuitive Eating Scale given to participants before and after program completion, 2) achieve individualized, module-based objectives (also located in Appendix B), 3) identify facilitators and

barriers in implementing an online programming platform to offer wellness programming through EW, 4) assess and utilize participant feedback to improve future online programming offered through EW.

The program workbook materials and exercises were sourced from *The Intuitive Eating Workbook* and the open-source program, *A New Day: Health for Every Body*, which is based on IE principles (Tribole & Resch, 2017). In weekly videos, the program moderator discussed concepts from each of these sources as well as the moderator's own expertise as a registered dietitian nutritionist. The videos were recorded using Zoom video recording technology and contain video of the moderator, PowerPoint slides, and multimedia such as photos and videos that are pertinent to the week's subject matter. Each video was approximately twenty minutes in length.

In addition to the program videos and worksheets, participants had three weekly discussion board prompts to consider the module's concepts and activities. In order to encourage participation and create a simulated atmosphere of group sharing that is lost in the online setting, the program utilized the program Flipgrid. Flipgrid allows participants to record audio/video or audio-only responses to weekly prompts. This program is a free service, is already available at MSU, and is easily integrated with Blackboard. Program participants receive a video tutorial on how to utilize this program available to them through the Blackboard program page. The program moderator reviewed participant discussion board responses and provided weekly feedback posts addressing participant experiences discussed in the weekly reflections.

Another component to this program is recorded interviews with registered dietitians who specialize in IE counseling. These interviews broaden the depth of understanding of how the weekly IE concepts are applicable in real-life scenarios. Interviews also add credibility to the

program by providing participants evidence-based information from professionals who are certified IE counselors and registered dietitian nutritionists with professional experience counseling patients in these concepts. The three stages of the program implementation plan are outlined below in Table 2.

Table 2. Three Stages of the Program Implementation Plan

Stage 1	• Meet with stakeholders for MSU Wellness programming to discuss program content and implementation plan logistics such as online webpage design and discussion board implementation and design. • Finalize program content based on feedback from stakeholders • Present final program content to stakeholders for final approval
Stage 2	• Work with website development team to create program website and upload module content • Create online discussion board group for program registrants • Create online registration form to be linked to promotional emails • Begin sending out marketing emails to the EW listserv as described in marketing plan
Stage 3	• Send out initial Intuitive Eating Assessment Scale-2 required prior to program initiation to program registrants • Initiate program by making weekly modules available beginning on Sunday of each week. • Initiate Monday discussion prompt • Initiate Wednesday discussion prompt • Initiate Friday discussion prompt • Send out post-program Intuitive Easting assessment Scale-2 the week after program completion. Communicate that participants have 1 week to complete the assessment and once it is received and they have completed 85% of DB prompts, they will be eligible to receive a $25 MSU Bookstore gift card.

Program Participation

It was planned that each module would take participants approximately 45 minutes to complete including viewing videos, reading handouts, and responding to weekly module surveys. Additionally, each workbook contained exercises for the participants to complete throughout the week. Participation in workbook exercises and discussion board prompt participation will vary among individuals but is estimated to take no more than 3 hours per week.

The program was marketed using promotional flyers designed by the program developer. These flyers were planned to be distributed in high traffic areas on campus and in departmental mailboxes. The EW Program also sent out promotional emails to an email list MSU employees who have opted in to receive emails. An email announcing the program will also be sent to the director of communications at the West Plains MSU campus to announce the program to employees at this campus.. There was also be a webpage added to the EW program website explaining the course content and objectives. Recruitment materials can be reviewed in Appendix D. A general registration page was to be made available through the EW website, and program registrants were able to receive additional information pertaining to the program through their preferred email accounts.

Measures

Following registration, participants were sent a validated IE Scale survey and an Informed Consent (IC) form. The IC provided a detailed program overview including explanation of module content, estimated time commitment, and possible outcomes due to participation in the program. The IC form had to be completed and returned in order for participants to receive access to the program content. Both the IE survey and the IC form were

sent electronically through the Qualtrics survey software program. Participants were also to be notified that all data would remain confidential, that they can terminate participation at any time, and that they will receive a $25 gift card to the MSU Bookstore for 85% program participation. Data was also be collected at the end of each week, as all modules include participant feedback surveys regarding module content. At the end of the program, participants were asked to complete the IE survey again, as program goals are based on improving IE survey results. The follow up IE survey contained questions regarding gender, age, race, employment status, and self-reported height and weight. Participants were also asked to list past efforts to lose weight and their efficacy. The IE survey, follow-up survey, and IC form can be found in Appendix E.

Procedures

The pre and post program IE surveys, module surveys, and IC survey were all sent to participants through Qualtrics. Qualtrics collects information from participants anonymously to ensure participant privacy is protected.

Hard copies of these surveys and forms were available at participants request; if participants request hard copies of any forms or surveys, then copies will be mailed to the address requested by the participants. Participants will then be instructed to mail back the forms.

All electronic data was kept secure and confidential on the university-approved, HIPAA-secure SharePoint site created for the program moderator and primary investigator by the MSU Instructional Tech Support Specialist. Any paper copies of program data were stored in a locked filing cabinet within the moderator's office and on the moderator's desktop computer on the MSU campus. Only the moderator and primary investigator had access to the data collected for this program. All paper forms and electronic data were saved without participant identifiers.

Data Analysis Upon program completion and data collection, all data was analyzed and coded appropriately. Quantitative data was obtained from participation reports in Flipgrid and Blackboard. The data was collected and analyzed in Excel when necessary.

A phenomenological approach was used to evaluate qualitative data. Qualitative data was analyzed for themes. Themes were counted and analyzed to determine importance. After statistical analyses and receipt of qualitative answers, findings and results from the program will be reported and disseminated in an appropriate manner. It should be noted that all electronic documents (downloaded from Qualtrics) will be stored on the university-approved, HIPAA-secure SharePoint site (created by IT Specialist faculty).

Any paper copies of program data will be stored in a locked filing cabinet within the moderator's office and on the moderator's desktop computer on MSU campus. Data will include pre and post program survey results and informed consent forms. After the data is entered into Excel and SPSS software, the paper/electronic forms will be destroyed. When the data set is no longer needed, it will be erased using software applications programs designed to remove data.

Risks and Benefits This program has minimal risk to participants. Although all measures were taken to instruct program participants that all topics discussed in the group are confidential, sharing in group discussion poses the risk that some sensitive information could be shared by others. Additionally, paying attention to dietary behaviors can be psychologically challenging and may cause distress to those who may have disordered eating behaviors.

All participants were instructed to respect one another's privacy and to keep what is discussed within the group confidential. Participants were using individual password-protected Blackboard accounts to access program content. Flipgrid access is also restricted to program participants and the moderator. Additionally, each module will contain a reminder to keep

participant discussions confidential. Participants were notified that they did not have to complete the program or participate in activities or complete survey questions that they feel may be too stressful or uncomfortable. If required, HIPAA guidelines will be followed to safeguard patient privacy.

Participants of this program were expected to benefit by improving their quality of life through developing a positive relationship with food and body image. Additionally, participants could decrease the likelihood of participating in weight cycling and disordered eating behaviors. Likewise, participants could benefit by taking part in an evidence-based program that will be evaluated for efficacy; program outcomes will be used to guide future implementation at MSU.

This was the first program offered solely online through MSU's EW program. The assessment of this program's development and implementation will pave the way for implementation of other online health programs through EW to reach more faculty and staff on other MSU campuses. Results of this study will also provide significant insight to other dietitians and health/wellness professionals who would like to offer online and/or IE programming through an online platform.

Researcher Perspective and Bias

The program highlighted in this project was created through evidence-based methods and theory and utilizes evidence-based materials, as described in detail above. It should be noted that the perspective and experiences of the author in the assessment and development of the program should be taken into consideration.

Using the PRECEDE model as a guide, the author used personal and professional experience in discussing factors that affect weight cycling with those that report yoyo-dieting to

determine perceived changeability and importance. Other researchers may have differing perspectives on these factors.

When designing the modules for the program the author based structure of modules and discussion board posts based on previous experience with online classes and discussions with others that have taken classes online. The choice to use Flipgrid instead of a typical text-based discussion board platform was decided due to negative feedback of discussion board use and participation in online classes perceived by the author. Additionally, research shows online program engagement is challenging and lack of in-person feedback is a factor (Mihuta & Green, 2017; Lima-Serrano et al. 2018). It was thought that the program Flipgrid would be a beneficial alternative to oral, in-person communication between participants rather than text. Module objectives were developed as a method of formative assessment to gauge learning of module concepts and platform usability.

Program objectives were developed based on improvement in IE scale score numbers. This program was meant to be an introduction to IE principles and provide participants insight on an evidence-based alternative to dieting. The author found it imperative to communicate to participants that the program *Finding Peace with Food: An Intuitive Eating Approach* is not a weight-loss program and the program goal is not to create "intuitive eaters" by the program's end.

The author had limited time and availability to gain in-depth understanding of program capabilities of Blackboard, Flipgrid, and Qualtrics prior to program implementation and therefore programs may not have been used to their full capabilities.

Summary

The development of the program *Finding Peace with Food: An Intuitive Eating Approach* was completed with guidance of the PRECEDE-PROCEED model and selective SDT constructs as described in Appendix F. Feasibility of implementation was determined by evaluating themes in participant feedback, facilitators and barriers to program usability, and EW Program stakeholder feedback.

RESULTS

The aim of this study was to 1) explore the feasibility of implementing a web-based IE program through employee wellness in a university setting and 2) identify barriers and facilitators to successful program implementation and participation. Research has not been identified that explores feasibility and participation factors pertaining to a web-based IE program offered to employees in a university setting. The results discussed here provide insight for other organizations who wish to implement similar web-based health programming.

Program implementation began with discussing program constructs and platform needs with stakeholders at MSU. Stakeholders included the MSU EW and IT department staff. The initial meeting with EW program staff encompassed discussions of program goals and objectives, an estimated timeline for marketing, action items for implementation, and support needed for establishing the program within MSU's digital infrastructure. The following sections provide a detailed summary of the timeline, processes, qualitative and qualitative data analysis, participant feedback, and researcher feedback from implementing the program *Finding Peace with Food: An Intuitive Eating Approach.*

Program Implementation

Stakeholders Meeting. After the program was developed, proposed implementation was presented to the EW program wellness director and dietitian. This meeting was held three months prior to the start of the program. The program was accepted by EW and plans began for implementation. It is important to note that the program's thorough assessment, theory-based development, evidence-based content, and web-based foundation were primary reasons for the

programs support and approval by EW faculty. The EW stakeholders expressed interest in the online format and hoped to identify level of interest in online EW programming from other MSU campuses.

Platform Identification. Once the program was approved for implementation, the researcher worked with EW stakeholders to find the best digital platforms to present the program to participants, provide means of communication and engagement between participants and between participants and moderator, and collect program data. Communication between stakeholders, the researcher, and the IT led to a list of program platform requirements (see Table 1) to meet the needs of the program. It was important to the program stakeholders and researcher to identify programs that were already existing in the university's infrastructure for ease of implementation. Another benefit of utilizing existing infrastructure is that participants would likely be familiar with the program platform if it was already used by employees.

Program Platforms. Blackboard, an online learning management system, was identified by IT as the only platform that met all qualifications needed for implementation. The MSU computer services and IT department set up a Blackboard Organization page for EW, which was accessible through the Community area of Blackboard. The researcher attended two Blackboard open labs available at MSU to understand course building and moderating online programming through the platform. The layout of the program Blackboard page can be seen in Figure 1. Even though Blackboard has discussion board capabilities, the researcher utilized Flipgrid as a means of participant-participant and moderator-participant communication through video and/or audio recording technology. Although the program is not widely used at MSU, it is available and easily integrated into Blackboard. IT tested integration prior to program implementation and the researcher embedded Flipgrid into the Blackboard page with assistance in a Blackboard open lab

session. It was proposed by the researcher that this feature would be helpful in providing engagement while simulating a more conversational approach in program communication.

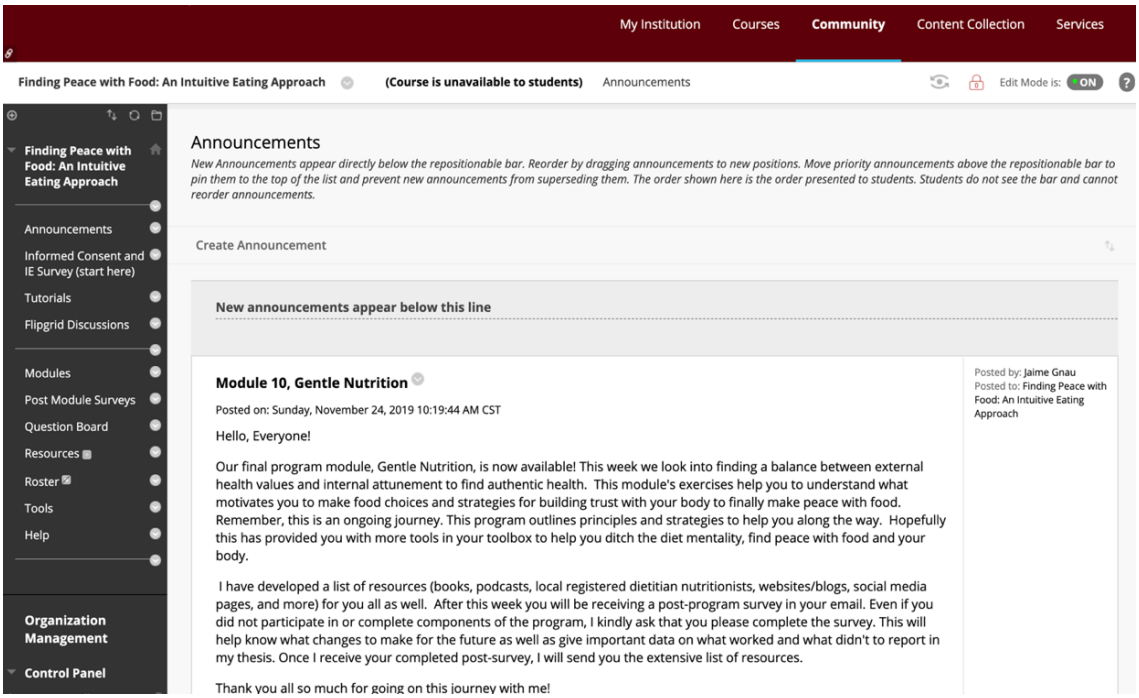

Figure 1: Layout of the Blackboard page for Finding Peace with Food: An Intuitive Eating Approach

Qualtrics was determined to be the best option for data analytics due to its availability, ease of integration with Blackboard, it is a relatively user-friendly platform for new users, and its a familiar platform to MSU employees. Therefore, all the surveys utilized in this program were developed and distributed through Qualtrics. This includes the IC form, initial IE survey, all post module surveys, post program IE survey and demographics questions. At the time of program implementation, Qualtrics was unfamiliar to the researcher. Due to time constraints and limited availability, the researcher was unable to attend any workshops or help sessions in order to use the program as effectively as possible.

Zoom video conferencing software available through MSU was used for recording the program module videos and screensharing PowerPoint slides. The recorded interviews with certified intuitive eating counselors and/or registered dietitian nutritionists specializing in IE principles were recorded on a MacBook Air computer without a specialized microphone or additional equipment. MP4 files of the videos were uploaded into Blackboard weekly content folders and embedded into the page.

Marketing and Recruitment

As the program was being configured in the aforementioned program platforms, the researcher also worked with the EW stakeholders to market the program to potential participants. Concurrently, the EW program director was working with the online learning management system team to integrate a program registration page. At this time, a webpage was created for the EW website for employees to access a description of the program and the modules. The webpage content can be found in Appendix D.

An email was sent out to all employees who had previously signed up to receive emails pertaining to EW programming. The first advertisement email was sent 2 weeks prior to the start date of the program. This was not congruent with the original marketing plan (see Appendix D). The delay in marketing was due to a delay in approval of the program's registration page. The EW program director was presented with an unforeseen challenge with the online learning management team in establishing the registration page through the My Learning Connection site at MSU. This site is used for registration of all employee education programs, as well as payment for participation in programs offered. MSU employees are allotted a $150 non-credit fee waiver

to participate in non-credit classes including Employee Wellness and recreational classes on campus. This was identified as a facilitator for participants to register for the class.

The challenge of receiving approval for the registration page was related to the program being a web-based format without a set meeting location. Therefore, the program was minimally marketed due to the following barriers: 1) the MSU policy preventing blast emails from the EW program to all MSU employees 2) challenges with implementing a registration page prevented additional marketing as stakeholders did not want to send out more marketing emails without a registration link.

The EW stakeholders and the researcher waited until the registration page was up to send out additional emails marketing the program. Due to the policy that restricts the EW program from sending blast emails to all MSU employees, it was difficult to market to other MSU campuses. The researcher contacted the university's communications department to have the program featured in the campus wide weekly e-newsletter, *Inside Missouri State.* This weekly newsletter is only sent out to employees on the main MSU campus, not satellite campuses. The communications department at the West Plains campus was also contacted to inquire how to advertise the online program for the employees of that campus.

Despite very limited marketing for the program, all 20 spots were filled within 2 days of registration going live. Between the time registration went live and the class filled to capacity, program marketing had not been communicated to employees at other campuses nor through the Inside Missouri State e-newsletter. Therefore, the class was filled by only participants who had received the EW email communication, none of who were employed at MSU satellite campuses. The plan to distribute flyers into employee mailboxes across campus was not completed due to the class filling to capacity in such a short time. Those interested in the class could also join a

wait list after the class reached capacity. There were five additional registrants that were registered on the waitlist.

Registration was filled to the maximum of 20 participants with 85% of participants being female and 15% male. All program participants were employees at the MSU Springfield campus. All participants had previously participated in MSU Employee Wellness programming.

Unfortunately, a miscommunication led to other demographic data not being assessed until the follow-up IE survey was issued; only 40% of program participants completed the survey. Initially, it was thought that demographic data were assessed with the registration page, but they were not due to the miscommunication error. Since the initial IE survey did not contain assessment for demographics, these were added to the post IE survey.

From the results of the 8 participants that completed the survey, ages of program participants ranged from 26-64. The average age was 46 years with a standard deviation of 14.5. One male and 7 females filled out the survey which is a good representation of the program audience. All program participant survey responders identified as white. All reported that they were employed full time. The 10-week program went live on September 22nd, 2019.

Measures

Data pertaining to program implementation, program participation, and program platform usability were collected and analyzed. Data included qualitative and quantitative measures. Qualitative data contained verbal and digital communication between stakeholders for program implementation and platform usability feedback from participants through email communication and Qualtrics survey responses. Quantitative data were collected using Blackboard and Flipgrid

reporting features and summarizes participant activity within program content areas, time spent in program modules, and dates and times users were most active accessing program materials.

Quantitative Data User activity reports show number of hits in each content area. Number of hits to access the Flipgrid discussion board platform is not included in this report since it is accessed in a separate site and is not considered a "content area" in the report. The report indicated that participants primarily accessed program modules (71% of all hits recorded) with a total number of 420 hits during program implementation. The complete data set for all user activity inside content areas can be found in Figure 2. It is noted that the resources content area was not open to users and therefore had no hits. Intuitive eating resources were provided to all participants that completed the final IE survey at the end of the program.

An additional report differentiates number of hits by each participant. It is determined that 22% of total number of module hits came from one participant. The participant referred to as "User 10" in Figure 3 was the only participant to finish the program in its entirety.

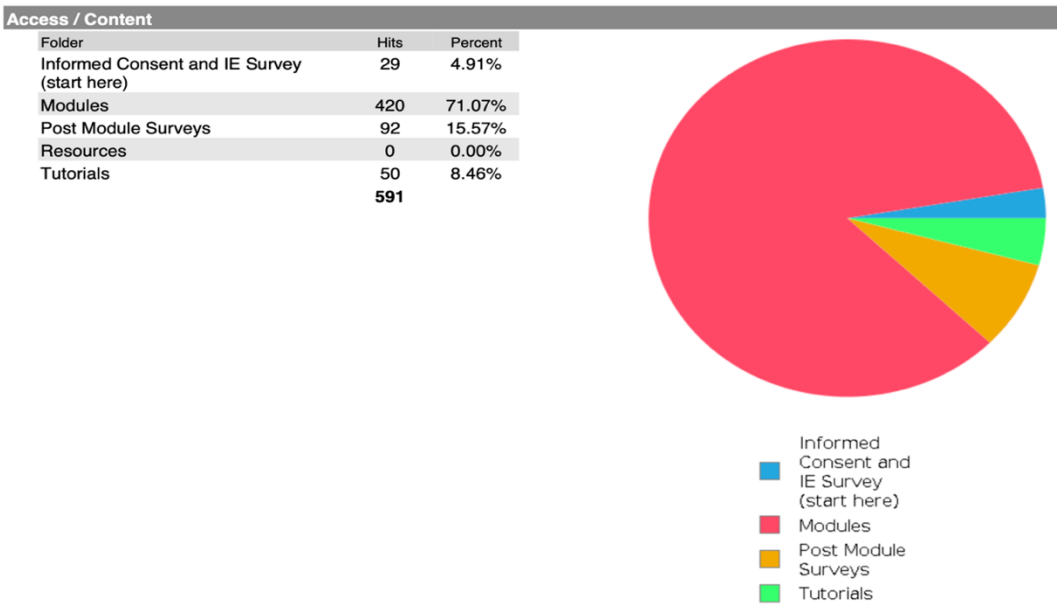

Figure 2: User activity inside each content area on Blackboard measured in number of hits.

The number of hits in the modules content area ranges from 0-94. It was found that 60% of the program participants accessed the module content area 10 times or more and 20% of participants accessed the content area greater than 40 times. Additional analysis of number of hits by participants can be seen in Figure 4.

Two participants accessed all modules in the program. A total of 40% of participants completed 5 program modules or more. One participant out of 20 accessed all modules and completed all discussion board reflection prompts. Interestingly, when contacted about her $25 MSU Bookstore gift card incentive for completing over 85% of the program, she had forgotten about the incentive. This highlights her internal motivation as a primary driver for program completion.

	Informed Consent and IE Survey (start here)	Modules	Post Module Surveys	Resources	Tutorials	Total
User 20	1	2	0	0	2	5
User 19	1	9	1	0	3	14
User 18	2	8	0	0	3	13
User 17	1	66	14	0	3	84
User 16	1	3	0	0	1	5
User 15	1	11	0	0	1	13
User 14	2	17	1	0	1	21
User 13	2	12	0	0	3	17
User 12	1	2	0	0	2	5
User 11	1	30	2	0	5	38
User 10	2	94	19	0	10	125
User 9	2	44	13	0	3	62
User 8	1	0	0	0	0	1
User 7	1	16	1	0	2	20
User 6	0	51	22	0	1	74
User 5	2	14	0	0	2	18
User 4	1	3	0	0	2	6
User 3	1	13	3	0	3	20
User 2	5	24	16	0	2	47
User 1	1	1	0	0	1	3

Figure 3: Individual user activity inside Blackboard content areas measured in number of hits.

This participant is referred to as “User 10” in the figures below. User 10 had an average of 4 hours per week in the program over the 10-week course. This time does not include all work on individual activities from discussion board prompts and the worksheets. Some activities require completion outside of the online program environment. This time estimate is higher than estimated during program development. The researcher originally accounted for approximately 3 hours per week for weekly activity in program content areas.

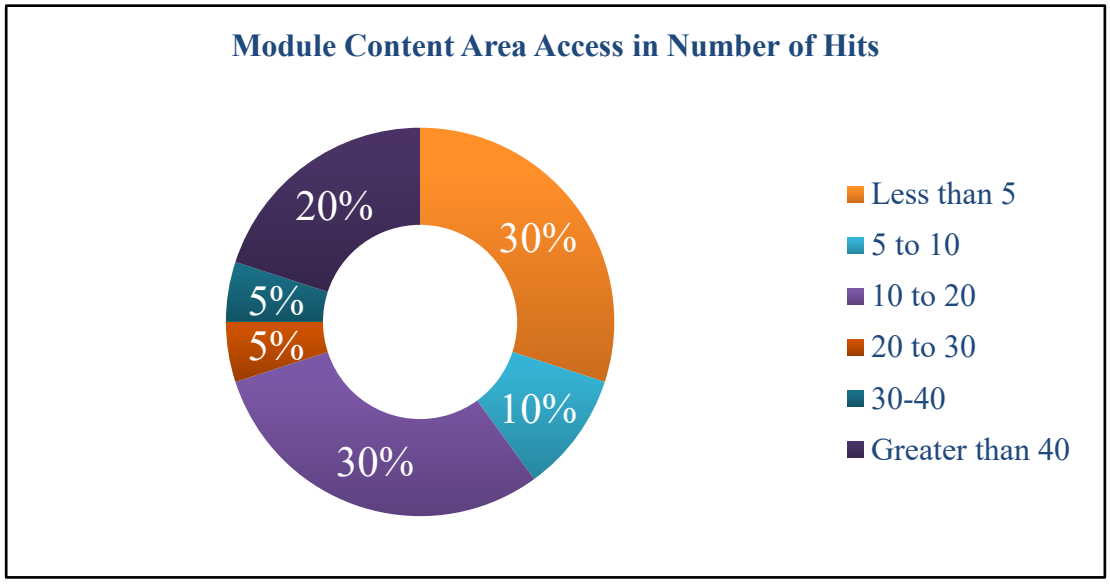

Figure 4: Number of hits participants accessed module content area from one week prior to program start date until date of program close.

The average time spent per participant per module was 1.72 hours. The maximum amount of time spent per module was 6.47 hours. The minimum time spent per module was 30 minutes. The number of modules each participant accessed can be seen in Figure 5. The total number of hours spent in content areas of the program on Blackboard can be found in Figure 6. The three weekly discussion board prompts were visible to participants on Sunday, Wednesday, and Friday on Flipgrid.

Similarly to module engagement, Flipgrid participation began to decline early on in the program. The initial introductions prompt had 12 responses including the moderator. The first module had the most responses with 8-10 videos posted with each prompt. Due to complaints from participants about the requirement of posting a video to the class, a private forum option was created so that participants could post about their experiences with the moderator only. This forum was not utilized by participants. Blackboard reports show that Wednesday, Monday, and

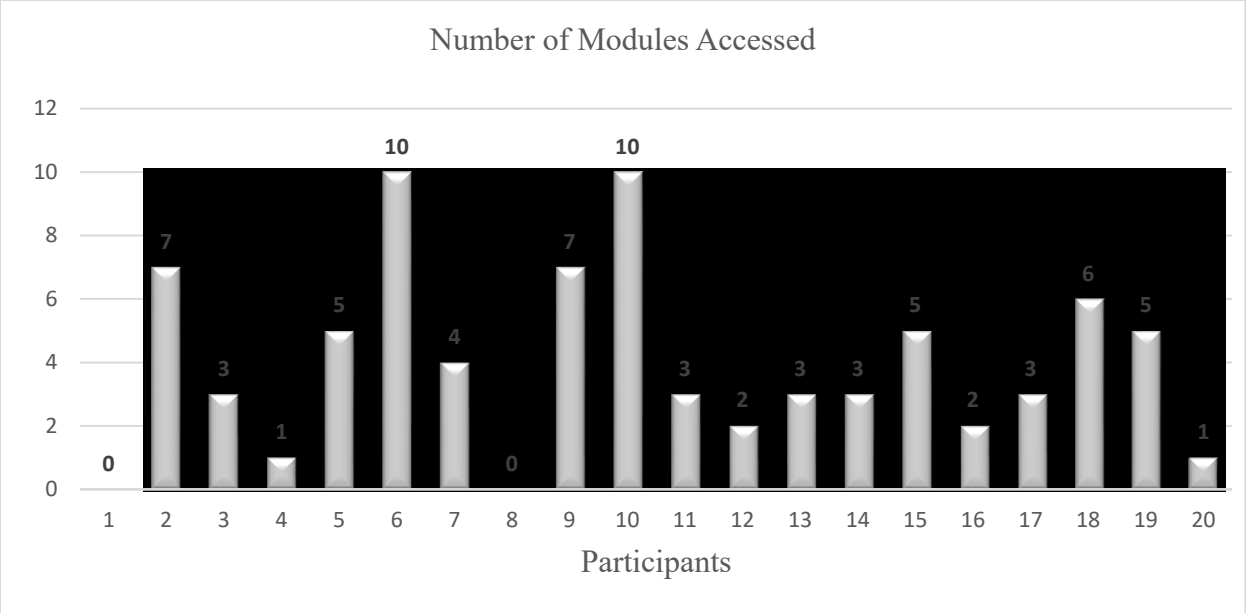

Figure 5: The number of modules each program participant accessed through the duration of the program.

Saturday, respectively, were the most popular days to access content within the program. Sunday and Friday were the least popular days for content access. Figure 7 shows hours of activity in the course per each day of the week among all participants.

By the third week of the program several participants had reported not having enough time to address all three prompts and reflect on all the information that had been covered. In order to encourage participation, participants were notified that they were only required to respond to two prompts weekly to be considered for the completion incentive. Module 3 had a small increase in prompt responses from 4 to 5. Then responses dropped again in module 4 and 5. After module 5 there was only one participant (User 10) utilizing the discussion board prompts for the remainder of the program. Details of Flipgrid discussion board prompt responses and views can be found in Figures 8-10.

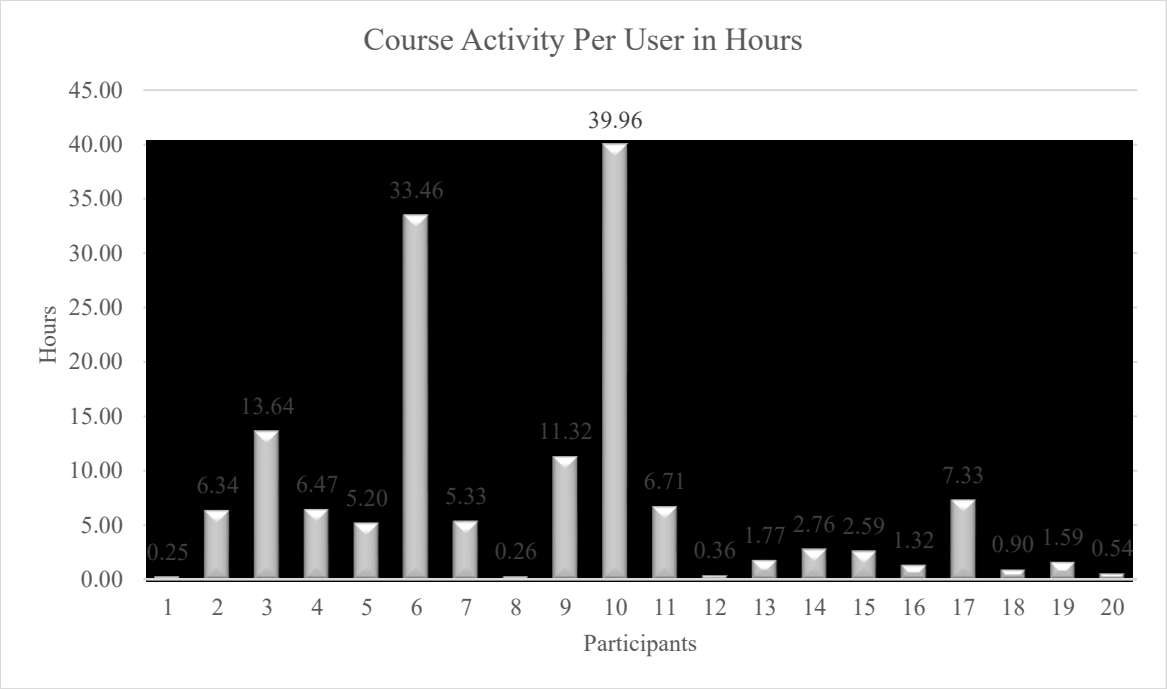

Figure 6: The total number of hours spent in course content areas in Blackboard per participant.

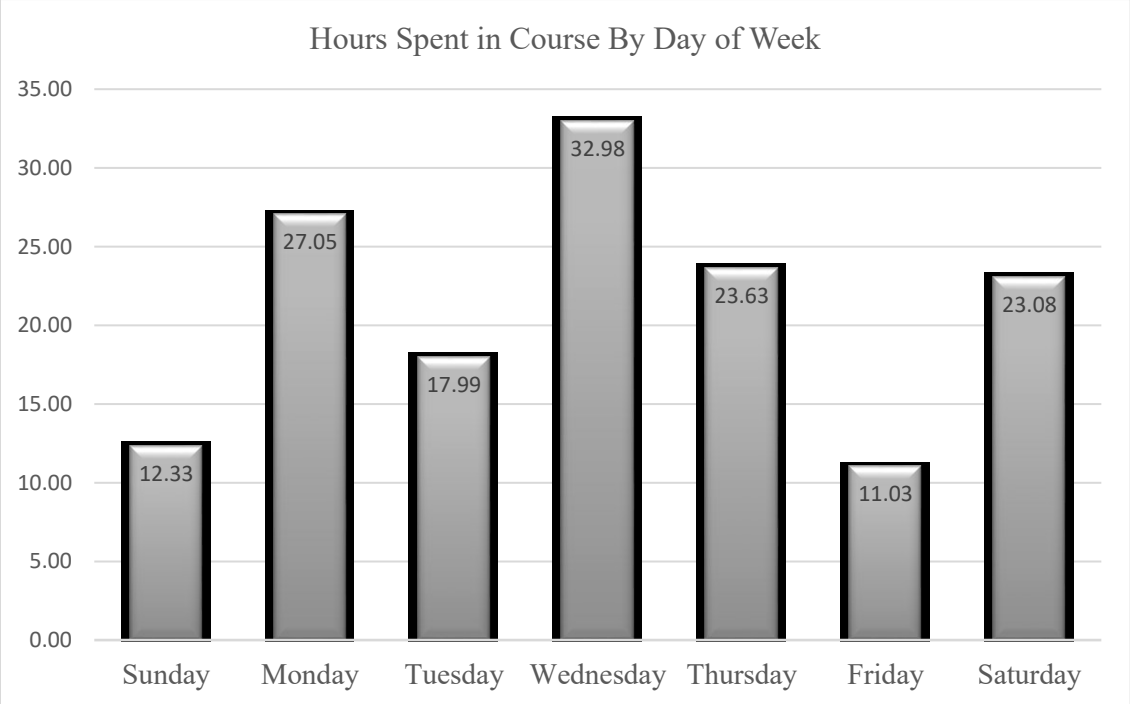

Figure 7: Number of hours per week participants spent in the Blackboard content areas

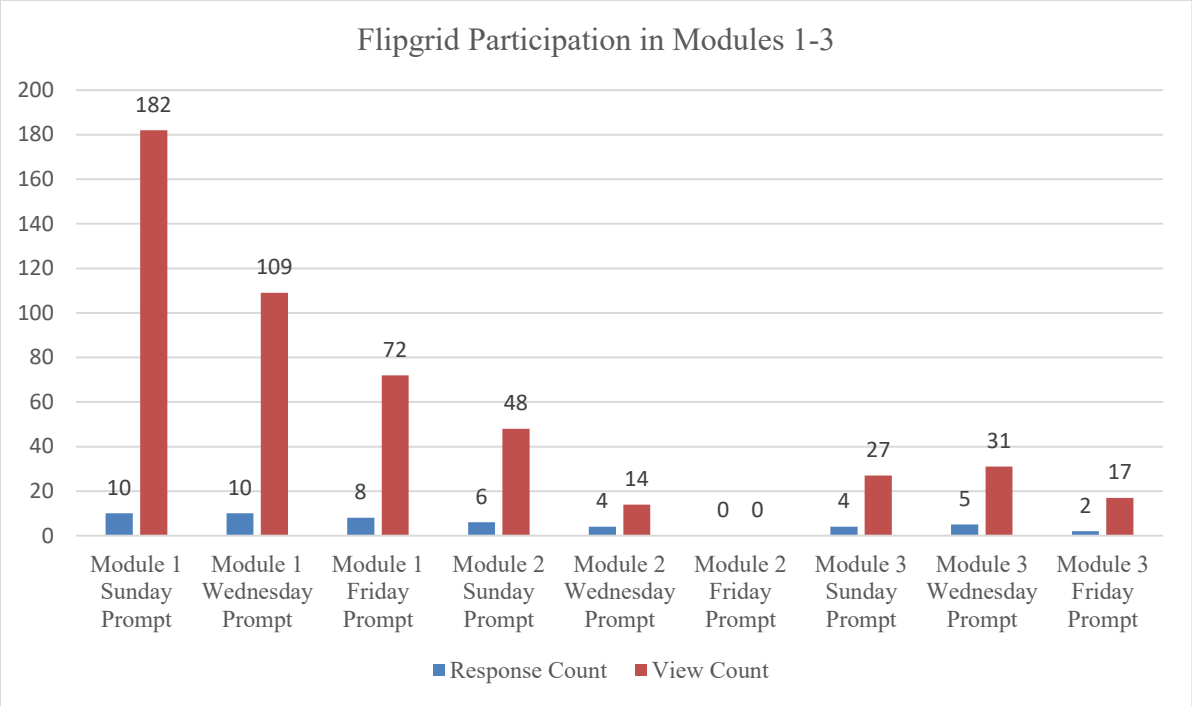

Figure 8: Participant response count and view count for each weekly discussion board prompt modules 1-3.

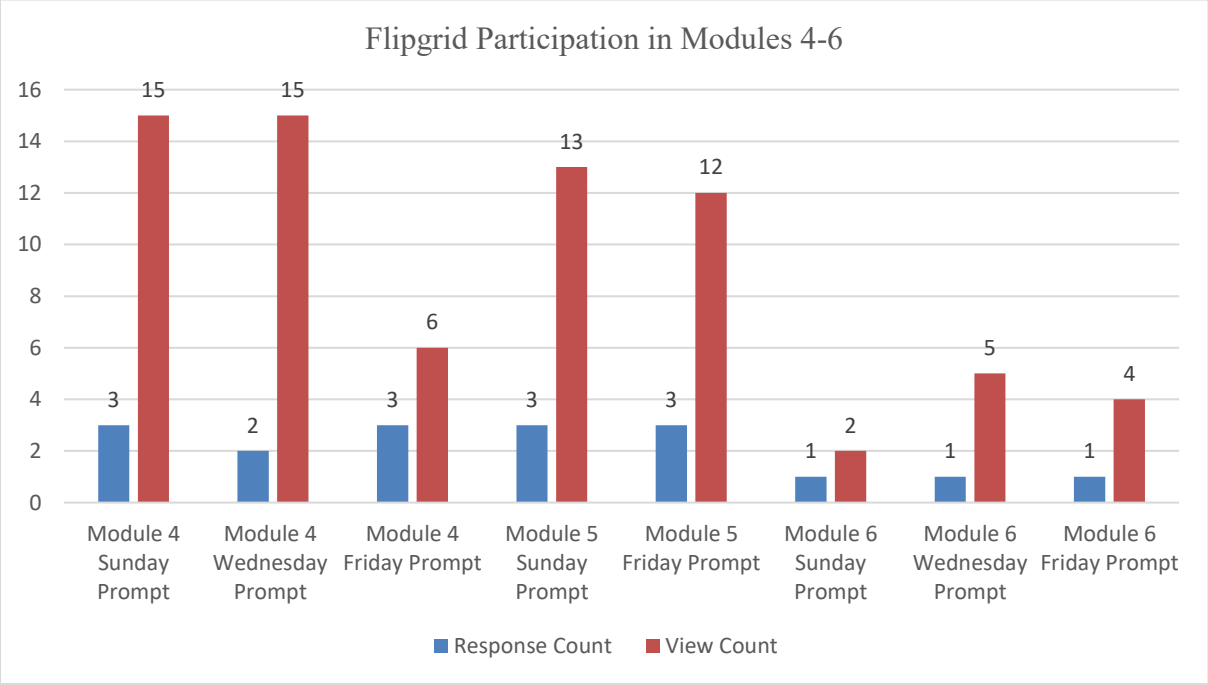

Figure 9: Participant response count and view count for each weekly discussion board prompt modules 4-6.

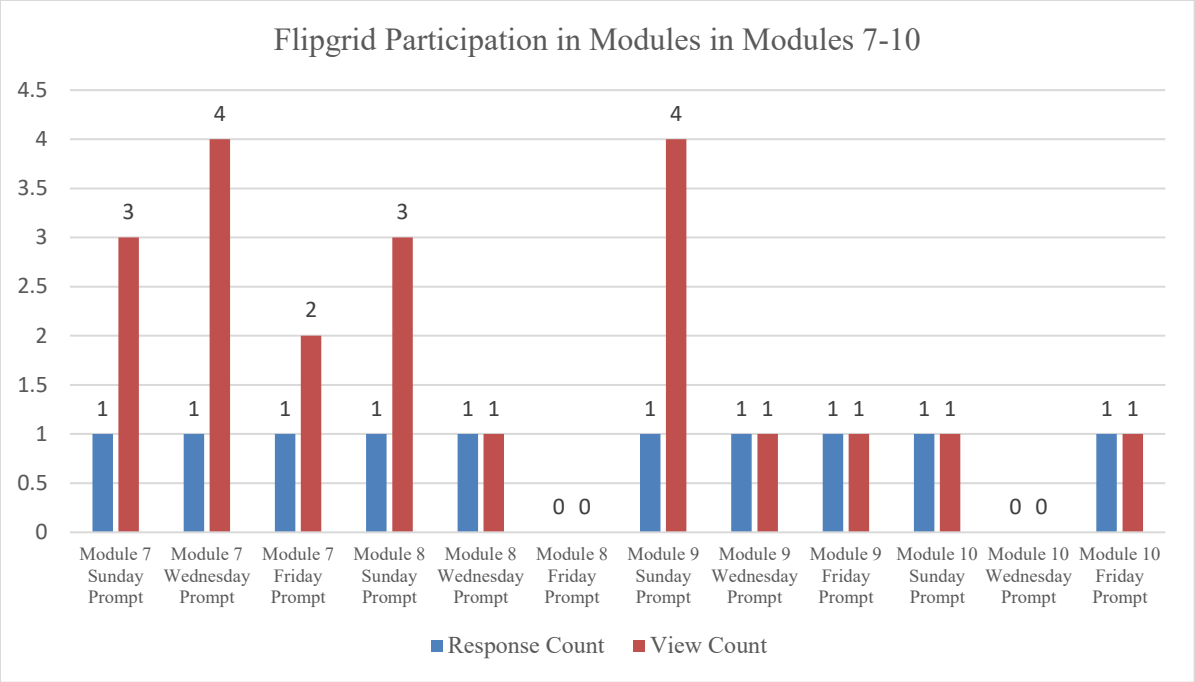

Figure 10: Participant response count and view count for each weekly discussion board prompt modules 7-10.

Post-module surveys were used for formative evaluation of module content knowledge and evaluation of participant feedback concerning quality of videos and handouts, effectiveness of discussion board, and usefulness of information. Each survey response is based on the following scale:

1 = poor 2 = fair 3 = average 4 = good 5 = outstanding

All post module surveys can be found in Appendix E. Due to decline in participants completing post-module surveys, they were made mandatory to progress to the next module after module 5. Once participants clicked on the link to fill out the survey they could then access the next module content folder. It is difficult to know if this change created an additional barrier to accessing content because participation had already began to decline. As shown with module activity reports discussed previously. Program participation significantly declined after module 5

with only one participant responding to the prompts for the remainder of the program. The number of responses for each post-module survey can be found in Figure 11.

The maximum number of respondents was 15 for the post module 1 survey. The minimum number of respondents was 2 for the 7th, 8th, and 9th post-module surveys. The usefulness of information provided in the modules was predominately rated as "Outstanding", the majority of participants rated the quality of videos as "Good", and the effectiveness of discussion boards was predominately rated as "Average". There were no respondents that rated any portion of the program as "Poor". The sum of all post module survey results is displayed in Figure 12. All individual post-module survey results can be located at the end of Appendix E.

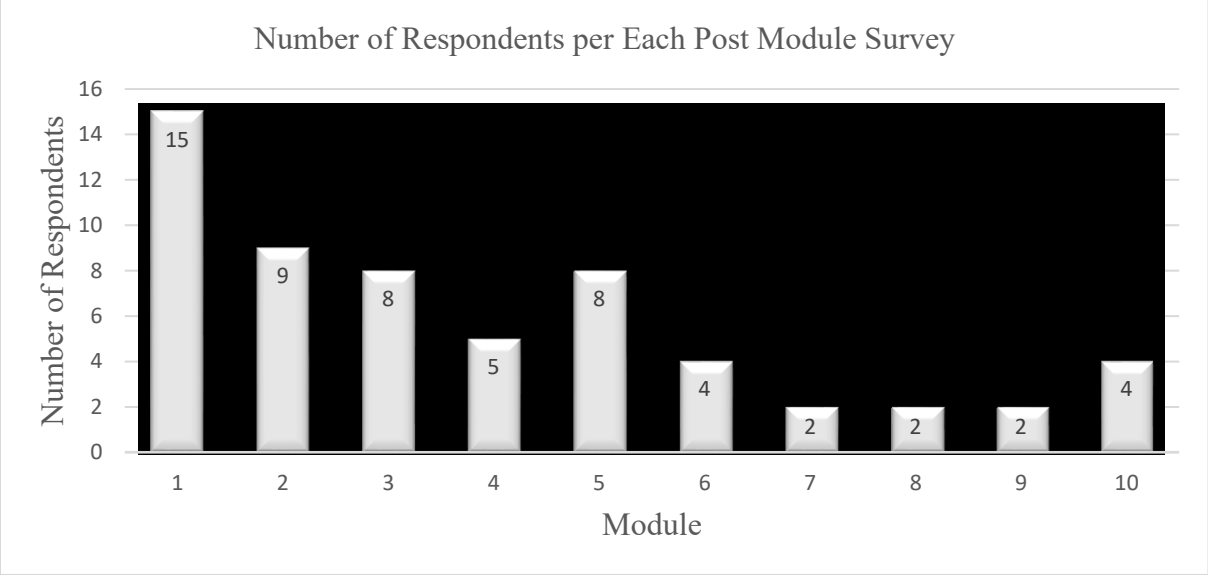

Figure 11: The number of respondents per post module survey

A total of eight participants completed the post-program survey and IE survey. One out of eight reported watching all of the module videos and completed all module activities. Seven out of eight reported watching some of the module videos and completing some of the module

activities. Two out of the eight participants who completed the survey reported that they did not participate in the discussion board.

Qualitative Data The experiential perspectives of the participants and the researcher are important in exploring factors that contribute to successful program participation and engagement in some and not others. Participant feedback was collected through the following, 1) open comments in the post-module surveys 2) email communication between participants and researcher or stakeholders, and 3) comments pertaining to program barriers and facilitators in Flipgrid discussion board forum.

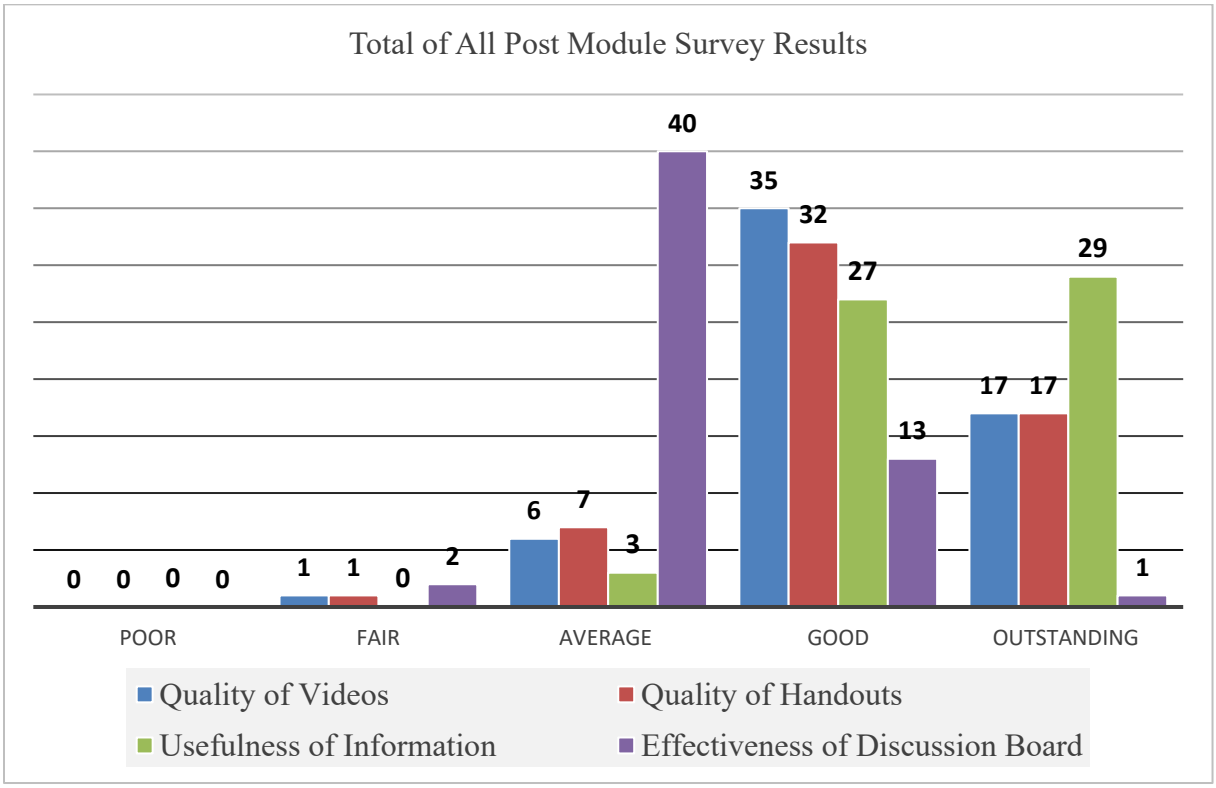

Figure 12: Sum of all post module survey results from all respondents.

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All feedback pertaining to facilitators and barriers to program participation were reviewed for themes. Several themes were highlighted throughout feedback review, and all themes were assessed as total frequency mentioned and count of unique occurrences among individual participants when possible. The themes found throughout participant feedback were 1) time constraints 2) overwhelming amount of information 3) quality of program resources, and 4) aversion to utilizing Flipgrid platform. It is noted that post-module surveys in Qualtrics were anonymous so only frequency of total themes mentioned could be deduced from post-module survey feedback. Figure 13 displays total frequency of each theme mentioned in all participant feedback modalities.

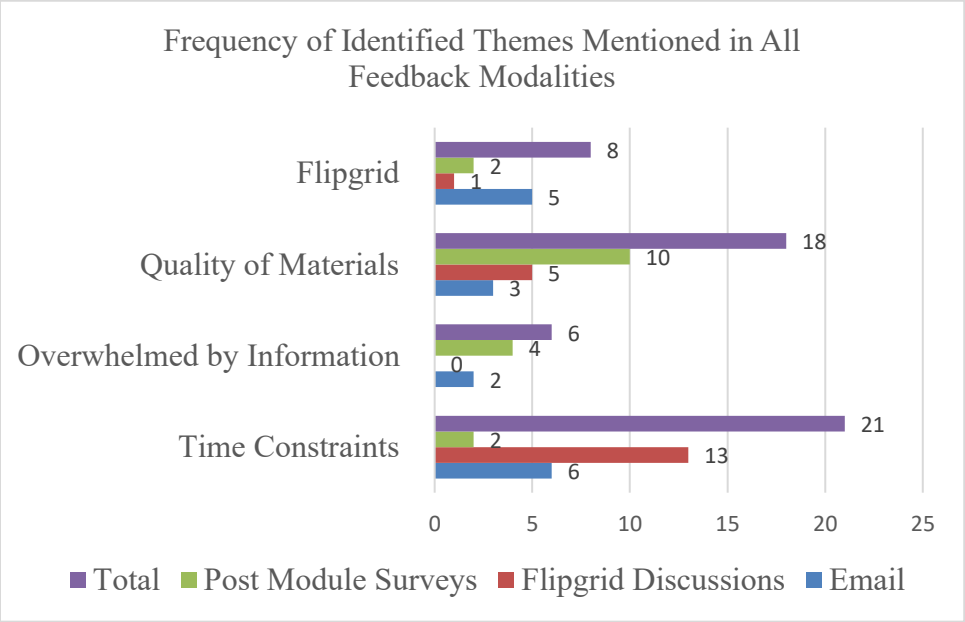

Figure 13: Frequency each identified theme was mentioned and of which modality of feedback the comment was assessed.

Time Constraints. The primary feedback theme related to participation and engagement was time constraints. To assess this theme the words “busy”, “time”, “behind”, and “late” were used to search all feedback response documents. As one participant stated, “The online format seemed like a great idea because I could interact as I had time, but the requirement to post three video responses every week is a lot!” It is important to mention 4 of the responses in the “Time Constraints” theme was from User 10 who was the only user to finish the program in its entirety. Several of the User 10’s Flipgrid responses began with “It’s been a busy week” and “I am getting a late start”, also “Hi I am late in adding this response to last week's discussion prompt about giving yourself permission to eat. I've been away at conferences and had family obligations, but I wanted to revisit this before I moved on to this week’s module.”

Additionally, several mentions of time constraints were used by participants who emailed to drop out of the program. One participant stated, “I have been bombarded shortly after I started this class with some extremely stressful things, and I am not able to continue with the class.” Another participant shared, “It’s hard to complete exercises. I don’t have time to keep a record of food experiences. But, I did keep the ideas in mind and I do see positive changes. Maybe the exercises could be less time consuming.” A few of the other comments focused on out of town obligations such as, “I was out of town for a family wedding out of state. I am afraid I got almost nothing done on module 2 due to the hectic nature of my schedule and all of the family time this past week.” Another program participant asked for additional time once the class was over to access modules to catch up due to her busy schedule.

Quality of Materials. The second more prevalent theme was comments on the quality of materials. There were comments that reflected quality of material was a facilitator of participant and engagement and some feedback highlighted quality issues that were a barrier.

There were five out of eighteen comments about quality issues that were seen as a barrier to program participation and engagement. The majority of these were due to poor sound quality of the interview videos in module 1 ("I couldn't hear the video very well, so I may not have gotten everything out of the interview"), module 3 ("This was a good module. I wish I had been able to hear the second video better. No matter how I adjusted my volume, it was difficult to hear. I found it very interesting though") and module 6 ("The interview with a dietitian video was a little hard to hear. The content was great though"). Other barriers identified by feedback include one participant said the handouts would not print correctly for her, one participant emailed feedback stating, "The information in the video was presented in a way that felt like I was missing something.". The participant later went on to say, "I don't think that the videos and worksheets are helpful in changing behaviors, which I think is the goal most people looking to improve their weight, eating habits, etc."

The remaining thirteen comments pertaining to quality of materials were identified as facilitators to program participation and engagement. In the post module surveys a participant stated for module 7, "loving this class! I am getting so much out of these modules. I take notes to retain the information (even though I have the book and can read it whenever." Another participant stated about module 4, "I think this is my favorite module so far because of the reflective exercise to get us thinking about the information.". At the end of the final module a participant shared, "This program has changed my life. I don't feel like I am a prisoner, or food is imprisoned and I can't get to it. I'm FREE to make food choices that affect ME."

There were five comments in the Flipgrid discussion board pertaining to quality of materials that were categorized as facilitators. Pertaining to the interview videos a participant reflected, "This has been something different for me, and so hearing from all of these great

experts and listening to the videos, and getting to reflect on how I am interacting with these concepts has been very enlightening and educational."

Flipgrid. Since the primary barrier for online program participation reviewed in the literature was lack of engagement with program contracts and activities, Flipgrid was identified to address this problem. It was thought that the unique platform in which participants can record video and/or audio recording would provide a simulation of meeting and building relationships between participants.

Flipgrid was available to participants free of charge and is available through the website or fee application download on Android or Apple devices. The researcher developed a short tutorial on how to download and access the program, as well as how to utilize the program for the discussion board prompts. The tutorial also included how to use emojis and the white board option if participants were uncomfortable with showing their faces on camera. Instructions on how to use audio only was also provided.

Flipgrid participation started out with over 50% of the class participating in posting videos. A prompt for participant introductions was provided prior to the program start date. There was a total of 11 participant introduction posts. The moderator also posted an introduction video and responded to each post individually welcoming participants to the program. Figure 14 shows the introduction post on Flipgrid and responds statistics.

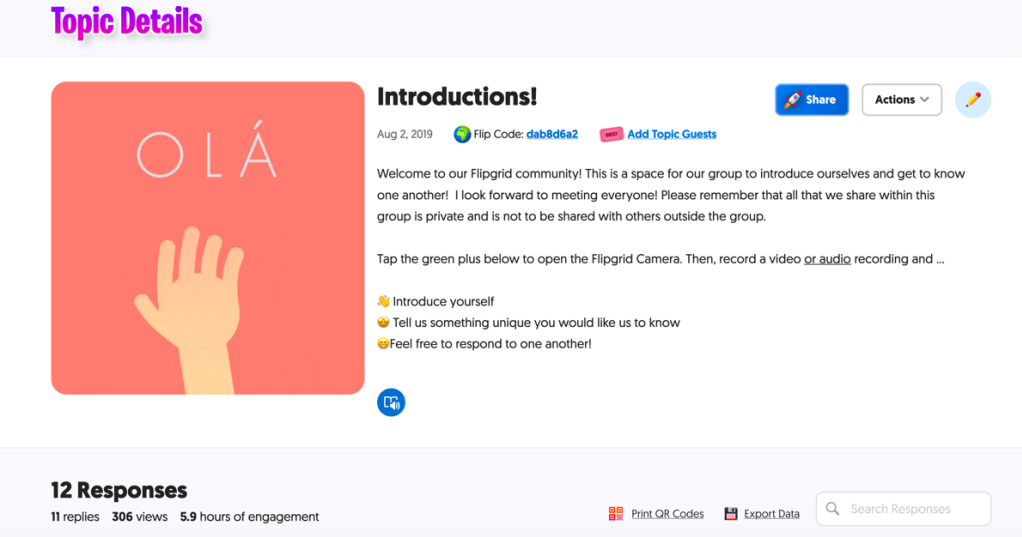

Figure 14: Initial introduction prompt as presented on Flipgrid platform.

There was no positive feedback from participants concerning Flipgrid. There were a total of eight comments across all feedback modalities. Most of the comments came from participant comments through email correspondence, either with the researcher/moderator or a program stakeholder. One participant shared, "I didn't know when I signed up that making videos was going to be a thing. I am really uncomfortable with that. I just assumed it was going to be a normal discussion board where I could write. So, although I am very interested in learning about intuitive eating, I am definitely not interested in participating in this discussion board format." Another participant shared, "I also did not fall in love with the Flipgrid concept. My weight issues are kind of personal and didn't want to put a video out there. Just a personal thing." Other comments were similar in nature. Whereas, two Flipgrid feedback comments were focused on difficulty with the platform.

Overwhelmed by Information. Although not as significant of a theme in feedback as time constraints and quality of materials, there were several comments regarding participants that were overwhelmed by the amount of information. One participant stated, "I'm not clear why this

is called “intuitive” because it seems to take a lot of thought.” The same participant communicated later in the program through email,

> “I think I’m going to have to drop the class. I’ve had some health trouble and we’re also having some remodeling done at home. There’s just too much right now. Thinking about the class and not being able to devote time to it is just one added stress I don’t need at the moment. It’s been interesting though. Thanks. Most of the comments that fit into this theme were found in the post-module surveys.” (anonymous program participant)

Participants provided the following feedback in module 2, “I am enjoying what I am learning so far. It’s really good information, just coming at me so fast!.” And,

> “I am not confused, but overwhelmed at the moment. I am getting a lot of information which would normally take me a week to process, so trying to give feedback within a couple days’ time is hard for me! I have barely had time to process it, let alone meditate on it, organize it, and realize what I need to do with it.” (anonymous program participant)

Comparing differences between participants with low participation and high participation is helpful in determining factors could relate to SDT constructs and how they impact participation. Three of the program members with the lowest participation rates filled out the final post program IE survey.

User 16 spent 1.32 hours in Blackboard content areas, only opened 3 modules, did not participate in the discussion board, and only completed some of the activities. This participant reports exercising 4-5 times per week with a focus on replacing body fat with muscle. The participant also reports maintaining diet goals of eating less sugar and fat.

User 13 spent 1.77 hours in Blackboard content areas, similarly only opened three modules, did not participate in the discussion board, and completed only some activities. This

user did not choose to include feedback on weight history and did not include height and weight in the survey data fields.

User 4 spent 6.47 hours in Blackboard content areas, only opened one module, completed some module activities, and did participate in the discussion board. This user reported success with Weight Watchers in the past on the post program survey but did not elaborate on what was considered as "success'. In a Flipgrid prompt on past experiences with dieting, User 4 describes weight history as varied with weight gain occurring during times of stress and major life changes, then dieting attempts in-between. This user also reported a desire to find strategies to break the habit of stress eating and although they have switched to a vegetarian diet and regular exercise, still find weight-loss elusive.

To support the importance of internal motivation for program participation, feedback and data from Users 6 and 10 are explored. User 6 spent 33.46 hours in the Blackboard content areas and accessed all 10 modules. User 10 spent 39.96 hours in Blackboard content areas and is the only participant that finished the program in its entirety. Unfortunately, User 6 did not complete the post program IE survey for analysis of feedback. However, User 6 did complete several post-module surveys and communicated via email about class participation.

In one email communication the participant described why they were unable to complete all activities and Flipgrid prompts,

> "I really value what I've gotten out of this class so far! I'm just having a hard time keeping up. It's not the curriculum, everything you're doing is needed for the class to be informative, innovative, motivational and encouraging. I just have a LOT of personal things going on right now and I'm feeling overwhelmed. I am printing off the handouts and trying to do all the exercises that are suggested/requested, it's just the class participation I'm having issues with (I have no quiet space long enough to form a thought!)."

Although this participant expressed similar concerns at being overwhelmed with the pace of the program, User 6's internal motivation came from a drive to help a dependent family member who was described as an "addictive eater". The participant expressed an opinion that intuitive eating principles provided effective strategies to help.

Feedback from User 10 highlighted strong internal motivation. In the post program survey the participant reported a history of trying exercises programs that the participant would get bored with and quit, then gain weight. The participant's initial Flipgrid prompt response on diet history included reflection on her past experience as a marathon athlete in her 30's and the enjoyment of being in a strong body. Now in her 50's and 50 lbs. heavier, the participant is experiencing aches and pains, and desires to take better care of her body. Even though the Flipgrid responses were occasionally posted late, this user completed the majority of the prompts.

This participant stressed that the concepts in the program were different from past programs they have tried and stated the program is, "opening my eyes to a whole new approach to caring for myself". The participant also expressed a strong desire to explore the supportive resources provided post program completion.

Researcher Perspective

Communication with stakeholders was key to the success of delivery and implementation. In the initial meeting with EW program stakeholders, the program had already been developed. A proposal of the program was presented highlighting the use of theory and evidence-based research in program development. The proposal also covered a marketing and

implementation plan. Stakeholder enthusiasm and program support helped with making connections and communicating with IT to find the best platforms available for implementation. Communication and relationship-building between departments was necessary in identifying platforms available that would address all components of the program.

The marketing plan was more difficult to implement due to the barriers with timely program registration. Thankfully, the program filled quickly once registration was live. The ability to market the program system-wide would be helpful to gain a more diverse target audience than only marketing to those who have previously participated in wellness programming. The rate at which the program capacity was filled with such limited marketing highlights the interest in web-based health programming for MSU employees. Feedback indicates that participants anticipated the program to fit within their schedules. Yet, time constraints became a barrier with the amount of information that was covered in each module in such a short span of time.

Stakeholders in EW programming provided insight that many of the participants in the program had previously participated in other wellness programs and had weight loss goals. Given that the IE program is not a weight-loss program (this was made evident multiple times in the beginning of the program), it could be an indicator of why several participants did not finish the program.

Two barriers impacted the effectiveness of how the program was presented and how data was collected. Firstly, a misunderstanding by the researcher that the registration page would also contain a form to collect registration data led to limited demographic data collection in the final program follow up survey. Secondly, the researcher had no previous experience with utilizing Qualtrics for data collection and had limited time to learn the program prior to

implementation. This resulted in reduced effectiveness in data collection through post-module surveys that were distributed anonymously. The researcher chose Qualtrics as a data analytics tool due to its availability at MSU, ease of integration with Blackboard, reporting capabilities, and participant's familiarity with Qualtrics surveys through other research at MSU.

Although the Informed Consent document explained the requirements and time commitment needed for the program, the two prominent barriers identified were time constraints and use of Flipgrid. Feedback provided by participants highlighted the barriers to participation and engagement. The results of the program participation analysis highlight the rate of information provided in the short time frame of 1 week per module was too quick. Most participants were unable to keep up with the program and lost motivation to continue.

The most surprising result to the researcher was that Flipgrid was not only a barrier to participation rather than a facilitator, but several participants did not wish to participate in the entire program due to the use of Flipgrid. The program was meant to help participants to connect with one another and the moderator. But, it appeared to the researcher that the topics of weight loss and food struggles proved to be too sensitive for such a personal outlet for sharing. Future editions of the program may have improved participation with an alternative method for reflection. Additionally, due to the amount of feedback pertaining to time constraints and overwhelming amount of information, future editions of the program may benefit from a longer span of time to complete weekly modules.

Facilitators for program participation and engagement revolved around the quality of materials provided. With the exception of some audio problems with a few interview videos, the general feedback surrounding the activities, videos, and prompts were positive. The information provided to the participants through the program was rated by participants as highly useful and

informative. Participants who did complete all modules reflected how much freedom they had gained in making food choices that worked for them. The amount of positive feedback on the program content points to the usefulness and acceptability of the program constructs. Modifications should be made to implementation to support participation and participant needs to build internal motivation.

DISCUSSION

The purpose of this study was to investigate the feasibility, facilitators, and barriers in program implementation of an online wellness program. Results suggests that the implementation of an online employee wellness program at Missouri State University is feasible. Moreover, the results presented on program participation, engagement, and attrition shines light on important considerations for future considerations in implementation.

The web-based program, *Finding Peace with Food, An Intuitive Eating Approach*, was implemented as the first online program within the employee wellness program at Missouri State University. Success of implementation was dependent on stakeholder support and collaboration with campus departments. Furthermore, the platform availability of Blackboard, Flipgrid, and Qualtrics, without additional cost to the university, facilitated program implementation. There are several considerations that affected the effectiveness of this program that are addressed in the following discussion.

Presenting a theory and evidence-based program with a detailed proposal for marketing and implementation was key in gaining stakeholder support of the program. Use of the PRECEDE-PROCEED model (Green & Kreuter, 2005) in development allowed the researcher to identify specific needs of the target population based on environmental and behavioral factors, as well as predisposing, reinforcing, and enabling factors that support behaviors leading to weight cycling.

Identifying the importance and changeability of these factors was determined through the lens of the researcher's professional experiences, both in conferring with persons that relate a history of weight cycling behaviors within the target population and extensive research into the

literature on weight cycling behaviors. Other's experiences and perspectives could change how the factors are categorized and thus, change the focus of the program to align more with a different population's needs.

Linking SDT and Participant Experiences

The constructs of autonomy, relatedness, and competence in SDT that align with eating regulation are important to consider when looking at participation rates of the target population. The feedback from participants who did not complete the program highlighted the need for more time to consider the information or a reduction of information and activity requirements, and the aversion to discuss sensitive topics, such as weight and dieting experiences, on video.

Relatedness. The use of Flipgrid was chosen to support the construct of relatedness within the program. Unfortunately, due to significant aversion to discussing experiences with the program prompts over the video/audio modality, this construct was not fully addressed. As discussed in the literature review, research suggests individualized feedback and support from the moderator can increase engagement and participation in programming (Boeckner et al., 2011). Based on these recommendations, a private forum was created on Flipgrid for participants to reflect on weekly prompts privately with the moderator. Yet, none of the participants utilized the private forum. Participation may have differed had this been a requirement from the start of the program rather than group sharing.

Prompts to facilitate application of program concepts to each participants individual needs may be included in private online worksheets so that the moderator can track participation and participant confidentiality is observed and respected. Alternative methods for providing support to participants is utilizing digital video conferencing software for group check-ins or

one-on-one feedback and encouragement. This program utilized Flipgrid based on research recommendations to provide targeted personalized feedback, include social networking opportunities, accountability measures, and dynamic interventions through reflection prompts and activities (Mihuta & Green, 2017; Lima-Serrano et al. 2018). Yet, this study shows that the modality of these factors must align with the nature of the content of the program.

Sharing such personal experiences is difficult in this program due to the sensitive nature of one's personal relationship with food and self-perceived body image. The results of this program highlight the importance of providing a means of communication where participants feel safe, comfortable, and supported in sharing their reflections. Standard discussion board platforms with the option of anonymity in future offerings of the program could increase opportunities for relatedness among participants. Other web-based programming interventions similar to this study have forgone a social support component and had participation 32% of participants complete all program modules (Boucher, Edwards, Gray, Nada-Raja, Lillis, Tylka, & Horwath, 2016). Boucher and colleagues (2016) included lack of social support as a possible indicator for poor completion rates and recommended further exploration.

Competence. One of the key components of IE is to self-regulate eating by using internal cues through interoceptive awareness (Tribole & Resch, 2012). Those with a long history of dieting behaviors typically rely on external rules for managing weight. This reliance on external rules for eating negatively affects one's self-efficacy, or competence, in trusting the body to communicate what it needs (Bacon & Aphramor, 2011; Pearl, 2018; Tylka, et al. 2014).

A recent study on the relationship between interoceptive awareness and binge eating by Cella and colleagues (2019) found that a deficit in interoceptive awareness are directly related to impulse modulation resulting in binge eating episodes in pre-bariatric surgery candidates. This

study concluded that low self-esteem prevented the study participants to cultivate a sense of their own personal needs (Cella, Cipriano, Giardiello, & Cotrufo, 2019). This supports SDT constructs of need thwarting by developing coping mechanisms to satisfy unmet psychological needs as discussed in this study.

As long as motivation for behavior change is based on extrinsic factors, such as the thin ideal, or external diet rules, disordered eating patterns are likely to develop and autonomy in making food decisions is reduced (Tylka et al. 2014). A key finding that related to these constructs was time-constraints.

Due to the fact that many of the participants reported a history of dieting, they likely needed more time to develop an understanding of the module concepts and use the weekly prompts to apply the concepts to their own lives. The time-constraints of the program limited the participants on building their self-efficacy with interoceptive awareness. As SDT research highlights, satisfaction of the psychological needs relatedness, competence, and autonomy are all important factors in building the internal motivation needed to continue through the program.

Autonomy. Competence in trusting one's own internal hunger, fullness, and satiety cues leads to autonomy in making food choices. The ability of the participants to increase their autonomy in making food choices was dependent on the ability of the program to foster competence in listening to internal cues. Time constraints and the overwhelming amount of information presented in such a short time did not support this construct for many of the participants.

An important facilitator of autonomy in the program was the moderator and the program content. In the meta-analysis published by Ng and colleagues (2012), research illustrated how autonomy support from healthcare providers was positively associated with satisfaction of

psychological needs. Program content based on IE principles supports and guides participants in using their own body's cues to make food choices rather than relying on external dieting rules. Furthermore, the usefulness and quality of program content was identified as a facilitator of program participation supporting the importance of supporting autonomy in making health choices.

Differences in Participation based on SDT Constructs. There are interesting associations that are seen when reviewing and comparing the qualitative and quantitative data between active participants and participant with poor participation. In the group of those that had poor participation, the common denominator between these participants is that they could be relying on external rules for eating and may not display self-efficacy or competence their ability to make food choices based on their body signals and needs.

The researcher concludes that even though it was communicated the program was not to "turn participants into intuitive eaters in 10 weeks", time was still too constricted for improved self-efficacy in eating regulation to build internal motivation needed to complete the program. Chronic dieters and those who weight cycle are more likely to rely on external motivation and weight-driven goals. Similarly, in the Boucher (2016) pilot study, a desire for weight-loss rather than long-term healthier lifestyle behaviors was identified as a contributor to program non-completion. These participants would likely benefit from more time to process the concepts in the modules and build self-efficacy in listening to internal signals.

The participants most active in the program were motivated in different ways. User 6, who did open all modules but did not utilize the discussion board, expressed motivation from utilizing program concepts to help a beloved family member described with "addictive eating" tendencies. With this participant, the psychological need of relatedness (the importance of her

connectedness with her family member) drove her internal motivation to get the most out of the program modules. This also helps to explain why her motivation to access the module content was greater than her motivation to complete self-reflections. User 10 displayed competence and self-efficacy in listening to her body's signals to make food choices. Her motivation was based on her desire to feel better physically in her own body. Her feedback also highlights an increase in her perceived autonomy in making food choices based on her own hunger, fullness, and satiety. Her food choices are not based on external rules.

Barriers to Participation

Research shows web-based programs typically have poor adherence (Kelders et al., 2012). There are notable factors that affect adherence and are comparable to this study. Kelders and colleagues (2012) found that pilot studies and frequency of interaction with the system have lower adherence rates, whereas increased adherence was significantly influenced by frequency of interaction with a counselor and more frequent intended usage. Increased adherence with more frequent intended usage was explained due to expectations of participation with the program modulated by frequent reminders and updates (Kelders et al., 2012). Text reminders have been shown to positively affect IE behaviors and program adherence (Loughran, Harfel, Vollmer & Schumacher, 2018). This may be utilized in future programming as an effective strategy for improving participation.

Due to the sensitive nature of discussing weight, dieting, weight cycling, and disordered eating, some individuals may be averse to attending a group setting for education and discussion. It is believed that this is a key factor in the poor participation rates among Flipgrid users. Several participants commented on their trepidation in using the platform due to being uncomfortable

with using video to discuss the sensitive topics of weight and disordered relationship with food and their bodies. In research findings on content analysis of communication in an online support group for patients with Huntington's disease presented by Coulson et al (2007), it was found that exchanging information and emotional support, utilizing discussion boards, was a key function of the group (Coulson, Buchanan & Aubeeluck, 2007).

Interestingly, introductory post participation on Flipgrid was the highest with >50% program participation. Once the Flipgrid participation relied on answering prompts pertaining to worksheets and activities, participation began to decline. Several participants voiced their wishes to have a traditional discussion board platform to type their responses and share with the group. As stated previously, using an alternative platform for reflection in future programming may improve participation rates.

Program Marketing. It is important to note that the lack of marketing of the program was not a barrier in this particular case. The rate at which the program filled to capacity with an additional five people on a waitlist, demonstrates the interest and potential benefit for web-based health programming. But, it did influence the type of participants within the program. This could be a factor in the lack of participation. The participants were only those that had participated in MSU wellness programming before, or had opted in to receive communication from the MSU EW program. Only 13.6% of MSU employees have opted in to the EW newsletter. The other 86.4% of MSU employees did not have the opportunity to participate in the program due to lack of marketing.

This program was not a weight-loss program, but a program aimed at decreasing weight cycling and disordered eating behaviors. It was also stated in the program that the goal was not to "turn participants into intuitive eaters by the 10th module". Principles of IE are guideposts and

strategies for improving one's relationship with food and self-acceptance. This is not something that can occur within 10-weeks or even 10 years for some individuals. It is different for all. Yet there were comments such as, "I don't feel like the videos and worksheets were helpful in changing behaviors, which I think is the goal of most people looking to improve their weight, eating habits, etc".

Several participants commented they were still engaged in weight loss goals outside of the program. Given that these participants are likely used to weight reduction driven programming, the outcome expectations for this program was likely very different than many of the participants are used to, and thus, impacted participation rates. It is the researcher's thought that due to the high rates of dieting within this specific population, these are the individuals that would likely benefit from the program the most. Yet, the participants are likely the ones that find the concepts the most challenging as demonstrated by one participant comment, "I'm not clear why this is called "intuitive" because it seems to take a lot of thought."

Of the participants that offered program feedback, several commented on being overwhelmed by the amount of information covered in a short amount of time. As discussed, the concepts in this program are very different than the weight loss programs in which many of the participants have participated. It is important to note that due to increased feedback at the beginning of the program, the number of prompts to respond to per week was reduced from three to two. Even with this modification, participation did not improve.

Extended time for completing weekly modules in the future may improve program participation by giving the participants more time to work through difficult concepts. Extending the timeframe would not only help with reducing the barrier of participants overwhelmed by information, but also the barrier of reduced participation due to time constraints. Extending the

time to complete modules from 1 week to 2-3 weeks per module may improve participation for some. Interestingly, the participant who did complete the program in its entirety mentioned time constraints frequently, but this was not a barrier to program completion. This indicates to the researcher that sufficient internal motivation can possibly ameliorate this barrier as well.

Facilitators to Participation

The primary facilitator to participation indicated by participants was the quality of materials provided in the modules, as identified by feedback and surveys. None of the materials received a "poor" rating from participants. The majority of participants who filled out the surveys rated the usefulness of information as "outstanding", and the quality of videos and handouts as "good". The program materials were primarily sourced from the Intuitive Eating workbook and the program *A New Day: Health for Every Body*, accessible online through WIN the Rockies. The additional videos with interviews with certified IE counselors and dietitians that use IE concepts in counseling patients were important in adding perspective and validity to the program.

With the exception of some difficulty with the interview audio, the structure of the program in modules with videos and activity handouts, was well received. The researcher considers the discussion prompts essential for the program. These prompts allow the participants to reflect on the concepts learned in the modules and apply them to their own lives. Utilizing multiple sources of media such as video, handouts, and discussion helps to target learners at multiple levels. The prompts allow for reflection on module activities and concepts. Including the prompts in a different format such as traditional discussion boards or digital forms is suggested.

Another factor of the program that enhanced program participation for some was that IE concepts provide a refreshing and different perspective to health than many traditional health programs. IE concepts put the focus on the participants and strengthens the participants' autonomy in making food choices based on their individual needs. Alternatively, the fact that this program was so different than others that participants have tried in the past, could be considered a barrier for others. If participants were not ready to embrace IE concepts and ditch the diet mentality, it may stand to reason that participation would begin to decline with these folks.

The decision to provide a web-based health program for employees at MSU was decided due to the lack of this type of programming within the existing EW department and to expand EW programs to those that may not have participated previously. The relevance of web-based health programming grew with the immersion of the novel coronavirus in 2019 and the dramatic shift, for many, to online programming in 2020.

The benefit to this feasibility study is that it gives another perspective in what may facilitate program participation and possibly program effectiveness at prompting health behavior changes. The research covered in the literature review highlights that web-based programming is effective at prompting behavior change across multiple populations (Cukrowicz & Joiner, 2007; Cook, et al. 2015; Boeckner et al. 2011; MacNab & Francis, 2015). Interest among web-based programming is high, as was demonstrated by the rate at which this program filled to capacity. Yet, implementation of web-based programming remains low (Walthauwer et al. 2013). Whether low implementation is due to lack of resources, time, experience, self-efficacy, poor program participation, attrition, or more, it can be stated that, in these times, research that highlights more information pertaining to these barriers is helpful and relevant. Those that are put in a position to

transfer programming to an online platform will need resources and support to do so. This study adds to the growing body of research in web-based health programming considerations.

Limitations

This feasibility study has limited generalizability to employee wellness programming in university settings in other geographical areas and with different digital resources. Other organizational settings with different digital infrastructure will need to identify existing platforms to support program implementation or plan for adding program platforms to do so in the budget planning process. Program platforms used consisted of programs that are available through and compatible with Missouri State University's informational technology resources. Other programming options were not considered.

It is also noted that all participants in this study identified as Caucasian or white and thus any generalizability to groups of different ethnicity or race are limited. Presenting this program to a cohort of more diverse participants could have significantly different outcomes. The tightly woven relationship between food and culture significantly impacts one's relationship with food. The lack of diversity in this cohort significantly limits the ability to apply knowledge gained to more diverse populations.

The researcher had limited expertise of data collection and platform program tools utilized at Missouri State University at time of research study. More experience in utilizing program platform at time of implementation may have improved data analysis processes, platform capability utilizations, and support program success. The researcher also had limited time constraints for improving self-efficacy with online platforms utilized in program

development and implementation. Therefore, limited self-efficacy with program platform utilization could have affected program results and participation.

The researcher had not previously implemented an online intuitive eating program. Basic, rather than advanced, knowledge on program implementation procedures and processes may influence program quality, results, and participation.

Future Considerations

Several recommended adjustments to programming could improve implementation and participation in the program. For improved implementation the following are recommended:

1. Include demographic questions in the initial IE survey
2. Program surveys should not be filled out anonymously by participants for more effective data analysis.
3. Initiate conversation with stakeholders for program implementation 6 months or more ahead of planned program start date to allow for troubleshooting and possible time-delays in marketing and implementation.

The following are suggested to improve program participation:

1. It is recommended that the time participants are given to interact with module content, complete activities, and respond to prompts should be extended to at least 2 weeks per module. Alternatively, module content may be reduced to shorter videos (5-10 minutes), reduced reflection prompts (1 per week), and only 1 weekly activity sheet, to alleviate barriers of time constraints and overwhelmingness of information.
2. 2. It is recommended to eliminate Flipgrid as a component of the program and utilize an alternate method of offering reflection and activity prompts such as a traditional discussion board with anonymity, secure digital worksheets, or one-on-one meetings with the moderator.
3. Marketing should be targeted at all possible participants, not just those who frequently attend EW programming.
4. Weekly text messaging reminders for program activities may improve engagement.

Conclusion

Successful implementation of the online program, *Finding Peace with Food: An Intuitive Eating Approach,* was dependent on stakeholder support and available platform resources within the university setting. A detailed proposal and developed program based on the PRECEDE-PROCEED model using relevant constructs of the Self-Determination Theory, strengthened integrity of the program and enhanced stakeholder support. Web-based programming was supported by the target population as shown by the rate of registration. Participation was negatively affected by the limited time available to complete module activities and reflections as well as the platform application for group discussions. Future studies would benefit from implementing alternative methods for improved participation and engagement in web-based IE programming.

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APPENDICES

Appendix A: PRECEDE Assessment

Behavioral Determinants That Increase Risk of Weight Cycling

High Importance and Changeability	High Importance Low Changeability
Food restriction increasing food cravings Sedentary lifestyle Poor diet	Binge eating
Low Importance High Changeability	**Low Importance Low Changeability**
Skipping meals Laxative use High daily screen time	Drug use

Environmental Determinants That Increase Risk of Weight Cycling

High Importance and Changeability	High Importance Low Changeability
Misinformation from poor quality sources on diet and health Failure of diet to be sustainable with lifestyle Life stressors	Stigma from healthcare providers Cultural stigma prioritizing thinness over health Support from others in social circle Food Access
Low Importance High Changeability	**Low Importance Low Changeability**
	Microaggressions related to weight Unable to participate in activities due to weight status

Weight Cycling Predisposing, Reinforcing, and Enabling Factors

Predisposing Factors	Experienced weight bias/stigma from outside influences Has gained weight Social pressure to lose weight (friends/family are on a diet) To be able to have surgery Perceived increased quality of life, happiness, self-esteem due to weight loss Need for social approval To decrease the risk of disease To control chronic disease Increased control over life choices Dieter does not know increased health risks for weight cycling Unable to participate in activity due to weight status Mindset of good vs bad foods Body dissatisfaction
Reinforcing Factors	Previously lost weight through dieting Positive/negative feedback from social influences from previous weight loss/weight gain Decreased use of meds for chronic health conditions Control due to previous weight loss Feedback from healthcare professionals of weight loss approval/need for weight loss Teasing
Enabling Factors	Financial ability to purchase low calorie/nutrient dense foods Support from social/financial influencers: friends, family, social media Ability to restrict energy intake/inability to restrict energy intake Previously experienced weight loss and weight regain Physical ability/inability to sense hunger/fullness Life change/stressors that impact weight status: Moving Going to college Marriage/Divorce Work stress Death of loved one Pregnancy

Appendix B: Program and Module Objectives

Program Objectives for Making Peace with Food: An Intuitive Eating Approach

1. There will be at least a 30% increase in the Unconditional Permission to Eat subscale score on the Intuitive Eating Scale-2 by the program's completion
2. There will be at least a 30% increase in the Eating for Physical Rather Than Emotional Reasons sub-scale score on the Intuitive Eating Scale-2 by the program's completion.
3. There will be at least a 30% increase in the Reliance on Hunger and Satiety Cues subscale score on the Intuitive Eating Scale-2 by the program's completion
4. There will be at least a 30% increase in the Body-Food Choice Congruence subscale on the Intuitive Eating Scale-2 by the program's completion

Module-Based Objectives for Making Peace with Food: An Intuitive Eating Approach

1. Module one: Ditching the Diet Mentality

   By the end of the first module participants will describe 3 examples of how chronic dieting does not improve quality of life.

2. Module two: Honor your Hunger

   By the end of the second module participants will give examples of 2 attunement disruptors.

   By the end of this module participants will give examples of 2 attunement solutions.

3.Module three: Food and Mood

   By the end of the third module participants will interpret at least 3 emotional eating triggers

4. Module four: Challenge the Food Police

By the end of the fourth module participants will distinguish 3 common negative thoughts concerning food intake and provide examples of 3 ways to reframe those thoughts in a positive way.

5. Module five: Make Peace with Food

   By the end of the fifth module participants will describe 2 personal experiences of how they gave themselves permission to eat previously “forbidden foods” (excluding allergens and intolerances).

6. Module six: The Satisfaction Factor

   By the end of the sixth module participants will explain 3 methods to increase satisfaction of meals.

7. Module seven: Fitness for Every Body

   By the end of the seventh module participants will set 2 SMART goals for decreasing the amount of minutes they sit per day.

8. Module eight: Respect Your Body

   By the end of the eighth module participants will discuss 2 personal experiences of how they replaced negative self-talk about their body with positive self-talk.

9. Module nine: Mind over Media

   By the end of the ninth module participants will give examples of 3 media sources that have been altered to create an illusion of “body perfection”.

10. Module ten: Gentle Nutrition

    By the end of the tenth and final module participants will explain two diet “fads” that exclude whole food groups. groups.

By the end of this module participants will summarize the nutritional benefits of the food groups identified in the previous objective.

Appendix C: IRB Approval from Missouri State University

Date: 5-7-2020

IRB #: IRB-FY2020-48
Title: Finding Peace with Food: An Intuitive Eating Approach for University Employees
Creation Date: 8-5-2019
End Date:
Status: Approved
Principal Investigator: Daniela Novotny
Review Board: MSU
Sponsor:

Study History

Submission Type Initial	Review Type Expedited	Decision Approved
Submission Type Modification	Review Type Expedited	Decision Approved

Key Study Contacts

Member Melinda Novik	Role Co-Principal Investigator	Contact melindanovik@missouristate.edu
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Appendix D: Recruitment Materials

Finding Peace with Food: An Intuitive Eating Approach Website Content

Are you frustrated with the never-ending cycle of dieting, weight loss, and weight gain? Research shows that dieting is unsustainable: if you lose weight on a diet, you have a high probability of gaining it back, and sometimes more, within 5 years. Furthermore, weight cycling can put you at an even greater risk for health problems than staying at a consistent weight, even if you are overweight.

While it is difficult to get off the dieting bandwagon, especially in a culture obsessed with thinness and diets, it is possible! This 10-week, online, module-based program uses the fundamental teachings of Intuitive Eating developed by dietitians Evelyn Tribole and Elyse

Resch. This evidence-based approach is backed by over 100 research studies and guides participants in relearning instincts buried by years of dieting; the goal is to regain trust and the connection to your body by increasing body attunement and removing barriers to attunement. Our Intuitive Eating program has been developed to give you tools to improve your overall health through an approach that is not weight-focused, but health focused.

10 Weekly Online Modules Ditch the Diet Mentality: Overview of the dieter's dilemma, dieting statistics, how dieting leads to weight gain, impacts of dieting on physical and psychological health. Along with an interview with certified Intuitive Eating counselor.
Honor Your Hunger: Hunger cues can feel different from one person to the next. In this module we are going to explore how to identify and begin tuning into your hunger cues.
Food and Mood: Emotional eating is triggered by feelings and we may not realize we are using food to deal with emotions. This week's module includes an evaluative component to determine what food rules and restricts you may be imposing that can lead to over eating.
Challenge the Food Police: This week we will be discussing food rules; how they negatively impact your relationship with food and with your body, where they come from, and how to disregard them.

Make Peace with Food: This week's module focuses on the cornerstone of the Intuitive Eating philosophy, give yourself unconditional permission to eat.
The Satisfaction Factor: The dieting roller coaster can end up removing the joy from experiencing your food. Food is not only meant to sustain life but to be a pleasurable experience. The goal of this module is to help you to practice eating what you truly want and to begin finding pleasure and satisfaction in eating again without the feelings of judgment and guilt.

Fitness for Every Body: Exercise is a known benefit for a wide array of health factors. The key is exercising because it feels good, not to burn calories or punish yourself for eating a food you enjoy.

Respect Your Body: In this module we will learn about treating your body with dignity, reverence, and admiration and meeting your bodies basic needs in order to build gratitude for the body you have.

Mind Over Media: Our appearance-focused society places a different value not only on people who are fat, but also people who are too short, too tall, too flat-chested, not muscular enough, too big-nosed – anything that does not match "the ideal." But it is worth the effort to gain appreciation for our own body and the bodies of others. It is much easier to take good care of something that or someone who is valued, accepted and respected.

Gentle Nutrition: Our goal is to practice gentle nutrition and have a healthy relationship with food.

Starting September 22nd! Registration is limited to 20 participants.

Moderator:

Jaime Gnau, RDN, LD

Cost:

The cost of the program is $60 and is noncredit fee waiver eligible.

The cost covers:

-10 weekly videos (Approximately 20 minutes each)

-10 weekly workbooks (2-4 handouts each)

-Weekly discussion prompts with moderator feedback

Participants will receive a $25 gift card to the MSU Bookstore for 85% participation in discussions, following the completion of the program.*

Registered users will receive an email with instructions on how to access the modules through Blackboard.

Please register through My Learning Connection:

- Login at My Missouri State.
- Go to the “Profile” tab.
- Click “My Learning Connection” under the Professional Development section.
- Once there, type and select Intuitive Eating into the search box at the upper right of the screen.
- Follow the prompts to checkout and complete payment process.

*All wellness incentives will be submitted by employee wellness for tax purposes as per federal government guidelines.

Marketing Plan Product: This program aims to introduce the principles of Intuitive Eating in order to assist participants in developing a healthier relationship with food and self and to understand effective methods to break the cycle of disordered eating to MSU employees who utilize health programming through Magers Health and Wellness Center. Two focus groups were conducted to assess the programming needs for MSU employees that report yoyo-dieting and weight cycling. The focus group participants identified that they would like to see programming offered at Magers that would help them to improve their relationship with food without traditional diet methods like counting and restriction as well as find balance with nutrition. The Intuitive Eating principles meet this objective.

Place: This program has been developed to be available to MSU Employees at a time and place convenient to the program participants. All content will be offered to participants from a central online location through the Magers Health and Wellness Center website

Price: This program will be offered for $60 for the 10-week course. Each weekly module will consist of a 20-minute video, workbook activities for increased understanding of the week's principle, and 3 discussion board prompts. The estimated time commitment for the weekly content is approximately 2 hours per week. The $150 noncredit fee waiver is available for payment. Participants that complete the program and 85% of the discussion prompts will receive a $20 discount on the program cost.

Promotion: In order to increase program participation, a series of promotional flyers will be showcased in heavily frequented department areas throughout the MSU campus. Additionally, there will be a series of promotional emails sent to Magers Health and Wellness Center program participants that have signed-up to be on the established mailing list. The first promotional email will be a description included in the monthly newsletter sent out 1 month prior to the program's planned implementation date. The next promotional email will be an individual email with the information concerning the program, a link to register, and the promotional flyer. The third and final promotional email will be sent out two weeks prior to the implementation of the program with the promotional flyer a link to the website in which to register for the program.

1st Promotional Email included in newsletter: We are excited to announce a new wellness program that will available **ONLINE** through Magers Health and Wellness Center titled, "***Finding Peace with Food: An Intuitive Eating Approach".*** This program was developed to introduce employees of MSU to the 10 principles of Intuitive Eating. Intuitive Eating is an evidence-based program that empowers individuals to tune into their internal cues of hunger and

fullness, increase food and body satisfaction, improve physical and mental wellbeing, and focusing more on individual self-care rather than a number on scale. This program will be available online for added flexibility. Stay tuned for more information on about this exciting new opportunity coming in September 2019!

2nd Promotional Email: (Send 2 weeks prior to the start of the program) As mentioned in last month's newsletter, we are excited to introduce a new wellness program available **ONLINE** through Magers Health and Wellness Center titled, "***Finding Peace with Food: An Intuitive Eating Approach".*** This program was developed to introduce employees of MSU to the 10 principles of Intuitive Eating. Intuitive Eating is an evidence-based program that empowers individuals to tune into their internal cues of hunger and fullness, increase food and body satisfaction, improve physical and mental wellbeing, and focusing more on individual self-care rather than a number on scale. It is a 10-week module-based program that includes educational videos, workbooks, and weekly discussion board prompts to increase understanding of the material and provide support through sharing with others that are also involved in the program. A registered dietitian nutritionist will be moderating the program. Spots are limited so sign-up today through this _____. If you have any questions about this program, email _____ at _____.

3rd Promotional Email: (Send 1 week prior to the start of the program): Sign-up today for the new **ONLINE** program offered through Magers Health and Wellness Center titled, "***Finding Peace with Food: An Intuitive Eating Approach".*** This program was developed to introduce employees of MSU to the 10 principles of Intuitive Eating. Intuitive Eating is an evidence-based program that empowers individuals to tune into their internal cues of hunger and fullness, increase food and body satisfaction, improve physical and mental wellbeing, and

focusing more on individual self-care rather than a number on scale. It is a 10-week module-based program that includes educational videos, workbooks, and weekly discussion board prompts to increase understanding of the material and provide support through sharing with others that are also participating in the program. A registered dietitian nutritionist will be moderating the program. Spots are limited so sign-up today through this link _____. If you have any questions about this program, email _____ at _____. This program will begin in **1 week** so don't miss out!

Appendix E: Forms and Surveys

Finding Peace with Food: An Intuitive Eating Approach Informed Consent

Welcome to Finding Peace with Food: An Intuitive Eating Approach!

We are interested in understanding the efficacy of the online program Finding Peace with Food: An Intuitive Eating Approach and the benefits of offering online programming through the MSU Employee Wellness program. You will be presented with information in 10 weekly modules based on Intuitive Eating concepts within a community Blackboard site. Each module will contain the following:

1) an approximately 20 minute video explaining weekly content. Additional videos containing interviews with Intuitive Eating Professionals are also provided.

2) a workbook containing 2-4 handouts and worksheets

3) A discussion group component utilizing Flipgrid, an audio and/or video program that is free to download and install on your tablet or smart phone, with 3 weekly discussion prompts

4) A weekly post-module assessment containing 6 questions over the content for that week

Please be assured that your responses will be kept completely confidential. All discussions in the discussion group component of this program are to be kept confidential. Do not share information learned about others in this program.

You will have access to Module 1 of the program upon the designated start date of the program once completing this Informed Consent form and the Intuitive Eating Survey which will be emailed to you upon registration. The remaining modules will be made available each week.

The program modules should take you around 30-45 minutes to complete each week including reviewing the video and worksheet completion. Participation in workbook exercises and

discussion board prompt participation will vary among individuals but is estimated to take no more than 3 hours per week.

You will receive $25 gift card to the MSU Bookstore for participating in at least 85% of the program. Your participation in this program is voluntary. You have the right to withdraw at any point during the program, for any reason, and without any prejudice. If you would like to contact the _____ or the moderator _____ at _____.

By clicking the button below, you acknowledge that your participation in the study is voluntary, you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason.

Please note that this survey will be best displayed on a laptop or desktop computer. Some features may be less compatible for use on a mobile device.

- ○ I consent, begin the study
- ○ I do not consent, I do not wish to participate

Please enter your name

_____

Intuitive Eating Scale-2 (Tylka, 2013)

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

I try to avoid certain foods high in fat, carbohydrates, or calories.	○	○	○	○	○
I have forbidden foods that I don't allow myself to eat.	○	○	○	○	○
I get mad at myself for eating something unhealthy.	○	○	○	○	○
If I am craving a certain food, I allow myself to have it.	○	○	○	○	○
I allow myself to eat what food I desire at the moment.	○	○	○	○	○
I do NOT follow eating rules or dieting plans that dictate what, when, and/or how much to eat.	○	○	○	○	○

For each item, please check the answer that best characterizes your attitudes or behaviors

Q6 For each item, please check the answer that best characterizes your attitudes or behaviors.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I find myself eating when I'm feeling emotional (e.g., anxious, depressed, sad), even when I'm not physically hungry.	○	○	○	○	○
I find myself eating when I am lonely, even when I'm not physically hungry	○	○	○	○	○
I use food to help me soothe my negative emotions.	○	○	○	○	○
I find myself eating when I am stressed out, even when I'm not physically hungry.	○	○	○	○	○
I am able to cope with my negative emotions (e.g., anxiety, sadness) without turning to food for comfort.	○	○	○	○	○
When I am bored, I do NOT eat just for something to do.	○	○	○	○	○
When I am lonely, I do NOT turn to food for comfort.	○	○	○	○	○
I find other ways to cope with stress and anxiety than by eating.	○	○	○	○	○

Q7 For each item, please check the answer that best characterizes your attitudes or behaviors.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I trust my body to tell me when to eat.	○	○	○	○	○
I trust my body to tell me what to eat.	○	○	○	○	○
I trust my body to tell me how much to eat.	○	○	○	○	○
I rely on my hunger signals to tell me when to eat.	○	○	○	○	○
I rely on my fullness (satiety) signals to tell me when to stop eating.	○	○	○	○	○
I trust my body to tell me when to stop eating.	○	○	○	○	○

Q8 For each item, please check the answer that best characterizes your attitudes or behaviors.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Most of the time, I desire to eat nutritious foods.	○	○	○	○	○
I mostly eat foods that make my body perform efficiently (well).	○	○	○	○	○
I mostly eat foods that give my body energy and stamina.	○	○	○	○	○

Scoring Procedure:

1. Reverse score Items 1, 2, 3, 7, 8, 9, and 10
2. Total IES-2 Scale Score: Add together all items and divide by 23 to create an average score.

3. Unconditional Permission to Eat subscale: Add together Items 1, 2, 3, 4, 5, and 6; divide by 6 to create an average score.

4. Eating for Physical Rather than Emotional Reasons subscale: Add together Items 7, 8, 9, 10, 11, 12, 13, and 14; divide by 8 to create an average score.

5. Reliance on Hunger and Satiety Cues subscale: Add together Items 15, 16, 17, 18, 19, and 20; divide by 6 to create an average score.

6. Body-Food Choice Congruence subscale: Add together Items 21, 22, and 23; divide by 3 to create an average score.

Intuitive Eating Follow Up Survey

Your participation in this survey is important. Please complete all questions to the best of your knowledge, even if you did not participant in the program in its entirety or did not finish all modules. Thank you!

Q1 Enter the month and day of your birth in this format: MMDD. Ex 0603.

Q2 Choose the best answer to describe your participation in the program.

- ○ Watched all module videos
- ○ Watched some module videos
- ○ Watched no module videos

Q3 Choose the best answer to describe your participation in the program.

- ○ Completed all module activities
- ○ Completed some module activities
- ○ Completed no module activities

Q4 Choose the best answer to describe your participation in the program.

- ○ Participated in discussion board
- ○ Did not participate in discussion board

Q5 For each item, please check the answer that best characterizes your attitudes or behaviors

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I try to avoid certain foods high in fat, carbohydrates, or calories.	○	○	○	○	○
I have forbidden foods that I don't allow myself to eat.	○	○	○	○	○
I get mad at myself for eating something unhealthy.	○	○	○	○	○
If I am craving a certain food, I allow myself to have it.	○	○	○	○	○
I allow myself to eat what food I desire at the moment.	○	○	○	○	○
I do NOT follow eating rules or dieting plans that dictate what, when, and/or how much to eat.	○	○	○	○	○

Q6 For each item, please check the answer that best characterizes your attitudes or behaviors.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I find myself eating when I'm feeling emotional (e.g., anxious, depressed, sad), even when I'm not physically hungry.	○	○	○	○	○
I find myself eating when I am lonely, even when I'm not physically hungry	○	○	○	○	○
I use food to help me soothe my negative emotions.	○	○	○	○	○
I find myself eating when I am stressed out, even when I'm not physically hungry.	○	○	○	○	○
I am able to cope with my negative emotions (e.g., anxiety, sadness) without turning to food for comfort.	○	○	○	○	○
When I am bored, I do NOT eat just for something to do.	○	○	○	○	○
When I am lonely, I do NOT turn to food for comfort.	○	○	○	○	○
I find other ways to cope with stress and anxiety than by eating.	○	○	○	○	○

Q7 For each item, please check the answer that best characterizes your attitudes or behaviors.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I trust my body to tell me when to eat.	○	○	○	○	○
I trust my body to tell me what to eat.	○	○	○	○	○
I trust my body to tell me how much to eat.	○	○	○	○	○
I rely on my hunger signals to tell me when to eat.	○	○	○	○	○
I rely on my fullness (satiety) signals to tell me when to stop eating.	○	○	○	○	○
I trust my body to tell me when to stop eating.	○	○	○	○	○

Q8 For each item, please check the answer that best characterizes your attitudes or behaviors.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Most of the time, I desire to eat nutritious foods.	○	○	○	○	○
I mostly eat foods that make my body perform efficiently (well).	○	○	○	○	○
I mostly eat foods that give my body energy and stamina.	○	○	○	○	○

Q9 What is your age?

_____

Q10 What is your gender?

- ○ Male
- ○ Female
- ○ Other
- ○ Prefer not to answer

Q11 What is your current weight (in pounds)?

_____

Q12 What is your current height (in inches)?

_____

Q13 How would you describe yourself?

- ○ American Indian or Alaskan Native
- ○ Asian
- ○ Black or African American
- ○ Native Hawaiian or other Pacific Islander
- ○ Hispanic, Latino, or Spanish
- ○ White
- ○ Other
- ○ Prefer not to answer

Q14 What is the highest degree or level of school you have completed? If you're currently enrolled in school, please indicate the highest degree you have received.

- ○ a. Less than a high school diploma
- ○ b. High school degree or equivalent (e.g. GED)
- ○ c. Some college, no degree
- ○ d. Associate degree (e.g. AA, AS)
- ○ e. Bachelor's degree (e.g. BA, BS)
- ○ f. Master's degree (e.g. MA, MS, MEd)
- ○ g. Professional degree (e.g. MD, DDS, DVM)
- ○ h. Doctorate (e.g. PhD, EdD)

Q15 What is your current employment status?

- a. Employed full time (40 or more hours per week)
- b. Employed part time (up to 39 hours per week)
- c. Unemployed and currently looking for work
- d. Unemployed and not currently looking for work
- e. Retired

Q16 Please list your past efforts to lose weight and describe the efficacy of the identified weight loss efforts:

_____

_____

_____

_____

_____

Q17 Thank you for your time in completing this survey and for your participation in this new program. Your input will help develop changes for future participants.

Module 1 Post-Module Assessment

1 = poor 2 = fair 3 = average 4 = good 5 = outstanding

1. Quality of materials (video & handouts)12345

2. Usefulness of information12345

3.Effectiveness of discussion board 12345

4. List 3 examples of how dieting does not improve quality of life:

5. Dieting sets up a negative cycle of failure: True False

6.The first thing I'm going to tell family or friends about this session is . . .

7.I'm confused about . . .

8. Other comments or suggestions:

Module 2 Post-Module Assessment

1 = poor 2 = fair 3 = average 4 = good 5 = outstanding

1. Quality of materials (video & handouts)12345

2. Usefulness of information12345

3. Effectiveness of discussion board 12345

4. List 2 attunement disruptors:

5. List 2 attunement solutions:

6. The first thing I'm going to tell family or friends about this session is . . .

7. I'm confused about . . .

8. Other comments or suggestions:

Module 3 Post-Module Assessment

1 = poor 2 = fair 3 = average 4 = good 5 = outstanding

1. Quality of materials (video & handouts)12345

2. Usefulness of information12345

3.Effectiveness of discussion board 12345

4. List 3 emotional eating triggers.

5.The first thing I'm going to tell family or friends about this session is . . .

6. I'm confused about . . .

7. Other comments or suggestions:

Module 4 Post-Module Assessment

1 = poor 2 = fair 3 = average 4 = good 5 = outstanding

1. Quality of materials (video & handouts)12345

2. Usefulness of information12345

3. Effectiveness of discussion board 12345

4. List 3 common negative thoughts concerning food intake.

5. List 3 methods to reframe the negative thoughts listed above in a positive way:

6. The first thing I'm going to tell family or friends about this session is . .

7. I'm confused about …

8. Other comments or suggestions:

Module 5 Post-Module Assessment

1 = poor 2 = fair 3 = average 4 = good 5 = outstanding

1. Quality of materials (video & handouts)12345

2. Usefulness of information12345

3. Effectiveness of discussion board 12345

4. Describe 2 personal experiences of how they gave themselves permission to eat previously "forbidden foods" (excluding allergens and intolerances).

5. The first thing I'm going to tell family or friends about this session is . . .

6. I'm confused about . . .

7. Other comments or suggestions:

Module 6 Post-Module Assessment

1 = poor 2 = fair 3 = average 4 = good 5 = outstanding

1. Quality of materials (video & handouts)12345

2. Usefulness of information12345

3. Effectiveness of discussion board 12345

4. Describe 3 methods you have used to increase satisfaction of meals.

5. The first thing I'm going to tell family or friends about this session is . . .

6. I'm confused about . . .

7. Other comments or suggestions:

Module 7 Post-Module Assessment

1 = poor 2 = fair 3 = average 4 = good 5 = outstanding

1. Quality of materials (video & handouts)12345

2. Usefulness of information12345

3.Effectiveness of discussion board 12345

4. Write 2 SMART goals for reducing the amount of minutes you sit per day

5. The first thing I'm going to tell family or friends about this session is . . .

6. I'm confused about . . .

Module 8 Post-Module Assessment

1 = poor 2 = fair 3 = average 4 = good 5 = outstanding

1. Quality of materials (video & handouts)12345

2. Usefulness of information12345

3. Effectiveness of discussion board 12345

4. Describe 2 personal experiences of how you replaced negative self-talk about your body with positive self-talk

5. The first thing I'm going to tell family or friends about this session is . . .

6. I'm confused about . . .

7. Other comments or suggestions:

Module 9 Post-Module Assessment

1 = poor 2 = fair 3 = average 4 = good 5 = outstanding

1. Quality of materials (video & handouts)12345

2. Usefulness of information12345

3.Effectiveness of discussion board 12345

4. List 2 examples of media sources that have been altered to create an illusion of "body perfection":

5. The first thing I'm going to tell family or friends about this session is . . .

6. I'm confused about . . .

7. Other comments or suggestions:

Module 10 Post-Module Assessment

1 = poor 2 = fair 3 = average 4 = good 5 = outstanding

1. Quality of materials (video & handouts)12345

2. Usefulness of information12345

3. Effectiveness of discussion board 12345

4. Give 2 examples of fad diets that exclude whole food groups.

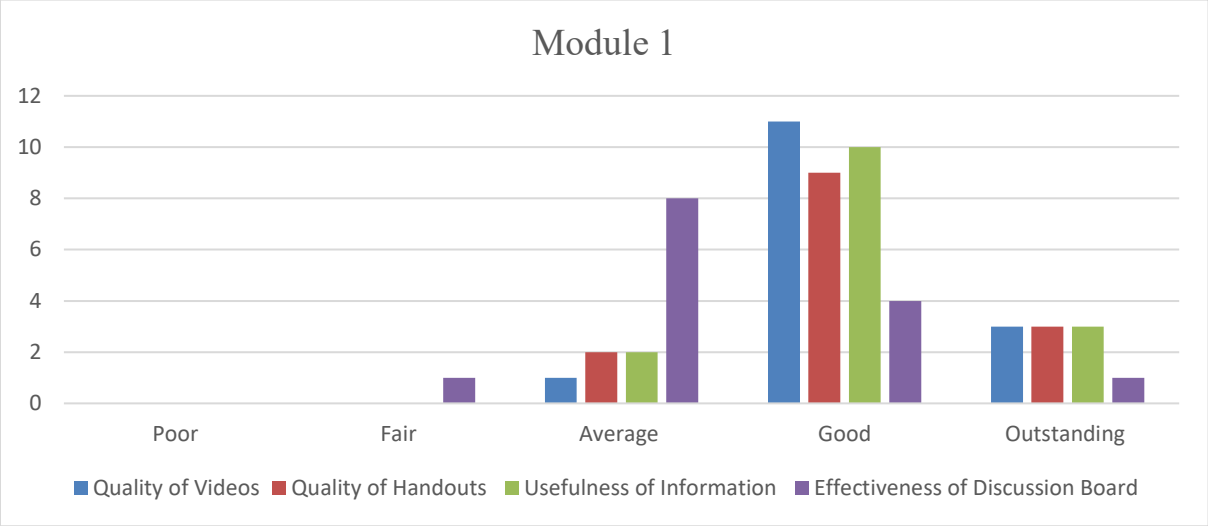
5. Explain the nutritional importance of the previously identified food groups:

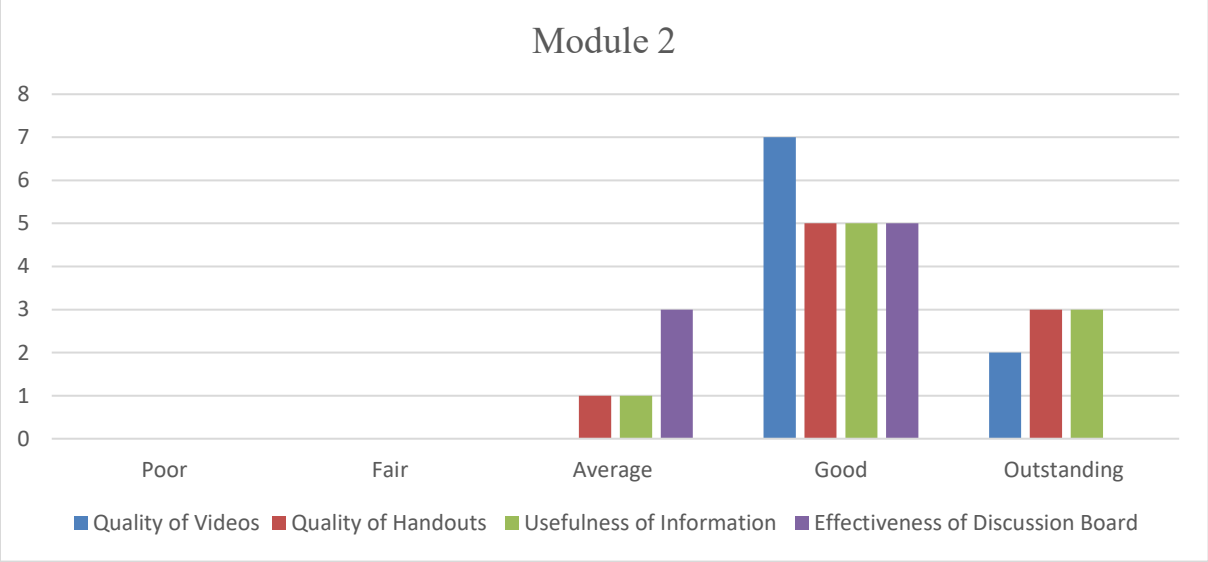
6. The first thing I'm going to tell family or friends about this session is . . .

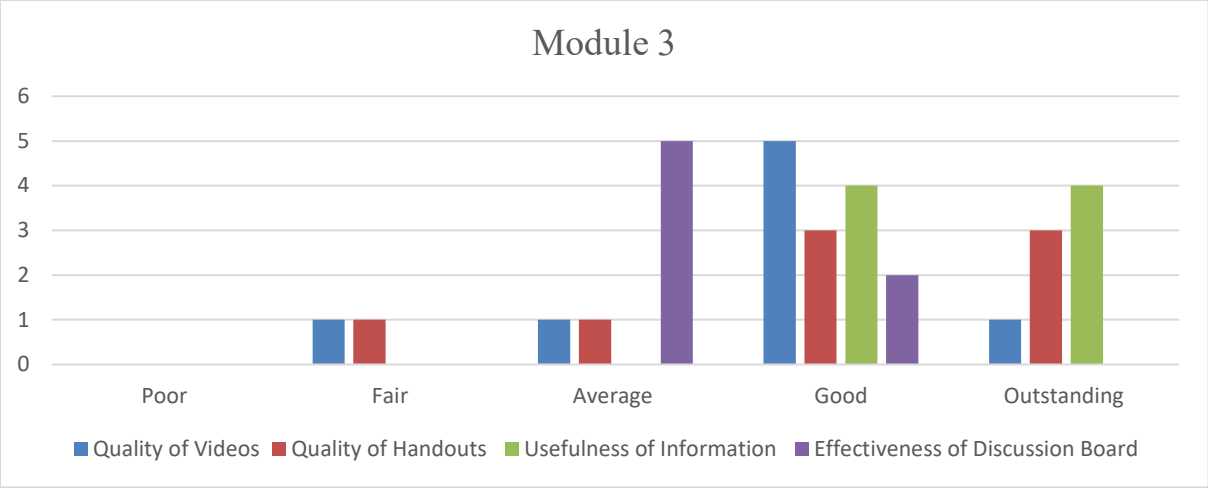
7. I'm confused about . . .

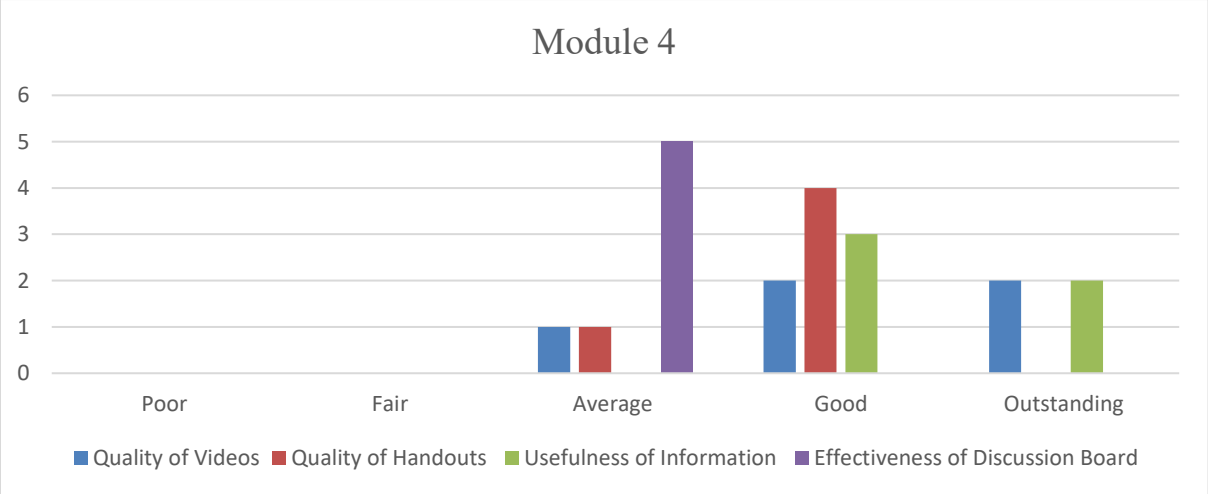
8. Other comments or suggestions:

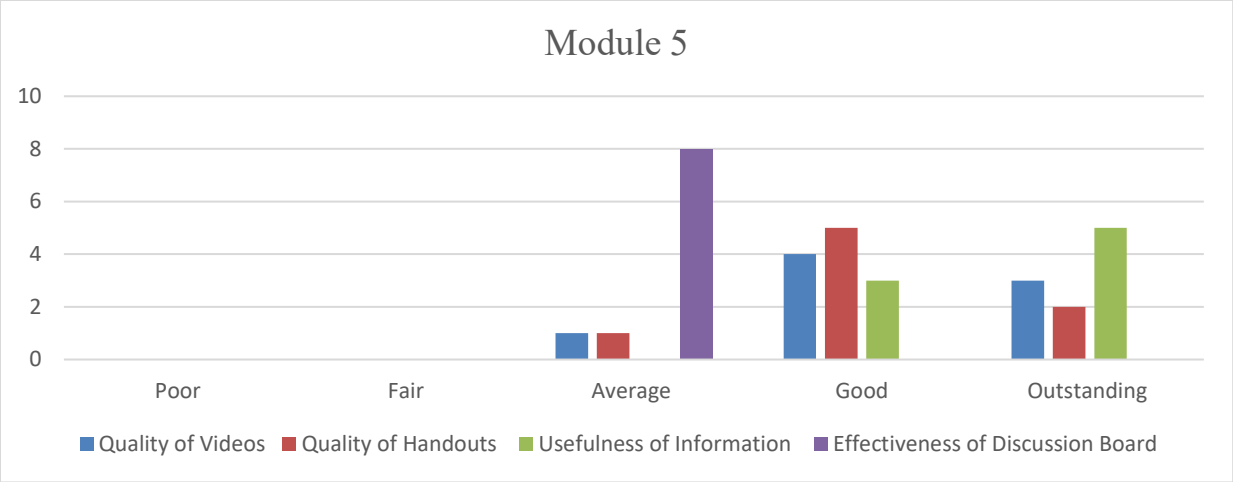
Post Module Survey Results: Modules 1-10






Module 3
6
5
4
3
2
1
0
Poor
Fair
Average
Good
Outstanding
Quality of Videos
Quality of Handouts
Usefulness of Information
Effectiveness of Discussion Board


Module 4
6
5
4
3
2
1
0
Poor
Fair
Average
Good
Outstanding
Quality of Videos
Quality of Handouts
Usefulness of Information
Effectiveness of Discussion Board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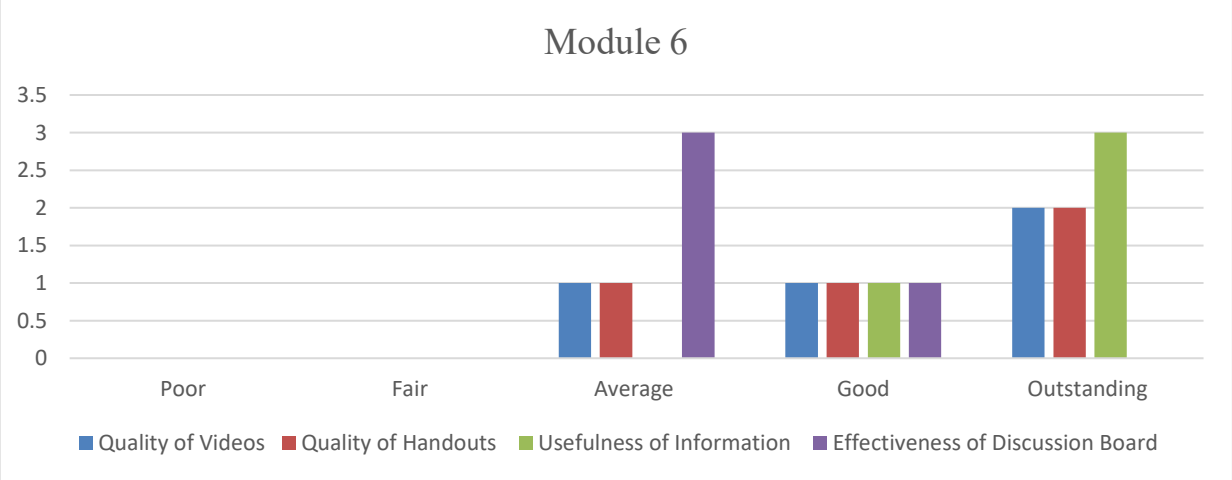
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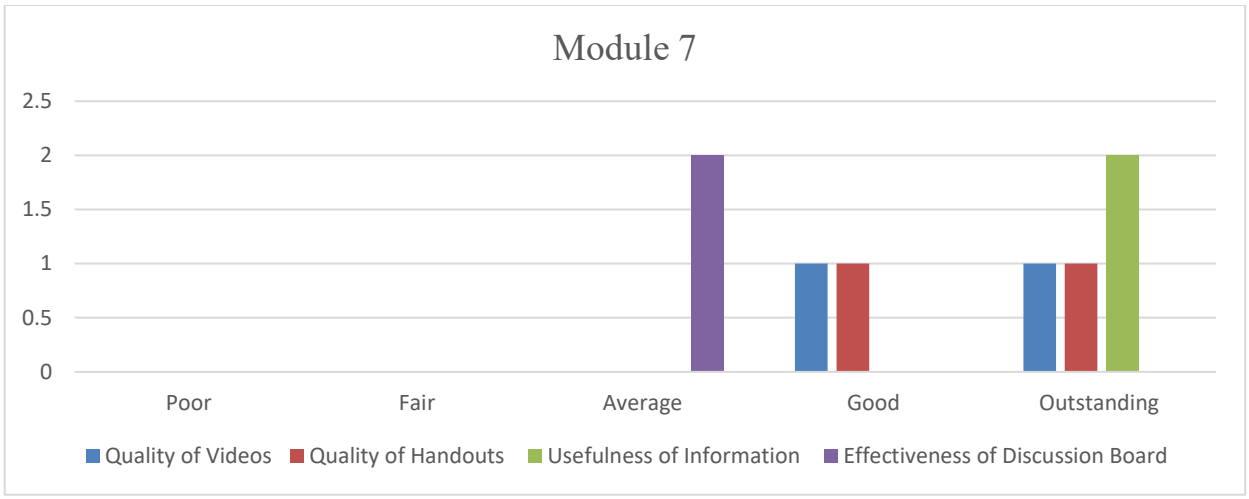
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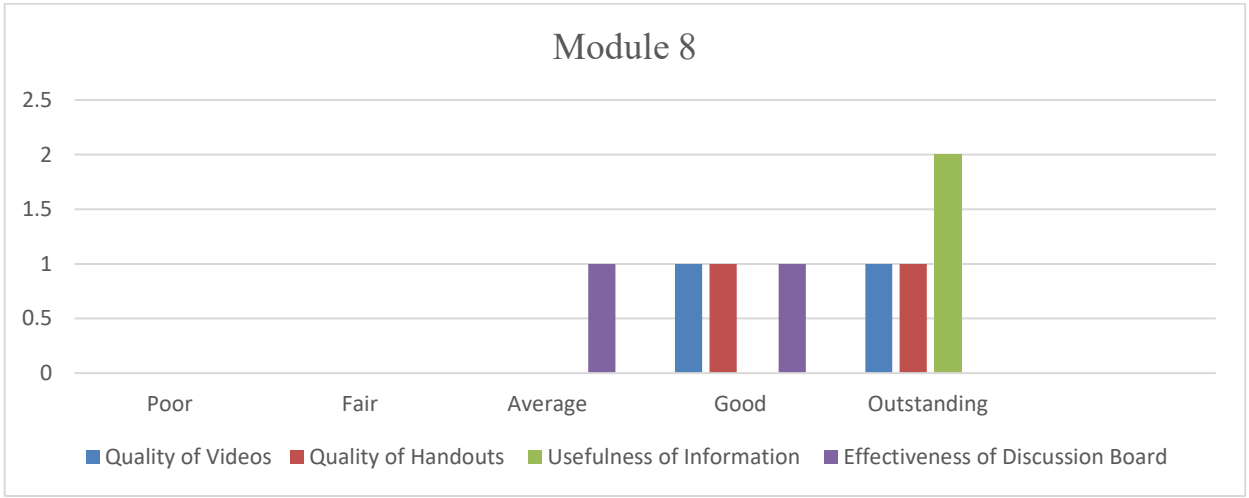
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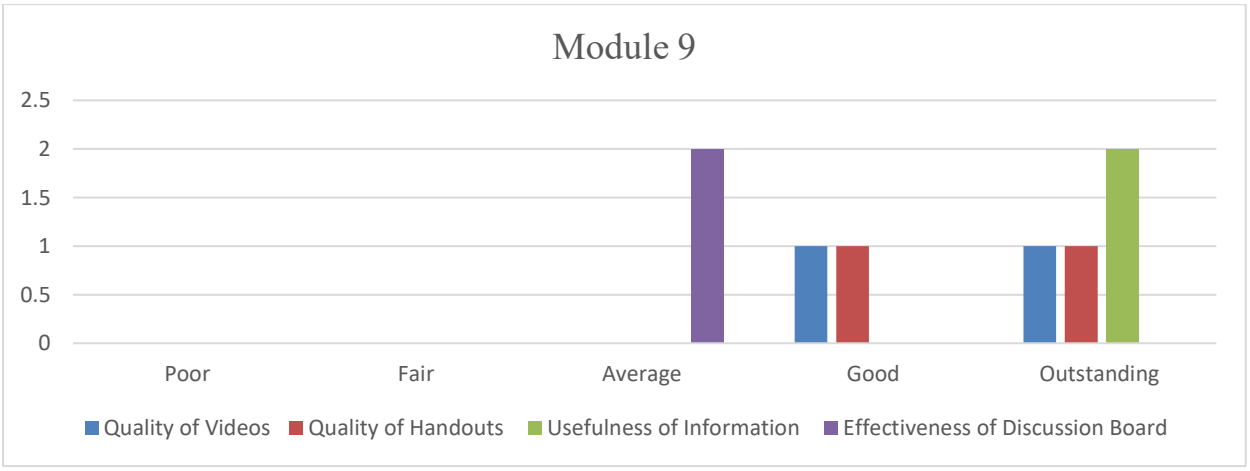
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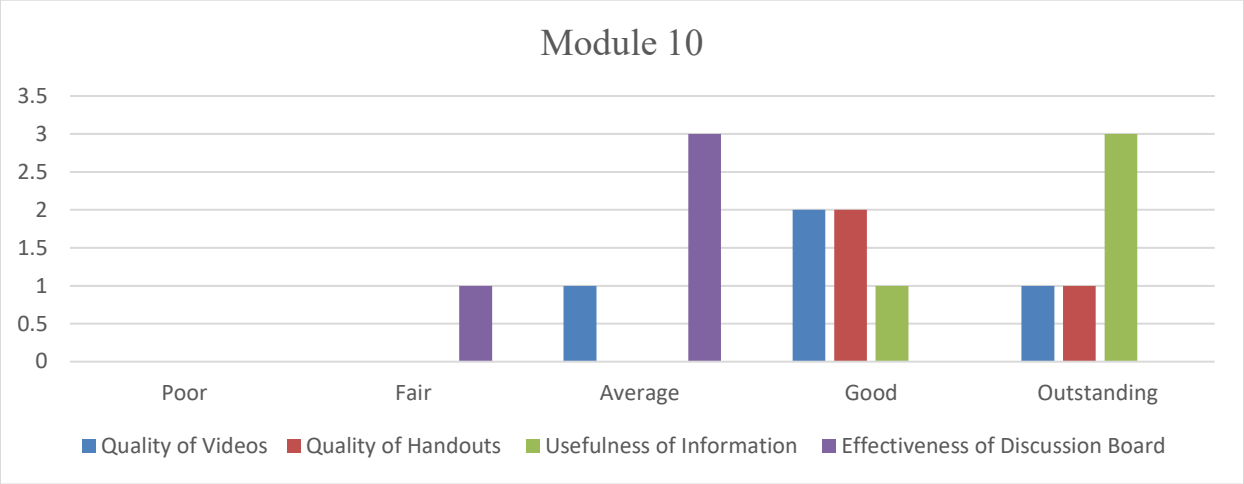
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Usefulness of Information
Effectiveness of Discussion Board

Appendix F: Module Content and Theory Application

Modules	Overview	Workbook	Objectives	Self Determination Theory Application[1]
1. Ditch the Diet Mentality	Module one content includes an overview of the dieter's dilemma, dieting statistics, how dieting leads to weight gain, impacts of dieting on physical and psychological health and includes an interview with certified Intuitive Eating counselor.	How an Intuitive Eater Thinks" "Diet Facts" Sheet "Getting Rid of the Tools of Dieting" worksheet "Exploring Hidden Forms of Dieting" worksheet	By the end of the first module participants will describe 3 examples of how dieting does not improve quality of life.	Using external cues to eat reduces attunement to the body's internal signals of satiety. External motivation to achieve the "thin ideal" rarely contributes to internal need satisfaction and is identified as a need-substitute in response to need-thwarting in SDT.
2. Honor Your Hunger	This module focuses on learning to identify hunger cues, which can differ among individuals, as well as what factors can disrupt attunement to hunger signals.	"What is Normal Eating" Handout "The Hunger Scale" Assessment "Self-Care Assessment" "Mind, Body Cue, Self-Care" Handout	By the end of the second module participants will give examples of 2 attunement disruptors. By the end of the second module participants will give examples of 2 attunement solutions.	SDT theory demonstrates that satisfaction of physical and psychological needs must be met for well-being. Chronic dieting thwarts attunement to hunger cues based on external cues to eat.
3. Food and Mood	This module uses evaluative components to identify triggers of emotional eating and strategies to understand how food rules increase emotion eating tendencies as well as coping with emotions in a healthy way.	"Food and Mood" Handout "Getting to know your body-The physical Sensations of Emotions" "Coping with Feelings" checklist	By the end of the third module participants will interpret at least 3 emotional eating triggers	Binge eating has been identified as a compensatory behavior for the need thwarting behavior of escape from emotional distress.

1. Verstuyf, J., Patrick, H., Vansteenkiste, M. & Teixeira,P. (2012). Motivational dynamics of eating regulation: A self-determination theory perspective. *The International Journal of Behavioral and Physical Activity.* 9(21), 2-16. doi: 9. 21. 10.1186/1479-5868-9-21.

Modules	Overview	Workbook	Objectives	Self Determination Theory Application[1]
4. Challenge the Food Police	This week food rules will be discussed; along with how they negatively impact your relationship with food and the body, where they come from, and how to disregard them.	"Being Mindful with Emotional Distress" Handout "What Are Your Food Rules" and "What Were Your Family's Rules and Expectations" handout	By the end of the fourth module, participants will distinguish 3 common negative thoughts concerning food intake and provide examples of 3 ways to reframe those thoughts in a positive way.	Social context can support or thwart personal growth. Placing value on societal expectations over internal needs can reduce attunement to self and satisfaction with food.
5. Make Peace with Food	This week's module focuses on the cornerstone of the Intuitive Eating philosophy, giving self unconditional permission to eat.	"Perspectives to Ponder" Handout "Fears about Eating Forbidden Foods" "Readiness to Make Peace with Food" Checklist "Milestones Chart"	By the end of the fifth module, participants will describe 2 personal experiences of how they gave themselves permission to eat previously "forbidden foods" (excluding allergens and intolerances).	Increased need satisfaction positively correlates with well-being and improved health. Making food choices volitionally through internal cues improves need satisfaction.
6. The Satisfaction Factor	The goal of this module is to help practice eating what is truly desired and to begin finding pleasure and satisfaction in eating again without the feelings of judgment and guilt.	"iEAT Activity and practice worksheet" "Satisfaction Discovery Worksheet"	By the end of the sixth module, participants will explain 3 methods to increase satisfaction of meals	Chronic dieting leads to a disassociation from internal attunement to what foods one finds satisfying due to food choice predominately determined by external rules. Increased food satisfaction leads to reduced compensatory behaviors (over-eating) from need-thwarting.

1. Verstuyf, J., Patrick, H., Vansteenkiste, M. & Teixeira,P. (2012). Motivational dynamics of eating regulation: A self-determination theory perspective. *The International Journal of Behavioral and Physical Activity.* 9(21), 2-16. doi: 9. 21. 10.1186/1479-5868-9-21.

	Modules	Overview	Workbook	Objectives	Self Determination Theory Application[1]
7.	Fitness for Every Body	This module focuses on exercising because it feels good, not to burn calories or punish yourself for eating a food you enjoy. Exercise is a known benefit for a wide array of health factors.	"Your Sitting Time" worksheet "Discovering Motives to Move" handout "Matching Motive to Activity" handout "Evaluating Barriers to Exercise" Handout	By the end of the seventh module, participants will set 2 SMART goals for decreasing the amount of minutes they sit per day.	Engaging in physical activity focused on appearance rather than health factors correlates with need-thwarting (relatedness), leading to need substitutes and compensatory behaviors based on external motivators.
8.	Mind Over Media	Our appearance-focused society places a different value on anything that does not match "the ideal." This module focuses on appreciation for our own body and the bodies of others. It is much easier to take good care of something that or someone who is valued, accepted and respected.	"10 Appearance Assumptions" Worksheet "Your Identity: More Than Your Looks" Worksheet	By the end of the eighth module, participants will give examples of 3 media sources that have been altered to create an illusion of "body perfection".	Focuses on increasing relatedness to others in that media contributes to a false narrative that the thin-ideal is an achievable goal for all persons. Also identifies strategies to improve body image based on increased autonomy in making choices based on health rather than appearance.

	Modules	Overview	Workbook	Objectives	Self Determination Theory Application[1]
9.	Respect Your Body	In this module participants will learn about treating their bodies with dignity, reverence, and admiration. As well as meeting the body's basic needs in order to build gratitude.	"Getting Rid of the Scale" Handout "Body Comparison" Handout	By the end of the ninth module, participants will discuss 2 personal experiences of how they replaced negative self-talk about their body with positive self-talk.	Focuses on the improving self-image and body acceptance to improve autonomy and reduce need-thwarting behaviors.
10.	Gentle Nutrition	This module covers basic nutrition concepts and highlights how to choose foods for health without the diet mentality.	"The Messages from Your Body" handout "Are You Ready to Consider Nutrition in Your Food Choices?" handout	By the end of the tenth module, participants will explain two diet fads that incorporate excluding whole food groups. By the end of the tenth module, participants will summarize the nutritional benefits of the food groups identified in the previous objective.	Improves competence in making volitional food decisions based on increased knowledge of nutrition concepts without reintroducing external diet rules that reduce body attunement and internal motivation.

1. Verstuyf, J., Patrick, H., Vansteenkiste, M. & Teixeira,P. (2012). Motivational dynamics of eating regulation: A self-determination theory perspective. *The International Journal of Behavioral and Physical Activity.* 9(21), 2-16. doi: 9. 21. 10.1186/1479-5868-9-21.