Introduction

Food insecurity is a growing worldwide problem. This term is defined by the U.S Department of Agriculture (USDA) (2021b) as "a household-level economic and social condition of limited or uncertain access to adequate food" (para. 6). Furthermore, food security is broken down by the USDA (2021b) into four levels: high food security, marginal food security, low food security, and very low food security. Those in the highest category report no anxiety or issues with accessing food, while those in the lowest category report one or more of their household members having to reduce food intake due to money or other resource problems (USDA, 2021b). However, food insecurity can be hard to identify in some individuals, as the term does not always mean starving, but it can also relate to families or individuals struggling to maintain their budget to cover meals (Feeding America, n.d.-c). Feeding America (n.d.-b) notes "not all people living below the poverty line experience food insecurity, and people living above the poverty line can experience food insecurity" (para. 3). In 2019, 10.5% of U.S. households reported being food insecure (USDA, 2021a).

Although food insecurity is still a significant challenge in the U.S., charitable food organizations can decrease these numbers in combination with government and non-government programming. Key non-government organizations that take measures against food insecurity are the various food banks and related nonprofit organizations such as Feeding America, Why Hunger, and Share Our Strength (USDA, n.d.). These charitable food organizations, as well as local entities, work on hunger relief efforts across the U.S.

Many organizations in the charitable food sector are nonprofits or serve the public in a similar way. For nonprofit organizations, there are some issues with establishing a brand compared to other more commercial businesses (Chapleo, 2015). Chapleo (2015) found that nonprofits struggle with managing their brand, encouraging employees to follow the brand standards, and improving their brand. Additionally, there is also limited research regarding how nonprofit organization branding is seen and the impact it can have on its audience, as well as how these organizations are using social media accounts (Febriani & Selamet, 2020). Chapman et al. (2015) also emphasized the limited research on nonprofits' "mission as the driver to employ social media strategies and tactics" (p. 2). Furthermore, these charitable organizations or nonprofits can use social media to acquire "unique opportunities of low-cost, easily targeted and viral marketing that have never been seen before to this scale" (Phethean et al., 2013, p. 296). Phethean et al. (2013) found most charities are not truly using their social media accounts for fundraising—they are rather using them more for building relationships (Phethean et al., 2013). More research needs to be conducted to understand how nonprofit organizations, and similar entities, can use their branding and social media better to promote their work and increase engagement with their organization's work. This study will specifically focus on the branding of charitable food organizations, which include organizations like food banks, hunger relief organizations, and food education organizations.

Additionally, there is a gap in the literature regarding these charitable organizations' brands specifically. Furthermore, the COVID-19 pandemic also made this topic substantially more relevant. Pandemic-related events influenced not only the economy and food availability, but they also showed how important it is for nonprofit organizations to have an online presence through social media and websites (Kinsey et al., 2020; Feeding America, 2019, Tabas, 2021). With improved branding and social media practices, nonprofit organizations, as well as those in the charitable food sector, can also better inspire action and share their message (Ciszek, 2013). More research needs to be done to understand how these charitable food organizations can use their brands to get the help they need—especially in terms of donating, volunteering, and advocacy.

The purpose of this study was to determine the effect of charitable food organization branding on college students' support of charitable food organizations—specifically through volunteering, donating behavior, and legislative advocacy efforts. Furthermore, this study used similar branding to charitable food organizations to understand if imagery drives behavioral intent, which will help food charitable

organizations better understand how to create social media and communications material to relate to this vital age group.

Literature Review

Although limited, there have been some studies regarding how nonprofit brand attributes can impact behavior with the organization. For instance, Michel and Rieunier (2011) found that nonprofits "need to be perceived as typical of their cause in order to attract donations of time and money" (p. 706). Michel and Rieunier (2011) cited an example of a nonprofit using too much color in their advertisements, leading to less generous donations due to these mailings being seen as "too commercial and not typical of the charitable organizations" (p. 706). This phenomenon is interesting, as sometimes nonprofits are criticized for not utilizing communications as effectively as corporations (Quinton & Fennemore, 2013). However, this study, and similar studies were used to understand what kind of communications consumers want to see from nonprofits, as there is currently limited data on the topic.

Other studies have noted the importance of specific nonprofit branding elements. Wymer et al. (2016) used past research to define brand image as a "necessary but insufficient condition for increasing brand strength" (p. 1451) and noted the importance of its brand attributes. In the specific area of nonprofit branding, Wymer et al. (2016) noted consumers often compare nonprofit brands to assess the strength of the organization. In addition, these researchers found nonprofit brand strength is based on the three-dimensional construct of familiarity, attitude, and remarkability, in addition to other attributes (Wymer et al., 2016). Furthermore, Michaelidou et al. (2015) found six dimensions—usefulness, efficiency, affect, dynamism, reliability, and ethicality—best at describing nonprofit branding, and these were applied to this study.

Branding has also been found to directly impact nonprofit and charitable organizations' livelihoods. Michel and Rieunier (2012) found donor behavior to be influenced by nonprofit communications. For example, the authors found that brand image can explain 31% of intentions to donate money and 24% of the intentions to donate time (Michel & Rieunier, 2012). Febriani and Selamet (2020) found those surveyed "were more willing to volunteer for organizations that presented the brand personalities through the brand logo and slogans, compared to the organizations without any presented brand personalities (p. 211)," and these individuals were also more likely to volunteer if the brand personality had an element of sincerity. Additionally, the college student participants identified by Febriani and Selamet (2020) were impacted by the nonprofit's logo and slogan, which shows the influence branding can have on individuals' attitudes and ultimately behaviors. A charitable organization's brand can influence behavior toward that organization.

Nonprofit branding is at a tipping point, as research suggests there is little knowledge about effective social media in charitable management (Phethean et al., 2013). According to Phethean et al. (2013), social media can "provide unique opportunities of low-cost, easily targeted and viral marketing" with charitable organizations that were uncommon before today's time (p. 296). Quinton and Fennemore (2013) note that the upcoming use of fundraising and donating online on social media is not brand new, however, many charitable organizations have not taken advantage of these technologies. Furthermore, Quinton and Fennemore (2013) compiled research and information that points to a misuse of not only technologies, but brand strategy within social networking in nonprofit organizations. There is a need for a better understanding of nonprofit organization branding in social media, as well as the general effective use of social media by charitable organizations.

Theoretical Framework

This study aimed to explore charitable food organizations' brands' influence on college students by understanding their donating, volunteering, or advocating intent after viewing an organization's branding. Furthermore, this study used color and semiotic theory, along with the Theory of Planned Behavior, to understand the impact of charitable food organization communications.

The Theory of Planned Behavior (TPB) is the primary theoretical framework for this study. Ajzen (1991) found attitudes, perceived behavioral control, and social norms to all influence the intention to carry out a certain behavior. TPB focuses on an individual's intentions in combination with behaviors. Ajzen (1991) noted that intentions influence motivation factors, which can ultimately lead to a behavior being performed. These determinants of intention can relate back to the current study—they can be influenced through communications efforts of charitable food organizations.

Attitudes in TPB are opinions or feelings individuals may have toward the behavior being studied (Ajzen, 1991). Attitudes can be formed from individual beliefs, which are typically developed by associating objects with "other objects, characteristics, or events" (Ajzen, 1991, p. 191). According to Ajzen (2019b), only a person's accessible behavioral beliefs play a role in attitude. In terms of behavior, people often develop unfavorable attitudes toward behaviors that create undesirable consequences and more favorable attitudes toward behaviors that create desirable consequences (Ajzen, 1991). This study aimed to interpret how college students' attitudes affect behavioral intent after viewing charitable food organization branding.

Furthermore, the social norms in this study involve the social pressure individuals may feel regarding a behavior (Ajzen, 1991). This definition comes from the concept of normative beliefs, which "are concerned with the likelihood that important referent individuals or groups approve or disapprove of performing a given behavior" (Ajzen, 1991, p. 195). Normative beliefs are how individuals perceive others' behavioral expectations about them (Ajzen, 2019a). Moreover, one's believed expectations can lead to social pressure, which is the defining nature of social norms (Ajzen, 2019a). Ajzen (1991) suggested that social norms can be defined through studies by asking questions of individuals that evaluate how they feel others would approve or disapprove of a certain behavior. In this study, social norms are explored by seeing how individuals believe their friends would feel about them volunteering for, donating to, or advocating for charitable food organizations.

Finally, perceived behavioral control (PBC) can impact behavioral intention, as it is the extent to which an individual has power over their behaviors (Ajzen, 1991). According to Ajzen (1991), this control can relate to past experiences. However, it can also be impacted by "second-hand information about the behavior, by the experiences of acquaintances and friends, and by other factors that increase or reduce the perceived difficulty of performing the behavior in question" (p. 196). If people have more resources, or think they have more resources, they are more likely to think they have more control over their behavior (Ajzen, 1991). Ultimately, what influences this perceived control are individuals' control beliefs, which are the discerned factors that can eventually lead to behavior, as they influence PBC (Ajzen, 2019a). This concept was used in the current study to examine participants' perceived control over volunteering, donating to, or advocating for food nonprofits throughout their daily lives.

According to Azjen (1991), intention is the primary factor in this theory. Behavioral intentions can be used to understand motivations that impact a behavior and individuals' efforts regarding behaviors (Azjen, 1991). Furthermore, this intention in combination with ability is what can lead to behavioral achievement (Azjen, 1991). This theory provides a structure to better understand participants' intent to perform the key actions such as donating, volunteering, or advocating to support charitable food organizations. This study aimed to address attitudes, social norms, and perceived behavioral control in the TPB to understand intent in charitable food organizations.

Semiotics and visual communications theory were used as a theory to understand the branding of charitable food organizations in the present study. According to Moriarty (2002), semiotics is known as the "study of signs and signals, sign systems, and sign processes" (p. 20). Visual semiotics are seen as "a philosophical approach" to interpreting these signs in relation to symbolism (Moriarty, 2002, p. 301). Charles Sanders Peirce, an American philosopher and mathematician, contributed majorly to the semiotic field (Gorlée, 1994). Moriarty (2002) noted Peircian semiotics in relation to visual communications semiotics as "a theory of knowing, rather than a theory of languaging" (p. 25). Moriarty (2002) also mentioned, according to Peirce, the reason we interpret the visual meaning is due to the more open aspect of visual versus verbal communication. Although research in this area is broad, this study will focus on understanding semiotics' relationship with branding and communications.

Moreover, visual semiotics can play a role in communications materials. Semiotics is incorporated in branding and designed in several ways and directly relates to print and graphic design. Sulatra and Pratiwi (2020) analyzed COVID-19 public service advertisements. This study used both visual and verbal signs in digital advertisements to create different ideologies—such as prevention, cooperation, responsibility, and productivity (Sulatra & Pratiwi, 2020). For example, the first advertisement's ideology was "Prevention is better than cure. It means that it is better and easier to stop a problem or illness from happening, by doing the preventive actions, than to stop it after it has happened" (Sulatra & Pratiwi, 2020, p. 361). The imagery in this digital advertisement included bright colors, cartoon-like images of the virus and steps to prevent COVID-19, as well as text (Sulatra & Pratiwi, 2020). This advertisement used visual signs to support the wording by including icons next to the words (Sulatra & Pratiwi, 2020). Colors were also chosen carefully; for example, the first ideology used pink and purple. These authors noted the color pink to be related to the traits of romance, love, and friendship (Sulatra & Pratiwi, 2020). However, purple was said to relate to wisdom, dignity, peace, and other traits (Sulatra & Pratiwi, 2020). Additionally, the researchers noted "these colors generally represent a message that COVID-19 prevention can be done with a spirit of love, friendship, and personal wisdom" (Sulatra & Pratiwi, 2020, p. 356). These examples noted above utilize a variety of advertising methods, but the visual elements and semiotic theories still relate to virtual marketing and communications. A similar analysis and thought process was used when creating the social media images used in this study.

Purpose and Objectives

The purpose of this study was to better understand how charitable food organization branding can affect behavioral intent in college-aged students. Additionally, researchers chose to focus on understanding participants' intent to partake in donating, volunteering, and advocating with charitable food organizations. These key charitable food actions were better understood through the TPB elements of attitudes, social norms, PBC, and behavioral intent. The following objectives guided this study:

1. Describe respondents' attitudes, perceived behavioral control (PBC), social norms, and behavioral intent regarding charitable food branding.
2. Describe respondents' attitudes, perceived behavioral control (PBC), social norms, and behavioral intent by treatment group.
3. Determine how attitudes, perceived behavioral control (PBC), and social norms influence respondents' behavioral intent for each treatment group.

Methods

Since this study aimed to describe charitable food organization branding's impact on behavioral intent, a quantitative approach was used—as this type of research can help to use a theory to understand a social problem (Creswell & Creswell, 2018). An online, single-mode survey in Qualtrics was used. Because the present study aimed to determine the impact of this branding, the research design was experimental. The independent variables for the study included branding imagery, attitudes, social norms, and perceived behavioral control. The dependent variable was behavioral intent to support charitable food organizations. A posttest-only control-group design was used—where four groups received the treatment first and a control did not receive a treatment at all. In this design, survey respondents "are randomly assigned to groups, a treatment is given only to the experimental group, and both groups are measured on the posttest," (Creswell & Creswell, 2018, p. 169).

The population for this study was college-aged students at The Ohio State University, who are part of the Gen Z generation. This population was selected due to their known traits of being "digital natives," valuing progressive ideas and preferring online learning (Fontein, 2019; Parker & Igielnik, 2020, para. 4). Additionally, the population will also be entering the workforce within 1-3 years most likely, if they have not already, increasing their yearly earnings, which may increase or influence donating

behavior. Additionally, Gen Z was one of the generations to give the most during the COVID-19 pandemic in 2020, and this group is predicted to likely engage more with charitable programming due to this past behavior (Hoss, 2021). Therefore, the survey only targeted this specific age group, born after 1996, in the survey (Parker & Igielnik, 2020). If participants answered they were an age other than 18-24 years, their survey immediately skipped to the end. Nonresponse error was targeted through following Dillman's et al. (2014) recommendations: easy to follow survey design, limited required answers to reduce frustration, use of the Ohio State logo to increase trust and credibility, and other additional precautions. The incentive of a gift card was provided to prompt the participants to fill out the survey correctly to also address nonresponse error. Survey participants had to complete the entire survey before adding their information for the incentive at the end. They were then able to enter their email to be put in a raffle to receive a $15 Amazon gift card. Two participants were randomly selected to receive prizes.

The survey was first created using a panel of experts who worked in agricultural communication and nonprofit communications. The instrument was edited based on feedback from the panel of experts and transferred into Qualtrics, which is an online survey tool. The survey instrument started by confirming participants were 18 years or older, as well as if their age matched the Gen Z target audience. After these questions, participants were randomly shown either one of four posts for 15 seconds or were not shown anything. To ensure participants paid proper attention to the branded images, a manipulation check was a part of the survey. After viewing the image for 15 seconds at least, the check-all that-apply question was asked, "What was in the image you just saw?" The answers included the following: "a. Two kids eating and a hunger fact b. A graphic about a hunger fact c. A graphic about healthy eating in the U.S. d. Two kids fighting." Survey answers were deleted if they did not respond to the manipulation check correctly. The correct answers were both "a. Two kids eating b. A graphic about hunger" since they received a random image that showed either.

Next, participants were shown definitions. A timer was set for 30 seconds to encourage participants to read these definitions. Throughout the survey, they were repeatedly given these definitions at the start of questions for clarification. The definitions were as follows: "Food insecurity is a term that means individuals cannot get consistent access to food to live an active and healthy life. It commonly can cause serious health problems with both children and adults;" "Charitable food organizations are food banks, nonprofits working in food education, and/or any organization that provides food for those in need. National organizations like these are Feeding America, No Kid Hungry, Meals on Wheels, etc. These groups work in hunger relief and food security efforts across the U.S.;" and "Supporting charitable food organizations can include key actions such as donating money to, volunteering for, or advocating legislatively for these groups."

After viewing the definitions, questions were asked about the Theory of Planned Behavior elements of attitudes, perceived behavioral control, and social norms. The TPB components of the survey instrument were adapted from prior work using TPB in agricultural communication applications (e.g. Holt et al., 2018, Stollar et al., 2022). A 6-item, 5-point semantic scale was used to measure attitudes. The bipolar adjectives in the scale included the following: good/bad, positive/negative, beneficial/harmful, favorable/unfavorable, interesting/not interesting, and important/not important. Cronbach's alpha was .851 for the scale of attitudes. Real limits were set to maintain consistency (Sheskin, 2004). The real limits were 1.00 – 1.49 = weak attitude, 1.50 – 2.49 = somewhat weak attitude, 2.50 – 3.49 = neither positive or negative attitude, 3.50 – 4.49 = somewhat strong attitude, and 4.50 – 5.00 = strong attitude. To measure PBC, a 6-item, 5-point semantic scale was used. It included the following items: not practicable for me/practicable for me, not complicated for me/complicated for me, not up to me/up to me, not in my control/in my control, not easy for me to do/easy for me to do, and not possible for me/possible for me. Cronbach's alpha was .821 for the scale of PBC. The real limits were 1.00 – 1.49 = weak PBC, 1.50 – 2.49 = somewhat weak PBC, 2.50 – 3.49 = neutral PBC, 3.50 – 4.49 = somewhat strong PBC, and 4.50 – 5.00 = strong PBC.

Social norms were measured through a 6-item, 5-point Likert scale. Questions were posed about social pressures regarding each aspect of key charitable food organization action. These included the following: "The people in my life would approve of me volunteering for charitable food organizations,"

"The people in my life would approve of me donating money to charitable food organizations," "The people in my life would approve of me contacting my local and national government officials in support of hunger relief," "The people in my life would approve of me donating food charitable food organizations," "The people in my life would approve of me advocating for charitable food organizations on social media," and "The people in my life would approve of me advocating for charitable food organizations by attending a rally or protest." Cronbach's alpha was .816 for the scale of social norms. The real limits were defined as the following: 1.00 – 1.49 = strongly disagree, 1.50 – 2.49 = somewhat disagree, 2.50 – 3.49 = neither agree nor disagree, 3.50 – 4.49 = somewhat agree, and 4.50 – 5.00 = strongly agree. Moreover, the survey concluded with future intent to support charitable food organizations. Behavioral intent regarding supporting charitable food organizations was measured through six items. These items included "Donate food items to a charitable food organization," "Donate money to a charitable food organization," "Volunteer for a charitable food organization," "Advocate for charitable food organizations on social media," "Advocate for charitable food organization by contacting my local and national government officials in support of hunger relief," Advocate in some way for a charitable food organization by attending a rally or protest." To better understand actual intent to support charitable food organizations, a summated scale was created. In these new variables, only an answer of "yes" was coded as 1 and an answer of "unsure" or "no" were recoded as 0. Cronbach's alpha for behavioral intent was .773. Additionally, two other questions about the treatments were asked: "Which one of these images catches your attention the most?" and "Which one of these images would make you more likely to support charitable food organizations?" In these questions, the participants were shown each treatment, in a smaller version, in a multiple-choice format. Demographic questions were asked at the end of the survey pertaining to gender, year in college, race and ethnicity, political beliefs, and political affiliation.

   To assess branding's impact, the researchers created four branded social media-type posts (Figure 1), and participants were randomly assigned one of these treatments. These images incorporated charitable food organization type branding, which was created using color theory and semiotics theories, as those areas informed the differences between images with colors and symbolism. Colors and imagery were also chosen with the elements of branding and design similar to Feeding America (n.d.-a) and No Kid Hungry (n.d.) social media accounts. The treatments included elements of layout, image, and linguistic text. However, the same text was used so that was not an element that was a purposeful difference. The main difference between the treatments were the icon of the grocery bag in treatment 1 and 2 and the image of two children eating in treatment 3 and 4. Additionally, post 1 and 3 had colors, green and orange, as used in past charitable food branding, while post 2 and 4 used black, white, and gray (Feeding America, n.d.-a; No Kid Hungry, n.d.). Color theory was also considered when choosing these elements. Treatments were informed by semiotic literature as well—similar to Brookes and Harvey (2015), who used semiotics to better understand past messaging around diabetes. Other research regarding social media exposure and branding were also considered (Humphrey et al., 2017). The treatment images were low color with an icon, high color with an icon, low color with imagery, and high color with imagery. The treatments with high-color and imagery were considered to be stronger branding components, while the treatments with low-color and graphics were considered to be weaker branding components. The low color images were grayscale, also referred to as black and white or monochrome.

Figure 1
*Branding Imagery Treatments*

Treatment 1

Treatment 2

Treatment 3

Treatment 4

The survey instrument was distributed to Ohio State undergraduates through university instructors. In total, the survey was shared either online or in-person to students in 29 classes. The total number of students reached was estimated to be 2,513, based on course enrollment numbers. However, researchers distributed this survey during the first COVID-19 omicron spike in 2022, and several professors reported having lower attendance due to COVID-19 cases. Therefore, this entire number may not have been reached. There were 306 total survey responses returned. Therefore, the response rate was 12.2%. However, several of these responses had to be deleted due to incomplete responses and outliers. The final sample size of the survey was $n = 196$. In the sample, the most common ages were 18, 19, and 20, with 65 (33.2%) being 19 (Figure 2). The most common year of college was first year at 84 (42.9%). The sample included 118 (60.2%) females, 67 (34.2%) males, and 6 (3.1%) non-binary/genderqueer individuals.

Figure 2

Participant Demographics (n = 196)
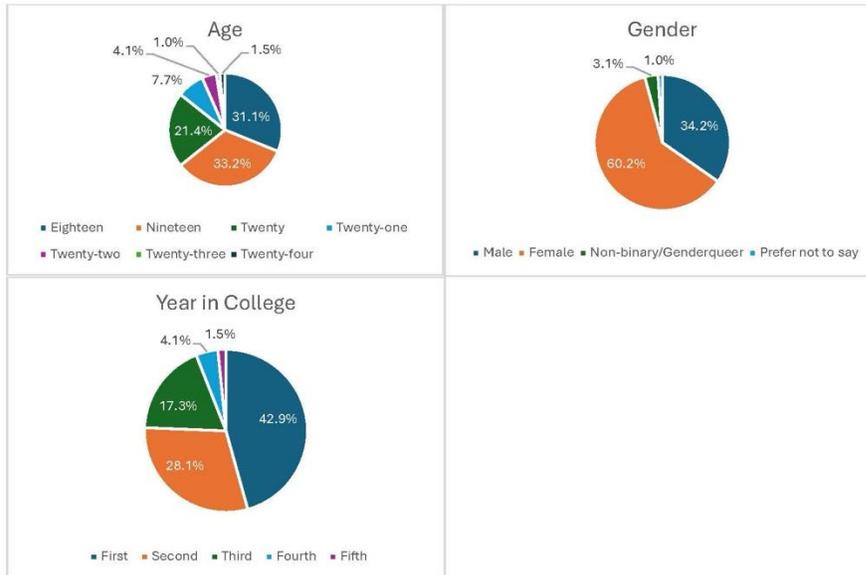
Qualtrics was used to randomly assign treatment groups. Treatments were distributed as follows: 35 (17.9%) participants received treatment 1, 46 (23.5%) received treatment 2, 33 (16.8%) received treatment 3, 45(23.0%) received treatment 4, and 37(18.9%) received the control. Although groups were originally intended to be similar in size, deleting incomplete responses and outliers changed the more even distribution of this data among treatment groups. When reviewing these responses, nonresponse error was considered.

Berg (2005) defines nonresponse error as a response that "falls outside the range of responses that survey designers consider to be valid" (p. 865). For this study, nonresponse error was collected by running an independent t-test comparing the overall Ohio State undergraduate population's sex and this study's sex. For the Ohio State group, the population was those in the age range of the study, between 18 and 24, who identified as male or female. This population, as of Autumn 2021, included 45,308 undergraduate students, aged 18-24 (The Ohio State University, 2021). Assumptions were run to complete this t-test. Outliers were tested by observing Z scores, and no outliers were found. Normality was upheld through skewness and kurtosis values falling between 2 and -2. Visual interpretation histograms also upheld normality. On average, participants in the current study had a more drastic difference in female participants at 118 (60.2%) versus male participants at 67 (34.2%). In the Ohio State population, there were 22,838 (50.4%) females and 22,470 (49.6%) males. This independent t-test indicated that this difference was significant (t = 3.77, p <.001), and it represented a small effect size effect (*d* = .27). The results suggest there was low nonresponse error when comparing this study's sample and Ohio State's undergraduate population.

Descriptive statistics, including means and standard deviation, were used to analyze objectives 1 and 2. Additionally, a one-way ANOVA was used to assess differences between groups in objective 2. A multiple linear regression was used to analyze objective 3 to determine the influence attitudes, social norms, and perceived behavioral control had on behavioral intent for each treatment group. Before running the regression, the file was split into treatment groups, so the multiple linear regression would separate each treatment group's information regarding the theory of planned behavior (TPB) variables. To address assumptions, linearity was upheld by assessing scatterplot matrices. After running the regression, the scatterplots with the regression standardized residual and predicted value were assessed. After adding a line of best fit for all treatments and the control, the straight, horizontal line indicated independent residual terms from the residual predictors, which led to the assumption of homogeneity of variance being

upheld. Additionally, the even spread of data for these scatterplots also upheld homogeneity of variance. Partial regression plots were also visually evaluated and upheld homogeneity of variance. Residual normality was upheld through visual interpretation of the histogram, PP-Plot, and QQ-Plot.

      With normality, Cook's Distance was also used to assess case wise issues and outliers. According to Field (2018), if Cook's distance is more than 1 it is considered an outlier, and cases that are below one could also be an outlier if deemed having an undue influence on the regression model. Cook's values were observed as well as visually assessed through a scatterplot containing the Cook's values and intent. Therefore, outliers with a Cook's value above 1 were removed and values having an undue influence were removed. Cook's distance was also evaluated again using case summaries. Through the beginning of the research process, a total of six outliers were removed using Cook's values. The regression was re-run after removing outliers. This was also checked by reviewing the Z residual scores for the regression. Since less than 5% of the data was above an absolute value of 2 for the Z residual scores, this assumption was further upheld. To assess collinearity, VIF values were evaluated. No VIF values were found to be above a 5. The correlation matrix is provided below for further assessment of multicollinearity. Field (2018) indicates that multicollinearity issues would be present when correlation coefficients exceed .80. The observed correlation coefficients and the VIF values confirm the assumption of collinearity has been upheld (Field, 2018).

Table 1
Correlation Matrix of Variables

	Attitude	PBC	Social Norms	Intent
Attitude	1	.435	.492	.343
PBC	.435	1	.520	.470
Social Norms	.492	.520	1	.471
Intent	.343	.470	.471	1

Limitations

      This study was limited to the sample of undergraduate students surveyed at The Ohio State University. Although this study has relevant findings, it cannot be generalized beyond this sample. As noted previously, the demographics did not align with Ohio State's undergraduate population, and thus is further limited by the presence of non-response error. It should also be considered that a convenience sample was used and results were gathered from self-reported responses, and that there could be possible selection bias due to the voluntary nature. Moreover, other limitations to this survey could be the branding shown to participants. This branding was created by researchers, so it could be argued it would not be perceived in the same way as true charitable food organizations. The incentive may have also led to some participation bias.

      Other limitations existed due to the COVID-19 pandemic. Although several students were contacted via email or through in-class presentations, not all were likely reached by the communications. Several of the contacted professors mentioned that at least133 students were out due to the increase in COVID-19 cases in January and February of 2022, during data collection. This fact could have also impacted students' willingness and ability to respond to surveys.

      A final limitation that could have affected this study is the text on the image. This study was intended to take place in 2021, which is why the text of "1 in 6 children may not have enough food to eat in 2021" was used. However, data were collected in January and February of 2022. This statistic may have been perceived as outdated by some students. Therefore, we acknowledge this could have impacted the way some students viewed the treatments. It may have caused some dissonance among participants.

Results

Objective 1: Describe respondents' attitudes, perceived behavioral control (PBC), social norms, and behavioral intent regarding the charitable food branding.

The majority of respondents had neutral to positive attitudes toward charitable food organizations. The mean of the attitude scale was 4.60 (SD = .48), which suggests, on average, participants had strong attitudes toward supporting charitable food branding. The mean of the perceived behavioral control scale was 3.84 (SD = .68), which indicated somewhat strong PBC. The total mean of the social norms scale was 4.45 (SD = .60), which suggests participants "somewhat agreed" that there were norms associated with supporting charitable food organizations. The mean value for the summated intent scale was 2.89 (SD = 1.82). This indicates that participants, on average, selected almost three "yes" answers of the 6-question future intent scale The item with the highest intent was donating food items to a CFO at 156 (79.6%), followed by donating money to a charitable food organization at 120 (61.2%), and volunteering for a charitable food organization at 113 (57.7%).

Objective 2: Describe respondents' attitudes, perceived behavioral control (PBC), social norms, and behavioral intent by treatment group.

Descriptive statistics were used to understand mean values of each treatment group. Mean values were the highest for all scales with treatment 1, except for intent. The highest mean value for intent was the control group (M = 3.22, SD = 1.73), which suggests intent is present in the absence of a treatment. The next highest mean for intent included treatment 3 (M = 3.00, SD = 1.75). As a reminder, the intent scale was summated and calculated based on "yes" answers. Participants could receive a 0-6 score. Additionally, looking at Table 2, it can be seen that intent does have a high standard deviation for each mean value. This suggests there was higher variance from the mean, which indicates the intent data were relatively spread out.

Table 2
Descriptive Statistics by Treatment Group

	M	SD
Treatment 1		
Attitudes	4.71	.43
Perceived Behavioral Control	4.01	.66
Social Norms	4.71	.43
Intent	2.89	1.91
Treatment 2		
Attitudes	4.60	.50
Perceived Behavioral Control	3.80	.68
Social Norms	4.35	.61
Intent	2.85	1.65
Treatment 3		
Attitudes	4.60	.55
Perceived Behavioral Control	4.00	.70
Social Norms	4.45	.70
Intent	3.00	1.75
Treatment 4		

	M	SD
Attitudes	4.51	.52
Perceived Behavioral Control	3.56	.74
Social Norms	4.30	.67
Intent	2.58	2.05
Control		
Attitudes	4.63	.35
Perceived Behavioral Control	3.93	.52
Social Norms	4.50	.46
Intent	3.22	1.73

Note. Treatment 1 = high color with an icon, Treatment 2 = low color with an icon, Treatment 3 = high color with imagery, and Treatment 4 = low color with imagery

A one-way ANOVA was used to assess if TPB variables were significantly different between treatment groups. No significant differences were observed between treatment groups for attitudes (p = .476) and behavioral intent (p = .528). However, significant differences were observed between groups for PBC (p = .015, η^2 = .07, medium effect size) and social norms (p = .023, η^2 = .06, medium effect size). A Tukey HSD follow up test was run for PBC and social norms to further understand treatment differences. For PBC, a significant difference was found between treatment 1 and treatment 4 (p = .026), and treatment 3 and 4 (p = .040). A significant difference was also observed between treatment 1 and treatment 4 for social norms (p = .016).

Objective 3: Determine how attitudes, perceived behavioral control (PBC), and social norms influence respondents' behavioral intent for each treatment group

Table 3 and 4 below explain the multiple linear regression results, as the individual TPB elements, split by treatment group. Three of the five multiple linear regression models were significant, indicating that TPB was operating as intended in three of the treatments. The predictors were social norms, attitudes, and perceived behavioral control, while the dependent variable was intent. The model of treatment 1 was not significant (R^2adj = .092, F = 2.08, p = .124). However, treatment 2 (R^2adj = .39, F = 9.65, p < .001), treatment 3 (R^2adj = .53, F = 12.79, p < .001), and treatment 4 (R^2adj = .48, F = 12.12, p < .001) were significant. Moreover, the control was found to not be significant (R^2adj = .11, F = 2.33, p = .095). The strongest model was the treatment 3 model, which explained 53.5% of the variance in intent. For individual variables, attitude (β = -1.58, p = .013), PBC (β = 1.67, p = < .001), and social norms (β = 1.26, p = .007) were significant. The beta coefficient for attitude was negative, which suggests for every one unit increase in attitude, intent will decrease by 1.58. For PBC and social norms the positive beta coefficient suggests for every one unit increase in those variables, intent will increase by 1.67 and 1.26 respectively. The significant model for treatment 4 explained 43.7% of the variance in intent and contained two significant variables—PBC (β = 1.14, p = .005) and social norms (β = .92, p = .049). In treatment 4, for each increase PBC, intent increased by 1.14. For every increase in social norms, intent increased by .92 for treatment 4. The model for treatment 2 had one significant variable, attitude (β = 1.57, p <.001). This means for each increase in attitude, intent increased by 1.57 for treatment 2.

Table 3

Multiple Linear Regression by Treatment Group

	Adj R^2	F	p
Treatment 1	.092	2.084	.124
Treatment 2	.388	9.652	<.001*
Treatment 3	.535	12.785	<.001*
Treatment 4	.437	12.139	<.001*
Control	.108	2.327	.095

Note. *Indicates significance.

Table 4

Multiple Linear Regression for TPB Variables Split by Treatment Group

|	β	t	p
Treatment 1			
Attitudes	.290	.286	.777
Perceived Behavioral Control	.836	1.342	.190
Social Norms	.624	1.342	.190
Treatment 2			
Attitudes	1.570	3.747	<.001*
Perceived Behavioral Control	.271	.834	.409
Social Norms	.493	1.325	.193
Treatment 3			
Attitudes	-1.581	-2.662	.013*
Perceived Behavioral Control	1.667	3.862	<.001*
Social Norms	1.263	2.929	.007*
Treatment 4			
Attitudes	.487	.920	.363
Perceived Behavioral Control	1.135	3.000	.005*
Social Norms	.917	2.034	.49*
Control			
Attitudes	-.913	-1.089	.285
Perceived Behavioral Control	.431	.748	.460
Social Norms	1.374	2.143	.040*

Note. *Indicated significance.

Discussion and Recommendations

The results of the first research objective indicate relatively strong attitudes, perceived behavioral control, and social norms, regarding supporting charitable food organizations among participants. Attitude is one of the elements that leads to behavior in the TPB (Ajzen, 2020). Ajzen (2020) notes that behavioral beliefs influence this attitude, and in turn, attitude can impact behavioral intent and eventually behavior. Based on control beliefs, perceived control also impacts behavioral intent (Ajzen, 2020). Relevant literature suggests social pressure to engage can also affect behavioral intent Ajzen (2020). Intent was measured differently than the other TPB scales. The results indicated that participants, on average, selected almost three "yes" answers of the 6-question future intent scale. The most often selected intent item for supporting charitable food organizations was regarding donating food items to a charitable food

organization, donating money to a charitable food organization, and volunteering for a charitable food organization. These numbers suggest there is interest to support charitable food organizations with this group, which aligns with the literature that noted this group is known to value progressive ideals and be more socially-minded (Deichler, 2021; Parker & Igielnik, 2020) and explains why the control had the highest intent value. Relevant research also suggests Gen Z engaged more with donating during the pandemic, which could mean these individuals are still looking to help charitable organizations when they are able to (Leonhardt, 2020).

        The second and third research objectives focused on examining the TPB elements by treatment group. A summary of those key findings can be found in Figure 3.

Figure 3
Result Summary by Treatment
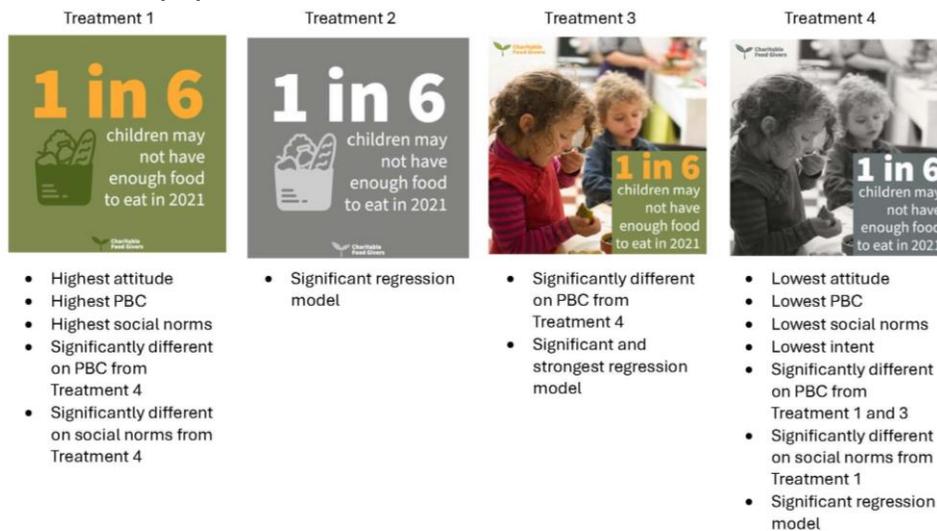
In terms of descriptive statistics, the mean values were the highest for all scales with treatment 1, except intent. Treatment 1 was not found to be a significant model in later regression testing, however. With treatment 1, perhaps this model did not follow TPB due to unforeseen variables. Though these TPB elements' means were strong and somewhat strong according to real limits, perhaps certain background factors influenced future intent. It could be that these participants would like to support TPB, but they cannot commit the time or resources to do so. This could be due to treatment 1's design, which was similar to images shared by Feeding America and No Kid Hungry—and was text and graphically oriented. It could be that this influenced attitudes, social norms, and PBC, but it did not influence overall intent since this type of design is commonly seen. In the same vein, perhaps the image was influential enough to influence some TPB elements but not influential enough to impact intent. Although participants in treatment 1 have strong attitudes, feel they have control, and feel others around them would support them interacting with charitable food organizations—it could be they still do not believe they would perform any of the behaviors. This could be due to the fact of how PBC was measured also, as most of the bipolar elements did not specifically focus on time or resources regarding CFOs. These bipolar terms were vaguer in nature, such as "possible" versus "not possible" or "complicated" versus "not complicated." It could be that the survey design did not account for PBC elements that are more complex in nature.

        The third objective sought to understand if the TPB elements influenced intent for each treatment group. This was analyzed through a multiple linear regression. The regression models for treatment 2, 3, and 4 were all found to be significant—the black and white icon post, the color image with children eating, and the black and white image with children eating. Past literature suggests color and symbols

play a role in how individuals perceive communications (Labrecque & Milne, 2012; Moriarty, 2002; Rhyne, 2017). This appears to be somewhat supported in the present study results—as one high color treatment was significant, treatment 3. Treatment 3 also contained an image of two children. Including images has been found to increase engagement on social media platforms like Facebook and Instagram, as well as have been discussed as an effective marketing strategy (Li & Xie, 2020; Sehl, 2019; Sibley, 2017). However, two black and white treatments were also found to be significant. Black and white photography has also been known to show a different perspective, and to "draw you in" (Kravitz & Morgan, n.d., para. 3). Additionally, it has been found that black and white marketing can be effective because it allows for focus to be placed on the basics of the products, as well as if the product has superior features (Lee et al., 2014). Moreover, this allows individuals to focus less on the colors and more to the subject (Kravitz & Morgan, n.d.). Treatment 2's model, the graphic black and white design with no image, also was significant. At times, making icons or images black and white can make designs simpler and easier to understand (Taylor, 2021). This type of design has also been known to stand out on social media, which could explain the effect of treatment 2 and 4 (Taylor, 2021). Out of the three significant models in regression testing, two had no color, which is important to consider for future research and non-profit market strategy.

This study's results indicate that using a post with imagery and color can influence intent to support charitable food organizations. Similar to the da Silva et al. (2020) study, the branding of treatment 3 caused TPB variables to operate more effectively with intent. Also similar to Febriani and Selamet's (2020) article, treatment 3 did suggest branding can impact volunteer behavior. Treatment 3's model had a significant influence on intent, and volunteering was included as an item in intent. In the Teah et al. (2014) study, charitable organizations' attitudes were studied in tandem with intention to donate. This study found attitudes impacted intention to donate, which is interesting, as the current study found attitudes to be negatively influencing intent in treatment 3. However, treatment 2 had a significant model and significant variable of attitude. Attitude had a positive direction in this case. Perhaps both treatment's attitudes were influenced by how they were measured. It could be that the two-poled concepts, in this case, did not accurately measure the full attitudes toward supporting the organization. The measurement maybe could have been more in-depth with this variable, due to the inconsistent findings with it. Additionally, this element of attitude could have been less important than PBC and social norms in this context and should be further explored.

A gap in literature exists in how communications can influence all aspects of supporting charitable food organizations. This study's implications can lead to more research on marketing imagery's impact on supporting charitable food organizations. Although many studies focus on the impact of branding on donating or volunteering, no studies were found by researchers that included the aspect of advocating (da Silva et al., 2020; Febriani & Selamet, 2020; Teah et al., 2014). The researchers also recommend a qualitative study to better understand this study and similar studies' results. Since this quantitative approach does not allow for depth, a qualitative approach could answer lingering questions. For example, why were attitudes negatively associated in treatment 3? Did seeing the definitions first impact the study differently than only seeing a treatment? Or, do any of these treatments truly drive support for CFOs and their work? This could be done through focus group or interview research. Conversational interviews could also be conducted to better understand how these individuals plan to support CFOs throughout their lifetime, especially since this demographic has been noted to care more about social issues. Additionally, future research should conduct a longitudinal study to understand lifetime behavior of participants. A pre-test could be used, similar to this study, to understand beginning perceptions. Then, other tests could be completed later to see if participants performed their intended behavior of supporting charitable food organizations.

This study aimed to understand the influence of CFO-branded treatments on intent to support CFOs. Results suggest that posts with imagery and color are the most influential regarding intent to support a CFO. Conclusions from this study can better inform future research with CFOs and marketing efforts for CFOs. These results could not only be used to create future studies but to help various charitable food organizations and nonprofits to better target Gen Z to support their efforts. This research

is important because increased support for Charitable Food Organizations can decrease food security and its negative impacts.

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