Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://foodsystemsjournal.org

A sentiment and keyword analysis of college food pantry stigma among users and nonusers

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Submitted November 27, 2023 / Revised February 2, March 7, and March 18, 2024 / Accepted March 20, 2024 / Published online June 3, 2024

Citation: Duong, Al, T., Walker, A. E., Bossert, A. R., & Arnold, M. E. (2024). A sentiment and keyword analysis of college food pantry stigma among users and nonusers. *Journal of Agriculture, Food Systems, and Community Development*, *13*(3), 152–164. https://doi.org/10.5304/jafscd.2024.133.025

Abstract

Food pantry stigma among college students has been documented as an issue that impacts the utilization of resources but has not been deeply investigated. The objective of this study was to explore sources of food pantry stigma to identify different strategies to encourage food pantry use, which has the potential to positively alter methods on campuses. This mixed-methods study was a branched (separate questions and responses from both food pantry users and nonusers), 51-item, online, Qualtrics survey that sampled randomly selected students from a rural university (n = 3,000) and recruited using flyers posted in food pantries on campus. Reported results include demographic characteristics, use of on-campus food pantries, a validated food insecurity questionnaire, food

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Author Contributions

The responsibilities of the authors' are as follows: ATD: designed the study, conducted the project, analyzed data and drafted the manuscript; AEW: contributed to the design of the study, analyzed data, and refined the manuscript for publication; ARB: refined the manuscript for publication; MEA: refined the manuscript for publication.

Author Note

This project was completed through an undergraduate thesis project.

Funding Disclosure

There was no funding to report for this work.

Conflict of Interest

All authors declare no conflicts of interest.

pantry self-stigma, and an adapted measure of self-stigma of seeking help, and affirming or nonaffirming qualitative measures of food pantry stigma. Sentiment and keyword analyses were conducted by two researchers to analyze qualitative data to identify factors that influence food pantry stigma from food pantry users and nonusers. Quantitative data were analyzed with descriptive statistics. Qualitative data determined areas of stigma and aligned with the descriptive statistics on self-stigma and help-seeking measures. Among survey participants (n = 594), 35.7% of food-insecure students did not use food pantries. Users (M = 23.12, SD = 9.06) reported higher perceptions of food pantry stigma than nonusers (M = 15.79, SD = 3.85). Of the food pantry nonusers (n = 461), 322 identified the presence of stigma (69.85%). Sixty-six food pantry users (n = 97) identified the presence of stigma (68.04%). The keyword analysis highlighted potential influences of food pantry stigma among all participants including power hierarchy, financial burden, embarrassment, and feeling superfluous. This study highlights influences of stigma and places an emphasis on changing current approaches in campus food pantry implementation and dissemination. Future studies could investigate the barriers and solutions to current messaging and implementation of campus food pantries utilizing implementation science experts and frameworks.

Keywords
food insecurity, pantry stigma, intervention development, Appalachia health, college students

Introduction

According to the U.S. Department of Agriculture (USDA), about 17 million households were categorized as food insecure in 2022, indicating their ability to acquire sufficient food is limited by lack of money and resources (Rabbitt et al., 2023). Notably, experiencing food insecurity significantly impacts college students. Specifically, some researchers approximate that 30% of all college students will experience food insecurity (Dubick et al., 2016). Furthermore, a recent scoping review estimated that college campus food insecurity can range from 10% to 75% of the students experiencing inadequate access, availability, sufficiency, and stability of food (Nikolaus et al., 2020). Additionally, rural students who are experiencing food insecurity struggle to maintain academic requirements and experience higher amounts of stress, anxiety, and depression, as well as issues with money management (Gaines et al., 2014; Hagedorn et al., 2019; Hagedorn & Olfert, 2018; Hege et al., 2021; McArthur et al., 2018; Nikolaus et al., 2020). Similarly, students experiencing food insecurity may utilize money management coping strategies such as relying on consumer credit card debt or personal loans, or leveraging relationships to borrow money (Gaines et al., 2014; Hagedorn et al., 2019).

While there are assistance programs to support food insecure individuals to manage their money and resources, many students are unable to access them due to strict eligibility guidelines (Hagedorn-Hatfield, Hood, et al., 2022). Therefore, food pantries tend be the most common campus solution to food insecurity at universities (Hagedorn-Hatfield, Richards, et al., 2022). However, research has reported many barriers to the usage of college campus food resources including lack of knowledge or awareness of programming, inconvenient hours of operation or location, transportation difficulties, and social stigma (El Zein et al., 2018; Peterson & Freidus, 2020). Previous studies have suggested a strong negative association between stigma and seeking food assistance (Kindle et al., 2019). Additionally, qualitative studies have revealed that stigma is a noteworthy barrier to participation in and access to food programs and food pantries among households experiencing food insecurity (Fong et al., 2016; Greer et al., 2016; Kindle et al., 2019; Ward et al., 2018).

Specifically, in a study conducted by McArthur et al. (2020) at a rural, western North Carolina university demonstrated that although 64.8% of participants were aware of the food pantry, only 10.5% had ever visited it. The authors' qualitative data described stigma, shame, and embarrassment as reasons that participants would not acquire items from a college food pantry (McArthur et al., 2020). Feelings of stigma, shame, and embarrassment have frequently been reported in previous food insecurity research as major barriers to food resources (Henry, 2017). However, these studies do not provide an explicit investigation into the stigma

individuals have reported, even though stigma seems to be a major indicator in accessing campus resources for food insecure college students.

Individuals can experience a variety of different directions of stigma. For example, perceived stigma describes the fear of stigma or discrimination, which typically is based on society's beliefs (LeBel, 2008), whereas explicit or external stigma is self-reported or conscious feelings or attitudes about a group (Stull et al., 2013). Public stigma describes the attitudes of individuals that are based on societal perceptions (Latalova et al., 2014). Lastly, individuals can feel self-stigma, which describes the internalized perceived prejudices and biases that lead to the development of negative thoughts or feelings about themselves, which can limit interactions with resources (Latalova et al., 2014; Tesfaw et al., 2020).

Certain campus food security research has mentioned stigma (Henry, 2017; McArthur et al., 2020) but has not necessarily explained the types of perceived stigma that food pantry users and food pantry nonusers experience or acknowledge. Additionally, most current food pantry stigma research is not directed at college campuses or college students (Fong et al., 2016; Greer et al., 2016; Kindle et al., 2019; Ward et al., 2018). Thus, the need to identify and investigate individuals' experiences with stigma and its impacts on acquiring food through campus resources is dire. This study aims to explore the stigma surrounding the use of food pantries on a rural, western North Carolina campus, to identify sources of stigma among users and nonusers, to inform pantry changes, and to build upon previous research conducted at similar universities (McArthur et al., 2020).

Methods

This study was approved by the Appalachian State University Institutional Review Board (protocol number: HS-23-164). Participants were students recruited from Appalachian State University's central campus and randomly selected from a computer-generated recruitment list (N = 3,000) provided by the Institutional Research, Assessment, and Planning Office (IRAP) at Appalachian State University.

The campus is a residential, public, state university located in rural Western North Carolina. According to the IRAP office, a total of 21,253 students were enrolled in 2023, with 57.5% identifying as female and 42.5% as male; 15,117 students lived off-campus. Of the students, 22.3% were in their first year, 20.2% in their second, 22.5% in their third, and 25.8% in their fourth, and 8.7% were graduate students. Lastly, IRAP reported 19.0% of the total student population being from racially or ethnically underrepresented groups.

Recruitment was done by an initial email that was sent on Wednesday, January 25, 2023, to randomly selected student emails provided by IRAP. This email was primarily to recruit individuals who did not use the food pantry. Three reminder emails were sent to the same pool of students each Wednesday following the date the initial email was sent, with the last reminder email sent on February 15, 2023.

In addition to the email recruitment, flyers with a QR code and link were posted in the primary Office of Sustainability food pantry in East Hall, in the Garwood Hall Physics food pantry, and in the Leon Levine Hall food pantry at Appalachian State University.

The impetus for this project was to address, in detail, the stigma surrounding food pantries, particularly on college campus, which was motivated through a literature review. The reported results of this paper are a subset of measures that were a part of a larger survey (see supplementary material for description of entire survey measures) conducted to provide more context on systemic barriers, such as stigma, to campus food pantry use. The Qualtrics (Qualtrics, Provo, UT, 2021) survey was a branched survey with two versions that included 51 questions in each version. Both surveys began with a consent form that participants could read, after which they chose to either participate or not participate in the study. One branch of the survey was completed by individuals who self-identified as not using food pantries, and the other branch of the survey was completed by self-identified food pantry users.

Both surveys were informed by previous food pantry stigma and food insecurity research (Kindle et al., 2019; Vogel et al., 2006). The surveys included the 10-item USDA Food Security Scale

for Use with College Students, which assessed whether the participant was food insecure (Ames & Barnett, 2019). All participants were asked a qualitative data question: "Do you believe that there is stigma surrounding food pantry users? Why or why not?" Participants self-selected their answer to the next survey question, which read "Have you used a food pantry at Appalachian State University?" This question categorized the participants into the two separate surveys. The survey then measured food pantry self-stigma through a validated 10-question measures (Kindle et al., 2019), into addition to an adapted version of the validated Self-Stigma of Seeking Help (SSOSH) tool (Vogel et al., 2006), for both food pantry users and nonusers. The sets of self-stigma questions for both surveys used a 5-point Likert scale from strongly disagree to strongly agree (Kindle et al., 2019; Vogel et al., 2006). Examples of questions regarding food pantry self-stigma of food pantry use and help-seeking self-stigma for food pantry users were "I have stopped socializing with some people due to their reaction to me using a food pantry" and "I feel inadequate for using the food pantry for assistance" (Kindle et al., 2019; Vogel et al., 2006). Examples of questions regarding self-stigma for nonusers were "I have stopped socializing with some people because they used a food pantry" and "I would feel inadequate if I went to a food pantry for assistance" (Kindle et al., 2019; Vogel et al., 2006). Demographic questions about gender, race, the year the participant first enrolled at Appalachian State University (i.e., first year college student), and employment status were also asked, in addition to asking whether the participant had a meal plan and whether the participant lived on or off campus.

Analysis

Sentiment Analysis

Sentiment Analysis enables researchers to understand the emotions and opinions of a certain group of people toward another (Medhat et al., 2014). A sentiment analysis was conducted on the qualitative responses from a particular question from the survey ("Do you believe that there is stigma surrounding food pantry users? Why or why not?"). Completed responses were categorized based on whether the responded reported using the food pantry in the first question, "Have you ever used the on-campus food pantries?" Then, the two categories were analyzed for affirming or nonaffirming responses about food pantry user stigma using an Excel add-on, Azure Machine Learning (Microsoft Corporation, Redmond, WA, 2018). Azure Machine Learning was prompted to categorize responses into negative (nonaffirmative/no stigma), neutral (uncertain), or positive (affirmative/stigma identified) sentiments. We (AEW and ATD) reviewed the sentiment categories to ensure accuracy of categorization.

Keyword search for themes

Following sentiment analysis, a keyword analysis was performed. Identifying keywords can provide context to sentiments provided by participants (Dalayya et al., 2023). Once data from both food pantry use categories were analyzed, the positive and negative sentiments were further analyzed for keywords and themes in the responses by a hand-coded search of frequencies of terminology. We (AEW and ATD) tallied keywords in Excel by reporting the frequencies of periodically reported words and themes. In other words, we counted the number of times a keyword or theme was mentioned out of all of the responses in each sentiment category. The final step was to define and describe the meaning of the keywords and themes to understand the positive and negative sentiment of food pantry stigma between food pantry users and nonusers.

Descriptive statistics

Descriptive statistics, including means and frequencies of certain quantitative variables, were conducted in SPSS version 28 and Microsoft Excel to describe the data.

Food insecurity

To understand food insecurity percentages across the sample, the 10-item USDA Food Insecurity screener was used for data collection and scoring (Ames & Barnett, 2019). Completed responses were scored based on affirming responses ("yes," "often," "sometimes," "almost every month," and

"some months but not every month") and non-affirming responses to create a categorical variable. Raw scores of 0–2 were categorized as food secure, 3–5 as low food security, and 6–10 as very low food security. For binomial analysis and further comparison with other variables, the food security score was 0–2 and the food insecurity score was 3–10.

Food pantry use and food security

To identify food pantry use and food insecurity, responses were categorized into four categories by aligning response scores for food insecurity and food pantry use. Categories included (a) food insecurity and food pantry use; (b) food security and food pantry use; (c) food insecurity and food pantry nonuse; and (d) food security and food pantry nonuse.

SSOSH measures

In using the 10-item adapted SSOSH (Vogel et al., 2006), we sought to comprehend whether individuals felt self-stigma toward seeking help (using food pantries) or in general by assessing the mean score between food pantry users and nonusers. Scores were summed for an overall SSOSH score, then mean scores were calculated. A higher mean score suggests that individuals feel more self-stigma.

Food pantry self-stigma scale

Similarly, descriptive statistics were used to report the mean of the summative scores of the self-identified food pantry self-stigma scale between non-food-pantry users and food pantry users (Kindle et al., 2019). Analysis of both the collected quantitative and qualitative data granted a better understanding of the gap between how those who use a food pantry believe others perceive them versus how those who do not use a food pantry perceive food pantry users.

Results

Quantitative Data

We recorded and analyzed 594 responses, of which, 17% (n = 101) self-reported currently or historically using on-campus food pantries (Table 1). The majority of the entire sample (50.7%) were food secure; however, 30.1% experienced very low food security. To understand food pantry use among food-insecure and food-secure participants, responses were categorized into food insecurity and food pantry use; food security and food pantry use; food insecurity and food pantry nonuse; and food security and food pantry nonuse (Table 1). Almost 36% were food insecure and did not use food pantries on campus. Additional descriptive statistics are displayed in Table 2.

Adapting the SSOSH measure, we aimed to explore whether individuals felt self-stigma toward seeking help (using food pantries; Table 3). Both groups, nonusers and users, reported higher perceptions of self-stigma with levels above the midpoint of the scale. However, users had a slightly higher self-stigma (M = 27.49, SD 9.44). According to the food pantry self-stigma scale, users (M = 23.12, SD = 9.06) reported higher perceptions of stigma than nonusers (M = 15.79, SD = 3.85).

Qualitative Data

Sentiment analysis results

Sentiment analysis (Table 4) categorized each survey response as positive (stigma surrounding food pantry use), neutral, or negative (no stigma surrounding food pantry use). Sentiment analysis was conducted separately for food pantry nonusers and food pantry users to compare the percentages. Within the nonusers, there were 461 usable

Table 1. Food Security and Food Pantry Use

Variable	Frequency (n)	Percent
Food Pantry User	101	17.0%
Food Pantry Nonuser	493	83.0
Food Security	301	50.7
Low Food Insecurity	114	19.2
Very Low Food Insecurity	179	30.1
Food Insecurity and Food Pantry Use	81	13.6
Food Security and Food Pantry Use	20	3.4
Food Pantry Nonuse and Food Insecurity	212	35.7
Food Pantry Nonuse and Food Security	281	47.3

Table 2. Participant Demographics

Variable	Frequency (*n*)	Percent
Male	171	28.8%
Female	291	49.0
Nonbinary/Third Gender	36	6.1
Prefer Not to Say	7	1.2
White/Hispanic	5	1.0
White/Non-Hispanic	397	66.8
African American	14	2.4
Hispanic	16	2.7
Asian	7	1.2
Other	155	25.9
1st-Year College Student	125	21.0
2nd-Year College Student	138	23.2
3rd-Year College Student	135	22.7
4th-Year College Student	86	14.5
Other	21	3.5
Unemployed	224	37.7
One or More Part-time Jobs	266	44.8
One Full-time Job	15	2.5
On-Campus	229	38.6
Off-Campus	273	46.0

responses, with 98 negative responses (21.26%), 41 neutral responses (8.89%), and 322 positive responses (69.85%). Within the food pantry users, there were 97 usable responses, with 25 negative responses (25.77%), 6 neutral responses (6.19%), and 66 positive responses (68.04%).

Keyword analysis results

Similar to sentiment analysis, keyword analysis was completed (Tables 5 and 6) separately for food pantry nonusers and users. For both food pantry users and nonusers, however, only the positive responses were identified with a keyword category. Negative and neutral responses for both nonusers and users mostly consisted of "No" with no explanation or claimed that they had a lack of knowledge surrounding stigma.

Positive FPNU keyword analysis

Within the food pantry nonusers' responses that showed a stigma, the respondents explained that they supposed that if they used a food pantry, they would feel the stigma, or respondents directly stated they believed there was food pantry stigma for users. The positive nonusers' responses were classified and quantified into keyword categories out of the total nonusers' responses (n = 322); see Table 5. Among food pantry nonusers who

Table 3. Food Pantry Users (FPU) and Nonusers' (FPNU) SSOSH Measure and Food Pantry Self-Stigma of FPU and FPNU Users

Variable	N	Minimum	Maximum	Mean	Std. Deviation
FPU SSOSH	85	10	50	27.49	9.444
FPNU SSOSH	417	10	50	25.60	9.204
Food Pantry Self-Stigma among FPU	94	10	43	23.12	9.064
Food Pantry Self-Stigma among FPNU	451	10	42	15.79	3.853

Table 4. Sentiment Analysis

	Total Responses	Negative Responses *n* (%)	Neutral Responses *n* (%)	Positive Responses *n* (%)
Pantry Nonusers	461	98	41	322
Food Pantry Nonusers	—	98 (21.26%)	41 (8.89%)	322 (69.85%)
Food Pantry Users	97	25	6	66
Food Pantry Users	—	25 (25.77%)	6 (6.19%)	66(68.04%)

believed there was stigma, nine themes arose. Many believed explained the stigma in terms of a *power hierarchy* in which food pantries are associated with social classism and if you use them you are lesser in society (20.81%). Additional themes included *finance*, in which going to a food pantry meant you were poor (23.29%); *laziness*, as going to a food pantry meant you were taking advantage of the system (7.76%); *judgment* (8.70%); *pride*, in wanting to prove they can solve their own challenges (4.04%); and *embarrassment* (13.98%). Other themes including thinking that **other people are worse off than them (feeling superfluous)** (7.45%), **that others don't understand due to a lack of knowledge** (4.66%), and that there is **limited accessibility** to healthy options, as food pantries have mainly unhealthy foods (1.86%).

Within the positive food pantry users' responses, the stigma mentioned was either self-stigma, meaning that the respondent imposed the stigma on themselves, or stigma received from others. The positive food pantry users' responses were placed into the following keyword categories, and a percentage was calculated for each keyword category out of the total positive food pantry users' responses (n = 66); see Table 6. Among food pantry users who believed there was stigma, many believed so because of a *power hierarchy* (12.12%), *finance* (27.27%); *laziness* (10.61%); *judgment* (7.58%); *embarrassment* (21.21%); the belief that *other people are worse off than them (feeling superfluous)* (16.67%); *appearance*, in that food pantry users were associate with certain physical features (7.58%); and *self-blame*, where they felt the situation was their fault (3.03%).

Table 5. Keyword Analysis for Positive Food Pantry Nonusers

Keyword	Number of Responses (n = 322)	Percentage Calculated
Power Hierarchy	67	20.81%
Finance	75	23.29%
Laziness	25	7.76%
Judgment	28	8.70%
Embarrassment	45	13.98%
People are worse off	24	7.45%
Others not understanding	15	4.66%
Pride	13	4.04%
Accessibility to Healthy Options	6	1.86%

Table 6. Keyword Analysis for Positive Food Pantry Users

Keyword	Number of Responses	Percentage Calculated
Power Hierarchy	8	12.12%
Finance	18	27.27%
Laziness	7	10.61%
Judgment	5	7.58%
Embarrassment	14	21.21%
People are worse off	11	16.67%
Appearance	5	7.58%
Self-blame	2	3.03%

Discussion

The results and methods of this study contribute significantly to food insecurity research. For example, our results provide a deeper understanding of public and self-stigma and its influences on food pantry use, which tends to be the primary food insecurity intervention on college campuses (Hagedorn et al., 2020). However, the breadth and depth of research on understanding food pantry stigma is scarce (McArthur et al., 2020) and often does not measure how nonusers perceive food pantry use or examine the specific areas for which users feel stigmatized. This study highlights perceived stigmas from food pantry users and nonusers, which assists in reinforcing users' experience in attempting to access food resources on campus. Characterizing different perspectives presents meaningful information that can help identify sources of stigma and create better resources for campuses. Our evidence-based methodology is unique and could be useful to others doing campus food insecurity research.

This study reported 50.7% of the study participants were food insecure, with 35.7% of food-insecure students not utilizing the food pantry and

only 13.6% reporting food pantry use. Due to this gap, the concern shifts to those that are food insecure, but are not using resources such as food pantries. A study done at the University of Florida found that while 32% if respondents were classified as food insecure, only 15.6% had ever used the food pantry (El Zein et al., 2018). The same study suggested that the reason most college students were not seeking help from resources available to them was due to social stigma, inconvenient hours, and insufficient information on food pantry regulations (El Zein et al., 2018). These findings are similar to our study suggesting, that a large majority of both food pantry users and nonusers identified sources of stigma and its interaction with food pantry use. Although this begins to explain why many of this study's participants are food insecure but do not use a food pantry, the descriptions and types of stigmas are underreported.

A key finding from the descriptive statistics of both the SSOSH (Vogel et al., 2006) and those provided by the Food Pantry Stigma Scale (Kindle et al., 2019) is that food pantry users reported greater means than food pantry nonusers, meaning food pantry users had a higher self-stigma attached to seeking help than nonusers. In a study comparing stigma between food pantry users and nonusers, findings suggested that food pantry users' perception of stigma was significantly higher than the portion of the public who does not use food pantries (Kindle et al., 2019). The authors explained this by suggesting that food pantry users believed there would be social disapproval if they used a food pantry as they would be deemed not self-reliant or self-sufficient (Kindle et al., 2019). Based on qualitative data obtained from our keyword analysis of food pantry users, 3.03% reported that the stigma was a result of self-blame. This number shows that stigma does not solely stem from others but can also result from internal thoughts.

Based on research done with relevance to this study, a difference was expected to be observed between the beliefs of a food pantry user and nonuser (Kindle et al., 2019). More specifically, it was likely that the self-perception of those who used a food pantry of themselves would be worse than the perception nonusers hold of users. This is explained by the "why try" effect, which is the belief by individuals that there will always be others worse off than them and as a result they do not deserve the offered resources (Corrigan et al., 2009). Studies suggest that counseling or therapy can address the self-stigma of food pantry users and the "why try" effect and assist in changing attitudes around seeking help (Latalova et al., 2014). However, time and finances can be major barriers to therapy or counseling. Therefore, online therapy, free counseling, group therapy at food pantries, and/or extended hours of availability could combat the barriers to care.

Aside from self-blame, another major source of self-stigma felt by food pantry users was finance (23.29%). Stigma that results from financial burdens was reported by users who believed that others view them as poor for using a food pantry. Food pantry users also experience stigma because they think others deem them as lazy (10.61%) or weaker in a power hierarchy (12.12%) because they are unable to provide for themselves and instead rely on a resource. Similarly, users report that constant food pantry advertising as a place for low-income or for the "needy" portrays users as victims and deters them from seeking help or resources (El Zein et al., 2022). To begin to break this stigma felt by food pantry users, resources that are offered need to be more normalized (El Zein et al., 2022; Fong et al., 2016). Normalization could occur through greater promotional awareness of these resources, and it could also result from more food pantry locations being offered as resources (El Zein et al., 2022). When these resources are more normalized, more people who need these resources will not feel alienated when they resort to them.

Similarly, finance was a stigma shared between food pantry nonusers and food pantry users. The keyword *finance* refers to the stigmatization of poverty, in that food pantry users believed that they were poorer than others, or that others viewed them as such. A study that analyzed different measures of poverty relative to food-insecure households found that there was a small but statistically significant association between poverty and food insecurity (Wight et al., 2014). Rather, finances had to do more with an income-to-needs ratio (Wight et al., 2014). Thus, additional attention should be focused on other factors that can affect

income ratios, especially among college students, whose income ratios are affected by their tax filing and ability to apply for federal aid (Hagedorn et al., 2019; Hagedorn & Olfert, 2018; Hagedorn-Hatfield, Hood, et al., 2022). Additionally, research has suggested that "time privilege" can be a factor that influences food availability and eating behaviors (Sharaievska et al., 2011). To illustrate, Sharaievska and colleagues (2011) collected qualitative data on the factors that influence food insecure individuals accessing healthy foods. The authors' findings suggest that time to obtain, learn about, and cook healthy meals is a major barrier to utilizing resources such as farmers' markets and fresh foods from pantries. Likewise, a study involving young adults attending an Appalachian University assessed their schedules' relative to food insecurity and their academics (Hagedorn & Olfert, 2018). The study found that those that were identified as food insecure had to manage schedules with a full-time job, or one or more part-time jobs, which in turn affected their on-time graduation, class attendance, and overall academic success compared to food-secure students (Hagedorn & Olfert, 2018). Many food-insecure students lack the time to obtain resources and are financially burdened. Therefore, universities should consider the times that the food pantries and other resources are open so that they become more accessible to those with conflicting schedules (El Zein et al., 2022) Furthermore, providing more resources in one location can assist with the time constraints (Ball et al., 2019).

Although food pantry nonusers cannot directly experience stigma the way food pantry users do, nonusers indicated that stigma exists for food pantry users. Food pantry nonusers reported *finance* (23.29%), *power hierarchy* (20.81%), and *embarrassment* (13.98%) being sources of stigma food pantry users could experience. Interestingly, the same keywords were also identified among food-pantry users. Both sets of participants associated these keywords with characteristics reported of being poor, weak, or embarrassed/shameful. The participants reported their reasoning was either dependent on whether they believed food pantry users should feel that way (explicit stigma) or that they would feel similar if they used food pantries (perceived stigma). These findings suggest that participants in our study are identifying areas of stigma either explicitly or based on societal perceptions that inform reported attitudes (public stigma) toward food pantry users (Latalova et al., 2014). In research conducted on public stigma on depression, authors provide a model that expresses how public stigma can contribute to the experience of self-stigma, which can influence help-seeking attitudes and willingness (Latalova et al., 2014). This model aligns with our qualitative research findings, which show food-pantry users express similar reasons for stigma as food pantry nonusers. Additionally, it also aligns with our descriptive statistics showing that 37.5% of food-insecure respondents do not seek help from food pantries and that many participants reported in our self-stigma scales and qualitative data that they do not believe they should seek help. According to Latalova and colleagues (2014), addressing feelings of self-stigma that are confounded by public stigma, can change help-seeking attitudes by addressing said attitudes directly. To address public stigma, a study conducted at a university in the southeastern U.S. suggested that public support could be shared through spreading awareness by positive marketing messages (emphasizing resourcefulness not neediness) that destigmatize food pantry use (El Zein et al., 2022). Additionally, universities must review or remove previous messaging about food pantries that describe them as places for low-income or in-need students; that has resulted in unintended consequences that influence public and self-stigma (El Zein et al., 2022; Fong et al., 2016b).

Limitations

Limitations of this study included sampling bias. Although the sampling technique aimed to include a diverse set of participants, with voluntary participation, a greater number of participants could have resulted from an area where there was better implementation. Thus, this could have skewed the statistics of this study toward a certain demographic, which suggests that the reported results may not be generalizable. Another limitation was recruitment of food-pantry users, as it was expected that there would be fewer users than nonusers who completed the survey. Furthermore, since participants

were kept anonymous, it was difficult to fully comprehend what some participants meant without asking follow-up, explanatory questions.

Conclusions

Through this research, the study of stigma surrounding the use of food pantries at Appalachian State University was investigated. Specifically for food-insecure college students, this study highlighted indicators of stigma and places an emphasis on changing current approaches in food pantry implementation and the dissemination of information about food pantries. Approaches such as education tactics and awareness toward reducing stigma are needed. For example, some food pantry awareness campaigns may need to be evaluated and de-implemented if found ineffective. Doing so can create space for more neutral and normative awareness approaches to food pantry usage. Additionally, university administrators should advocate for more funding (a continuous barrier to effective food pantry implementation) to incorporate more resources (counseling, nutrition education, longer operation hours, variety of apparent locations) into food pantries to provide more opportunities for reach and access for food-insecure students (Goldrick-Rab et al., 2018). Normalizing the messages about food pantries, providing more opportunities for using food pantries, providing locations of food pantries that are easily accessible and open, and allowing more resources to flow into food pantries could significantly help to destigmatize usage. Meetings with administrators and campus food pantry leadership would be an important next step to ensure dedication in attempting to shift stigmatizing normative beliefs around food pantry use.

Key Recommendations for Research

To build upon the current reported findings, future research should further investigate the demographic differences between food pantry users and nonusers. For example, studies could leverage data on meal plans, food pantry use, and on- and off-campus housing to understand at-risk populations. From previous research, we see a higher likelihood of individuals who experience food insecurity being associated with inadequate living spaces, limited meal plan access, and barriers to receiving federal food assistance (Hagedorn et al., 2019; Hagedorn & Olfert, 2018; Hagedorn-Hatfield, Hood, et al., 2022; Nikolaus et al., 2020; Olfert et al., 2021; Peterson & Freidus, 2020). This could illuminate more information needed for intervention design and implementation. Furthermore, other campuses might adopt the use of our survey tool to better identify how to change their food assistance programs and include interviews to parse out more detailed information about the self-stigma, public stigma, and biases that users experience and nonusers perceive. This has the potential to inform cultural shifts needed to address use of food resources. Additional research is needed to understand the barriers and solutions to current messaging about and implementation of campus food pantries. This could be done with the assistance of implementation science experts evaluating current implementation outcomes of campus food pantries to see whether current methods need to be adjusted to help with reach and effectiveness.

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