

Examining food addiction associations with socioeconomic status and prevalence among food pantry users, and lack of SNAP access in Nebraska due to prior drug convictions

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Abstract

Food security is the means to access enough food at all times for an active, healthy life. Nutrition disparities among people with lower socioeconomic status (SES) are likely exacerbated by the environments and policies that structure access to food, which may lead to food insecurity. In 2024, 13.7% of US households experienced food insecurity, while up to 90% of justice-impacted communities experience food insecurity. The Supplemental Nutrition Assistance Program (SNAP) is the largest federal food assistance program, reducing food insecurity by up to 30 percent. Twenty-one states in the US have a modified SNAP ban, barring people with certain felony drug convictions from SNAP benefits. Food insecurity is associated with obesity and other chronic diseases. One possible factor for this association is food addiction.

In Aim 1, we elucidated possible associations between SES, its proxies, and race with food addiction by completing a systematic review. Searches were completed in CINAHL, Embase, Ovid, PsycINFO, PubMed, and Web of Science and were double-screened. Included studies used any iteration of the Yale Food Addiction Scale as an outcome measure; 18 studies were included. We found there was no clear association between several SES proxies. The limited literature revealed a possible connection between food insecurity and food addiction.

In Aim 2, we determined the prevalence of food addiction among food pantry patrons and SNAP utilization at different levels of food security and pantry use frequency. Pantries were purposively sampled; surveys were administered in English and Spanish. Participants (n=145) completed the USDA Adult Food Security Survey Module and the Modified Yale Food Addiction Scale version 2.0, along with other covariate measures. The prevalence of food addiction was 9.87%. Food insecurity was significantly associated with food addiction ($p=0.039$). Of the food pantry patrons, 49.6% were currently enrolled in SNAP. The findings build on the growing body of literature demonstrating an association between food security and food addiction.

In Aim 3, we completed a policy analysis to explore the lack of policy change regarding Nebraska's partial felony drug conviction SNAP ban. We analyzed semi-structured interviews and 10 years (2016–2025) of legislative transcripts, guided by the Multiple Streams Framework. Our analysis found that, of the three streams: problem, policy, and political, the political stream hindered progress due to interpersonal issues among Nebraska state senators.

This dissertation adds to the current body of literature connecting food insecurity and food addiction and identifies barriers to reducing food insecurity by expanding SNAP access in Nebraska.

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Chapter 1: Introduction and Background

Introduction

Nutrition disparities among people with lower socioeconomic status (SES) are likely exacerbated by the environments and policies that structure access to food. These food environments and policies may lead to food insecurity and food addiction. Socioeconomic status is a way of describing people based on their education, income, and type of job of which individuals with lower SES- meaning less education, lower income, or lower paying jobs- have less access to financial, education, social and health resources than those with higher socioeconomic status.²

Food security is the means to access at all times enough food for an active healthy life, including the ready availability of nutritionally adequate and safe foods and an assured ability to acquire acceptable foods in socially acceptable ways.³ In 2024, 13.7 percent of US households were food insecure.^{4,5} Studies have shown justice impacted populations have higher rates of food insecurity ranging from 70 to 91 percent. Food insecurity is associated with poor dietary quality and an increased risk of diet-related diseases including diabetes, hypertension, cardiovascular disease and some of cancers.⁷ The US Department of Agriculture implements the Supplemental Nutrition Assistance Program (SNAP), which provides people under a certain level of income with food benefits.⁸ SNAP has demonstrated to reduce food insecurity by up to 30 percent.⁹ Food insecurity may also be amplified by government policies. Currently 21 states have a modified ban in which people with certain drug felony convictions from accessing SNAP.¹⁰ Beyond barring justice impacted people from accessing SNAP, this likely leads to worsening of health outcomes, increase of chronic disease, and recidivism.

Additionally, those of lower SES and racial and ethnic minority groups are more likely to live in under-resourced food environments,¹¹ such as food deserts or food swamps, which increases the risk of chronic diseases. Food deserts are census tracts that are low-income, meaning a poverty rate of 20 percent or greater, and have low access in which at least 500 persons and/or 33 percent of the population lives more than one mile from a supermarket or large grocery store.¹² Alternatively, “food swamps” are geographic areas in which fast food and junk food are widely available, with a lack of availability to healthy alternatives.¹³ Food deserts and food swamps can overlap, creating a food environment in which the only options are ultra processed or fast foods,¹⁰ or overcoming barriers of time, money, and distance to leave the food environment to procure food. While food deserts and food swamps do not directly cause food insecurity, the food environment can exacerbate food insecurity by limiting access to food, causing healthy foods to be inaccessible due to cost, or reducing food choices.^{14,15} Food environments, especially “food swamps” are associated

with higher obesity rates. This is likely true because these food environments often have an abundance of foods high in sodium, sugar, and saturated fat, and limited options for healthy foods. Food insecurity is associated with several major chronic diseases including hypertension, diabetes, kidney disease, and asthma, chronic bronchitis, or chronic obstructive pulmonary disease (COPD).

One possible explanation for obesity rates in these food environments is food addiction. Food addiction is a maladaptive hedonic eating behavior centering on foods high in saturated fat, sodium, and sugar. The concept of food addiction was introduced in 2009,²¹ with controversy as some investigators posited that food addiction was an addiction to food as a substance, while others argued food addiction was addiction to the actual behavior of eating.²², as well as its overlapping features with Binge-Eating Disorder (BED). While the presence of these types of food alone cannot cause food addiction, environmental factors, impulsiveness levels, lack of social support, trauma, and stress may worsen addictive tendencies.²³ People of lower SES have higher levels of stress,²⁴ higher incidences of having post-traumatic stress disorder,²⁵ and possibly, higher impulsiveness.²⁶ Additionally, a recent 2023 study demonstrated an association between food insecurity and food addiction.²⁷ Diets high in ultra processed foods (UPFs), like the diets of people experiencing food addiction, may be associated with chronic diseases such as some cancers, CVD, hypertension, and diabetes.²⁸ More specifically, diets high in saturated fats are associated with CVD,²⁹ diets high in sodium are associated with hypertension, CVD, and stroke,³⁰ while diets high in added sugars are associated with CVD, diabetes, non-alcoholic fatty liver disease and some cancers.³¹ In combination, food security and food addiction likely put people at risk for many chronic diseases beyond overweight and obesity.

There is limited literature discerning the connection between food addiction and SES. Additionally, food insecurity, often a proxy measure for SES, can be exacerbated by the food environment.

Specific Aims and Hypotheses

The overall aim of this dissertation is to lay groundwork for policy makers to better understand nutrition disparities of people at low socioeconomic status, and who are justice impacted, and thereby inform future legislation.

Specific Aim 1: Identify socioeconomic factors that are associated with food addiction by conducting a formal systematic review.

Specific Aim 2: Estimate the prevalence of food addiction among individuals using food pantries in and around Boston, MA.

Specific Aim 3: Identify barriers in the legislative processes and advocacy efforts to remove the partial SNAP ban in Nebraska, which currently permanently bans those with certain drug convictions from becoming SNAP beneficiaries.

Review of the Literature

Overview of food addiction

Food addiction is a maladaptive hedonic eating behavior centering on foods high in saturated fat, sodium, and sugar.³¹ It was conceptualized in the 19th century and has developed in tandem with our growing understanding of addiction and eating disorders.³⁰ In 1994, the 4th Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM IV) introduced a new approach to classifying substance abuse disorders and dependencies.³² Rather than creating criteria for each individual substance, they established an overarching substance abuse criterion, considering non-psychoactive substances as possible substances that could be abused.¹⁹ This led some researchers to focus on food as an addictive substance and posit food addiction as a possible contributor to the obesity epidemic.³³ Later in 2013, the 5th Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM V) updated addiction disorders to include non-substance addiction disorders.³⁴ Food addiction created controversy for two main reasons. First, the updated criteria cause controversy due to the nature of the addiction. Some investigators posited that food addiction was an addiction to food as a substance, while others argued that food addiction was addiction to the behavior of eating.^{18,33} Second, the legitimacy of food addiction as its own diagnosis arose based on its similarities with BED. These similarities include eating past the point of fullness, distress from overeating, guilt, disgust, or depression after overeating, eating when not physically hungry, eating alone out of embarrassment, and feeling a lack of control when eating. Controversy in the literature exists due to the overlapping nature of food addiction and BED. BED is considered an eating disorder, and can be diagnosed using the DSM V BED criteria,¹⁸ and can be screened by using one of several tools including the SCOFF (sick, control, one stone, fat, food), Eating Disorder Screen for Primary Care (ESP). A comparison of non-substance related disorders and binge-eating disorder can be found in [Chapter 3, Table 1](#).

Food addiction is measured by the Yale Food Addiction Scale v2.0 (YFAS v2.0). The initial iteration of the Yale Food Addiction Scale (YFAS) was based on DSM IV criteria for substance abuse.³⁵ The scale was updated upon publication of the DSM V, and updated further with non-substance related disorders criteria.³⁶ Scale validation was completed through expert and patient review of items,³⁵ which used the DSM V non-substance related disorders, such as gambling disorder, criteria to determine and addiction to food by

severity.^{37,38} Both YFAS iterations were modified and validated as shorter versions, mYFAS v2.0 based on the YFAS v2.0 and mYFAS based on the YFAS.

Food addiction, obesity, and chronic disease

Prior research has established a strong association between food addiction and obesity, often hypothesizing that increased caloric intake due to food addiction may cause or exacerbate obesity.^{34,40} Obesity is a key risk factor for chronic conditions such as hypertension, diabetes mellitus, and cardiovascular disease (CVD). Meals provided in prisons and jails are generally high in sodium, sugar, and saturated fat,⁴²⁻⁴⁵ which in combination with lack of social support, change in environment, scarcity of substances previously used and continued availability of these foods and their repeated intake, may trigger bouts of food addiction. UPFs are foods formulated with highly processed mechanisms, chemical modifications, combined with unmodified food substances.⁴⁷ UPFs, on average, contained higher amounts of sodium, added sugars, and saturated fats than less processed counterparts.²⁵ This is likely one of the factors, including palatability, that UPF consumption is associated with food addiction.²⁶ Higher UPF consumption increases risk for higher BMI and overweight/obesity.²⁷ Additionally, higher UPF consumption is associated with several chronic diseases including certain cancers, diabetes, CVD, kidney disease, non-alcoholic fatty liver disease, heart related mortality, all-cause mortality, and hypertension.⁴⁸ In addition, the individual components of these foods, saturated fats, sodium, and sugar in excess increase risk of several chronic diseases. Diets high in saturated fats are associated with CVD,²⁸ diets high in sodium are associated with hypertension, CVD, stroke, and kidney disease,^{49,50} while diets high in added sugar may lead to diabetes, CVD, non-alcoholic fatty liver disease, and some cancers.

Food addiction and socioeconomic status

Disparities in obesity based on SES and race are demonstrable, and lower SES is an established risk factor for obesity.^{24,51} Studies show a clear association between food addiction and Body Mass Index (BMI), and food addiction has been posited as one of many factors in the increase of obesity, despite the lack of literature focused on the associations between SES and food addiction. The purpose of this review is to summarize the current literature focused on the association between SES, race, and food addiction and to identify patterns in these associations. The limited literature points to SES and its proxies having a possible association with food addiction. However, these associations are not well established, given food addiction research is in its early stages.²⁴ Socioeconomic status, its proxies, and the complex relationship race has with SES will be explored further in [Chapter 3](#). A 2017 study also demonstrated significant differences in food addiction in people with lower incomes.⁵³ Initial studies suggest that low-income women who experience food insecurity have 56 percent more food addiction symptoms compared to those with food

security, after accounting for race and ethnicity, educational attainment, and income.⁵⁴ A survey of US adults with incomes less than 250 percent of the 2022 poverty line showed adults with food insecurity experienced significantly more food addiction symptoms, and food insecurity was significantly associated with higher odds of food addiction.⁵⁴ Overall, the literature exploring possible associations between food addiction and socioeconomic status is limited. Studies have not demonstrated food addiction associations with severity of food insecurity, or other SES proxies.

Food Security

One SES proxy is food security. Food insecurity is defined by the US Department of Agriculture as “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in a socially acceptable ways.⁵⁴” The severity of food security is characterized at four levels, two of which are considered food secure: high food security and marginal food security. Low food security and very low food security are typically considered food insecure.

Individuals who have low food security have a reduction in quality, variety, and desirability of their diets, whereas those with very low food security experience a change in eating patterns, such as skipping meals, or a reduction of food intake.⁵⁴ Not surprisingly, food insecurity is associated with several negative health outcomes, including hypertension, asthma, diabetes, coronary heart disease and stroke.⁵⁵ Studies also suggest that the less food secure someone is, the higher their risk of chronic diseases.⁵⁶ Nationally representative survey data collected in the National Health Interview Survey 2011-2015, estimated that individuals with low food security have a 46.9 percent probability, while those with very low food security have a 52.7 percent probability of having any chronic condition, when adjusted for several covariates including age, gender, employment, race/ethnicity, insurance, education, family size, income-to-poverty ratio.⁵⁷

Food insecurity and food pantry use

One coping mechanism to mitigate household food insecurity is the use of food pantries. Food pantries are food distribution centers where people can receive food, often supplied from food banks and other donations.⁵⁸ Food pantries provide direct food access and have less strict income cutoffs compared to government programs.⁵⁸ This makes food pantries accessible to individuals who are not eligible for SNAP, but who may become at risk of or currently experience food insecurity.⁵⁹ A study of eastern Massachusetts food pantry users demonstrated that 39 percent of people accessing food pantries had experienced hunger in the last 30 days, and 54 percent were enrolled in the Supplemental Nutrition Assistance Program.⁵⁹ Additionally, 84.5 percent of people accessing food pantries in Eastern Massachusetts were making less than \$1500 per month.⁵⁹

Food security and justice impacted populations

The United States correction system is primarily made up of two systems: the carceral system, which includes prisons and jails, and community supervision, which includes probation and parole. Probation provides for the serving of a sentence while living in the community in lieu of incarceration,⁶⁰ and parole is completion of a sentence while living in the community.⁶¹ Both probation and parole are conditional; that is, if an individual who is under community supervision fails to meet all the conditions of their community supervision, they may be incarcerated.⁶² As of 2023, one in every 70 American adults were under community supervision,⁶⁰ while about one in every 143 American adults were incarcerated.⁶³ Drug related convictions are the most common, with 40 percent of incarcerated individuals in a federal prison having a drug conviction,³ and 24 percent of people on parole and 28 percent of people on probation have drug convictions as their most serious offense.⁶⁴ In the United States about 26 percent of all arrests are related to drug offenses.^{65,66}

Justice impacted people have higher rates of food insecurity. People who have dealt with the corrections system, either through previous incarceration or community supervision are more likely experience food security with estimates between 70 percent of people on probation, to 91 percent for people released from prison. A study using the data from National Longitudinal Study of Adolescent to Adult Health, that people who had been incarcerated at any point in their life had twice the odds of experiencing food insecurity than people who have never been incarcerated (OR: 2.070 95% CI: 1.714, 2.489).⁶⁸ This association stayed significant when adjusting for race, educational attainment, depressive symptoms, substance use, sex, children at home, and use of SNAP (OR: 1.919, 95% CI: 1.547, 2.368).¹⁶ The high prevalence of food insecurity among justice impacted populations may be one driver of higher rates of chronic disease. In 2011-2012, half of state and federated incarcerated individuals reported having a chronic condition such as cancer, hypertension, stroke-related problems, diabetes, heart-related problems, and kidney-related problems.⁶⁹ People under community supervision are more likely to report fair or poor health, one or more chronic conditions than those without a history of community supervision in the last year.⁷⁰

Supplemental Nutrition Assistance Program

SNAP, the nation's largest federal nutrition assistance program, provides benefits to low-income Americans that can be used to purchase eligible food products.⁷ SNAP has been shown to decrease food insecurity by up to 30 percent.⁷¹ Eligibility for SNAP can be modified by state law, but, federally, the eligibility criteria include that the applicant a) be at or below 130 percent of the federal poverty line, b) have assets below a disability-

dependent threshold, c) that able-bodied adults (ages 16-59) must be applying for work, participating in SNAP employment training, or working 30 hours per week, and, d) have no felony drug possession or distribution convictions.⁷² States can broaden eligibility by increasing the poverty level in which people can access SNAP, or reduce the number of hours required to work, or relax the drug conviction eligibility criteria, but they cannot make the eligibility rules more narrow.

SNAP eligibility in Nebraska

As of April 2026, 1 state has a complete lifetime ban on SNAP participation for individuals with any drug felony conviction, and 20 states have a modified or partial SNAP ban due to felony drug convictions.⁷³ Currently, Nebraska imposes a lifetime ban on SNAP participation for individuals with three or more felony drug possession convictions, or a single felony distribution charge.⁷⁴ For those individuals with one or two felony drug possession or use of a controlled substance convictions, SNAP is available only upon completion of an approved treatment program.⁷⁵ Because of this partial ban, an estimated 1051 individuals have had their SNAP applications denied between 2015 and 2023, and the SNAP office is estimated to ban an additional 141 individuals per year, which does not include those who did not apply for SNAP, but would be denied due to three or more drug possession felonies or one or more drug distribution felonies.⁷⁶ Nebraska continues to see increases in incarceration for drug convictions while most states have reduced the number of these convictions. From 2009 to 2019 the average number of people in the US in prison for drug offenses declined 33 percent.⁷⁷ Notably, Nebraska was one of only 11 states that had an increase of people in prison for drug offenses, and the third highest increase at 37 percent.^{74,78} West Virginia and North Dakota, both states that had a larger increase, removed their partial SNAP bans in 2019 and 2017, respectively. Because of this, the proportion of people banned from participating in SNAP is expected to continue to increase in Nebraska in contrast with the rest of the country. Despite continued legislation ending or relaxing against this eligibility criterion in other states, Nebraska continues to bar people from accessing SNAP due to drug relation convictions. A bill to remove the partial SNAP ban in Nebraska has yet to pass. As of the time of this dissertation (April 2026), in the most recent effort, State Senator Rountree introduced a bill to remove the partial SNAP ban in 2025. State Senator Hunt has introduced a bill to remove the partial SNAP ban in Nebraska every year between 2018 to 2024, and prior to Hunt being elected, State Senator Morfeld introduced similar bills in 2016 and 2017. Nebraska is a unique legislating body in that it is a nonpartisan unicameral, not bicameral like all other states and the federal legislature. Further information about Nebraska's legislature is in [Chapter 5](#).

Party registration of the elected officials is not adequate to explain the lack of progress on the removal of the partial SNAP ban, as other largely Republican states have removed a partial SNAP ban in since 2015 including Texas, Alabama, North Dakota, West Virginia, and South Dakota. Furthermore, other legislation that expands government benefits has also passed, such as 2023 bill LB357 which doubled family support payments for people with disabilities,⁸⁶ and LB419 which expanded Medicaid coverage for post-partum women from 60 days to at least 6 months.⁸⁷ As recently as 2025, the Nebraska Legislature voted to keep the expanded SNAP eligibility income requirements from the COVID-19 pandemic indefinitely.⁸⁸ Despite this bill recurring on the legislative agenda and the documented projected reduction in state costs and recidivism in Nebraska's overcrowded prison system, a bill to remove the partial SNAP ban in Nebraska has not passed. This lack of progress persists, even amid a cascade of states removing or lessening the ban and compelling data that these changes reduce recidivism,⁸⁹ and reduce healthcare costs.¹ To date, no previous research has explored why certain conservative states are unable to remove these bans, despite the increase in evidence-based policy making, a wave of similar policies being enacted, and while other conservative states have removed drug conviction SNAP bans with few barriers.

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Chapter 2: Methods

An overview of methods for each specific aim is provided in [Chapters 3-5](#); each chapter contains a description of methods specific to that study. This methods chapter is to supplement each chapter with additional in-depth descriptions of additional methodology.

Additional Methods for Specific Aim 1

Detailed search strategy and software

A Boolean search strategy, including determining MeSH terms and Emtree terms, was developed in collaboration with a research librarian, PS of Tufts University Hirsh Health Sciences Library. See [Appendix A](#) for a full search terms for databases included in Specific Aim 1.

Upon completion of each search, we created libraries in the citation management software Endnote version 20.5² to keep track of number of citations by database. Once we combined libraries, Endnote's "Find Duplicates" was used to remove overlap within and between databases. Citations, links to papers or PDF version of the papers were then uploaded to Covidence for screening.² Covidence is a web-based collaboration software platform that streamlines the production of systematic and other literature reviews.² Screening was in two stages. First, AG and a research assistant screened titles and abstracts for relevance. Second, AG and RB conducted full text screenings to assess eligibility criteria including article language, study design, food addiction as the outcome, using an iteration of the Yale Food Addiction Scale as the outcome measure, SES measures, determines an association between a SES proxy and food addiction. Data was extracted by AG and RB, grouped by SES proxy. Prior to developing a narrative analysis, we created forest plots for each SES proxy group. Forest plots were noted to have high heterogeneity and not enough data to be useful.

Adaptation of the Newcastle-Ottawa scale

Currently (as of April 2026) there is no consensus on which risk of bias instrument for cross-sectional studies is optimal.³ The Newcastle-Ottawa scale was initially designed to assess the risk of bias for case-control and cohort studies.² The scale uses a star system to grade risk of bias in several domains including selection, comparability, and outcome/exposure, domains range an upper limit of two to four stars.⁴ However, it is often adapted for use to assess quality and risk of bias in cross-sectional studies.⁵ Authors adapt the Newcastle-Ottawa Scale by omitting certain items (e.g. those related to follow-up adequacy and length, or selection of cases and controls).⁶ We adapted the Newcastle-Ottawa Scale to represent sample and sample selection including representativeness of

the sample, sample size, and non-respondents, comparability including confounders in analysis, assessment of outcome, and statistical tests. The final adapted Newcastle-Ottawa scale included: sampling and selection domain which contained three items: representativeness of the sample, sample size and non-respondents. The comparability and confounding domain which contained one item: comparability of subjects on the basis of design or analysis including confounding factors controlled. The outcome domain contained two items: analysis described in the methods section, and appropriateness of the statistical test. Each item was worth one star, and each paper included in the systematic review was rated between zero and seven stars.

Additional Methods for Specific Aim 2

Yale Food Addiction Scale versions

Food addiction is measured by one of four iterations of the Yale Food Addiction Scale. The initial scale, the Yale Food Addiction Scale, was developed based on the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition substance dependence criteria in combination with previous scales used to assess behavioral addictions.⁷ These criteria include: a) tolerance, meaning either markedly increased amounts to achieve intoxication or markedly diminished effect with continued use. b) withdrawal, c) substance often taken in larger amounts or over a longer period than was intended, d) persistent desire or unsuccessful attempts to cut back, e) great deal of time spent on activities necessary to obtain substance, f) giving up or reducing social, occupational, or recreational activities due to substance use, and g) continued use despite knowledge of having physical or psychological problem that is likely due to or exacerbated by the substance.⁸ Each DSM-IV criterion is represented by between one and four questions on the YFAS, with two additional questions focusing on impairment and distress. The YFAS, comprises 17 multiple choice questions and 8 yes/no questions.⁸ The modified Yale Food Addiction Scale (mYFAS) is a nine-item short-form questionnaire that includes one question from each DSM-IV criterion and two questions to identify impairment and distress.⁹ The YFAS and mYFAS can be scored by symptom count, continuous, or dichotomously.

Following the publication of the DSM-V, Gearhardt, et al. developed an updated version of the YFAS, or version 2.0 (YFAS v2.0).⁸ The DSM-V made several changes to the substance-related and addictive disorders section, and the YFAS v2.0 was updated to reflect current understanding of addiction disorders.¹⁰ These updated DSM-V substance-related addictive disorder diagnostic criteria include: a) a substance or substances often taken in larger amounts or over a longer period than was intended, b) persistent desire or unsuccessful attempts to cut back, c) great deal of time spent on activities necessary to obtain substance, d) some or most daily activities revolve around the substance, e) substance

inhibits fulfillment of major role obligations at work, school, or home, f) continued substance use despite having persistent or recurrent social or interpersonal problems, g) social, occupational, or recreational activities are given up or reduced due to substance use, h) recurrent substance use in situations which it is physically hazardous, i) use is continued despite knowledge of having physical or psychological problem that is likely to have been caused or exacerbated by the substance, j) tolerance, and k) withdrawal.⁸ Due to the increased understanding of addiction diagnostics, the YFAS v2.0 is a 35-item questionnaire.¹⁰ Most recently, the modified YFAS v2.0 (mYFAS v2.0) was developed comprising one question per diagnostic criterion listed in the DSM-V and two questions to assess distress and impairment, or 13 items total.¹¹ Similar to the YFAS, the YFAS v2.0 and the mYFAS v2.0 can be scored by symptom count or continuously. In addition, a “diagnosis” scoring option was introduced in 2017 that categorized food addiction into 4 clinical groups: no food addiction, mild food addiction, moderate food addiction, or severe food addiction. For a comparison of scales including DSM editions and number of items, see **Table 8** in [Appendix G](#).

Yale Food Addiction Scale Selection

To select the ideal Yale Food Addiction Scale for Specific Aim 2, we considered several factors including current understanding of addiction, length of the survey, literacy of the population, and survey participant burden. Both YFAS v2.0 or mYFAS v2.0 align with the current understanding of addiction disorders, and both are validated in the US population. Studies show that shorter surveys have greater response and completion rates¹² and have higher test/retest reliability.¹³ Food insecurity in Massachusetts is rising, increasing from 19 percent in 2019 to 37 percent in 2024.¹⁴ Among those who are experiencing food insecurity, the proportion of people who use food pantries has increased from 27 percent in 2019 to 48 percent in 2024.^{15,16} While these increases have likely increased wait times at food pantries, during the COVID-19 pandemic, several policies were put in place to reduce wait times, including car pick-up, timed entry, or reservation systems. Because of these considerations and to reduce survey participant burden, a shorter survey was deemed necessary; we selected the mYFAS v2.0, a 13-item validated food addiction measure.

Survey development

The remaining sections of the survey, including demographics, food security, general health, chronic disease status, and mental health status used previously validated questions or instruments. Many of the demographic questions, including gender, race/ethnicity, employment, dwelling status, and health insurance status come from national surveillance surveys or guidance, including the National Health and Nutrition

Examination Survey (NHANES) or Centers for Disease Control and Prevention (CDC) guidance.

To measure food security, the validated 10-item US Household Food Security Survey Module was included.¹⁸ A subset of questions from the 36-Item Short Form Health Survey (SF-36) focused on general health perceptions were selected to ascertain perceived overall health¹⁹. To measure chronic disease status, including history of myocardial infarction, cardiovascular disease (CVD), stroke, diabetes, hypertension (HTN), we included validated questions from the CDC Behavioral Risk Factor Surveillance System.²⁰ To ascertain a brief mental health history, questions were adapted from National Health Interview Survey (NHIS).²¹

Survey piloting

We piloted the survey twice, first at a small community pantry, and then at a larger volume hospital-based pantry. Pilots at both locations reinforced the need to address language barriers. The survey instrument and informed consent form were translated into Spanish, and a Spanish-speaking research assistant was hired and trained. Both pilots also demonstrated a need for a shorter survey to lessen participant burden. In order to shorten the survey, questions focused on binge-eating disorder, history of drug use, and history of involvement of the criminal legal system were removed. Prior to the pilot, the survey had 69-items; the final survey is 54-items.

Sampling design

A list of pantries was gathered from the Greater Boston Food Bank website,²² a sampling frame of pantries in a 10-mile radius from Boston was created to include all of Boston city limits as well as outlying towns and suburbs. A stratified cluster sample was attempted but was unsuccessful. A great effort was put into contacting over 40 pantries in and around Boston, without progress in communication. Due to this barrier, an alternative sampling design was implemented. We purposively sampled large volume food pantries which are open several days a week, that serve a diverse community in and around Boston, MA. Large pantries were chosen due to time constraints as well as ease of communication due to full time staff. Pantries were also selected in different areas in and around Boston and allow for weekday and weekend data collection to improve representativeness. One or two data collection days were selecting in collaboration with the pantry staff, and during the data collection day, all households who used the pantry and read or spoke English or Spanish were recruited.

Additional Methods for Specific Aim 3

Acquisition of legislative transcripts

The Nebraska legislature session and committee hearings are live-streamed daily, and upon the end of the legislative session, videos are transcribed and categorized by day and bill number. According to the Nebraska legislature website, “records are provided for information and research purposes only,” and a certification was not required by Nebraska state law.²³ Every year between 2016 and 2025, bills to remove the drug conviction SNAP eligibility criteria were searched and located, and all transcripts from committee hearings and debate were downloaded and cropped to only the sections pertaining to the bill. Cropped transcripts were uploaded and analyzed in NVivo 14 software.^{24,25}

News search strategy

Two search strategies were utilized. First, Lexis Uni, a database from Lexis Nexis consisting of news, legal, and business content was searched. The Boolean search terms included were: “Nebraska” and (SNAP w/s eligibility OR food stamps w/s eligibility OR EBT w/s eligibility) and (drug OR felon* OR convict* OR dealer OR distribut* OR substance OR probation OR parole). The search was conducted on January 9, 2026, and resulted in 193 relevant results after Lexis Uni removed likely duplicates. Results were reviewed for relevancy, and all but seven entries in Lexis Uni were removed from analysis. Entries were excluded due to lack of connection to the topic, focus of SNAP policy at the federal level, or SNAP policy changes in a differing state.

Second, Nebraska media outlets were split into radio and television markets, and general search was completed to find talk or news radio, as well as news television programs in each market. We attempted to find a searchable website for each radio and television program identified. Due to the rudimentary search engines available on each of these sites, only the search term “SNAP” was used. Several markets were found to use identical clips on radio and television, likely due to shared ownership. Searches were completed between November 15 and December 30, 2025. After duplicate removal, 38 relevant and segments were identified and analyzed.

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Chapter 3: Associations of Socioeconomic Status, its Proxies, and Race with Food Addiction: A Systematic Review and Narrative Analysis

Running Title: Review of Food Addiction and Socioeconomic Status

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Abstract

Background and aims: Food addiction is a maladaptive hedonic eating behavior centering on foods high in saturated fat, sodium, and sugar. Food addiction may be one factor in the growing obesity rates. The Yale Food Addiction Scale, an instrument to measure food addiction was first introduced in 2009 and updated in 2016. Limited extant literature suggests a possible connection between food addiction and socioeconomic status. This systematic review examines the possible associations between socioeconomic status, its proxies, race, and food addiction, as measured by the Yale Food Addiction Scale.

Methods: Searches were conducted in databases, including CINAHL, Embase, Ovid, PsycINFO, PubMed, and Web of Science. A total of 1,593 unique articles were identified, and double-screened by title and abstract; full texts were examined for 81 studies, and after a second double-screening, 18 were included in the final review. An adapted Newcastle-Ottawa Scale was used to assess risk of bias.

Findings: All studies eligible for inclusion were cross-sectional in design. Educational attainment, income, and occupational status each showed no clear association with food addiction. However, limited literature revealed a possible connection between food insecurity and food addiction, as well as between Hispanic ethnicity and food addiction, likely due to several factors.

Conclusions: Further research is needed to ascertain associations between food addiction and socioeconomic status and its proxies, and race.

Keywords:

Food Addiction, Socioeconomic Status, Eating Behaviors, Food Security, Race

Introduction

Overview of food addiction

Food addiction is a maladaptive hedonic eating behavior centering on foods high in saturated fat, sodium, and sugar.¹ The construct was first theorized in the 19th century and has developed in tandem with our growing understanding of addiction.² In 1994, the 4th Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM IV) introduced a new approach to classifying substance abuse disorders and dependencies.³ Rather than creating criteria for each individual substance, the DSM IV established an overarching substance abuse criterion, considering non-psychoactive substances as possible substances that could be abused.⁴ This led some researchers to focus on food as an addictive substance and posit food addiction as a possible contributor to the obesity epidemic.⁵ In 2013, the 5th Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM V) updated addiction disorders to include non-substance addiction disorders.⁶ These updated criteria created controversy, as some investigators posited that food addiction was an addiction to food as a substance, while others argued that food addiction was addiction to the behavior of eating.⁷

Despite this controversy in the research literature, food addiction continues to be studied, with most studies focused on women and children. The findings from the small literature in this area estimate the prevalence of food addiction in adults to range widely, from 5.4 percent to 56.8 percent, depending on sample demographics and method of identifying food addiction, with a weighted prevalence of 19.9%.⁸ One meta-analysis estimates the prevalence of food addiction in children and adolescents to be 19.9%.⁹ In a 2020 review of 18 studies that aimed to determine prevalence of food addiction, the reviewers found that 15 of the 18 studies were completed in the US, many with samples that were overwhelmingly female.⁵ Because of this difference in research focus, some authors point to a larger prevalence of food addiction in women.³ However, in a study that was representative of the US population, no significant difference in the prevalence of food addiction in men and women was identified.¹⁰ Individuals with a body mass index (BMI) consistent with overweight/obesity status had a weighted food addiction prevalence of 24.9% in contrast to a prevalence of 11.1% in those with a normal BMI.^{3,10}

A second dispute over the legitimacy of food addiction as its own diagnosis arose based on its similarities with Binge-Eating Disorder. These similarities include eating past the point of fullness, distress from overeating, guilt, disgust, or depression after overeating, eating when not physically hungry, eating alone out of embarrassment, and feeling a lack of control when eating. Controversy in the literature exists due to the overlapping nature of food addiction and Binge-Eating Disorder (BED). BED is considered an eating disorder and

can be diagnosed using the DSM V BED criteria.¹¹ BED can be screened by using one of several tools including the SCOFF (sick, control, one stone, fat, food), or Eating Disorder Screen for Primary Care (ESP). A comparison of non-substance related disorders and binge-eating disorder can be found in **Table 3.1**. Nonetheless, due to the connection between food addiction and hyper-palatable foods, high in sodium, sugar, and saturated fat, food addiction and binge eating disorder are currently considered distinct disorders with overlapping features.¹² Ultra-processed foods (UPFs), are foods formulated with highly processed mechanisms, chemical modifications, combined with unmodified food substances.¹³ UPFs, on average, contained higher amounts of sodium, added sugars, and saturated fats than less processed counterparts.¹⁴ This is likely one of the factors, including palatability, that UPF consumption is associated with food addiction.¹³

Table 3.1: Comparison of non-substance related disorder and binge-eating disorder criteria¹

Non-substance related disorders criteria (e.g. food addiction)	Binge-Eating Disorder criteria
• Persistent and recurrent problematic [eating] behavior leading to clinically significant impairment or distress, as indicated by four or more of the following in 12 months: ○ Needs to [eat] with increasing amounts of [food] to achieve desired satisfaction ○ Is restless or irritable when attempting to cut down on [eating specific foods] ○ Has made repeated, unsuccessful efforts to control, cut back, or stop [eating certain foods] ○ Is often preoccupied with [eating] ○ Often [eats] when feeling distressed ○ After experiencing negative outcomes of [eating certain foods], uses [eating] to cope ○ Lies to conceal the extent of [eating] ○ Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of [eating]	• Recurrent episodes of binge eating • Binge-eating episodes are associated with three or more of the following: ○ Eating much more rapidly than normal ○ Eating until feeling uncomfortably full ○ Eating large amounts of food when not feeling physically hungry ○ Eating alone due to embarrassment ○ Feeling disgusted with oneself or guilty • Marked distress regarding binge eating • Occurs, on average, at least once a week for 3 months • Does not occur during the course of bulimia nervosa or anorexia nervosa

Food addiction is measured by the Yale Food Addiction Scale v2.0 (YFAS v2.0). The initial iteration of the Yale Food Addiction Scale (YFAS) was based on DSM IV criteria for

substance abuse.¹⁴ The scale was updated upon publication of the DSM V, and updated further with non-substance related disorders criteria.¹⁵ Scale validation was completed through expert and patient review of items.¹⁶ which used the DSM V non-substance related disorders, such as gambling disorder, criteria to determine and addiction to food by severity.¹⁷ Both the YFAS iterations were modified and validated as shorter versions, mYFAS v2.0 based on the YFAS v2.0 and mYFAS based on the YFAS.

Food addiction and socioeconomic status

The extant literature points to socioeconomic status (SES) and its proxies, as possibly being associated with food addiction among the general population. However, these associations are not well established or understood,¹⁸ nor is there a consensus definition of what SES measures. The American Psychological Association notes that in addition to income, the construct (SES) includes educational attainment, financial security, social status, and social class.¹⁹ Furthermore, additional SES proxy measures are commonly used: employment, food security, geographic location, and use of government assistance programs. Additionally, race has historically been used as a SES proxy, given the strong associations between race/ethnicity, SES, and health disparities.²⁰ Despite these associations, using race as a proxy for SES disregards the cause of these disparities, including adversity through the lifetime and the added burden of racism.²¹ Research demonstrates that racial health disparities persist across all levels of SES.^{9,22}

Initial studies looking at SES and its proxies demonstrate differences in food addiction prevalence. Notably, a 2022 study suggests that low-income women who experience food insecurity have 56% more food addiction symptoms compared to those with food security, after accounting for race and ethnicity, educational attainment, and income. A 2017 study also demonstrated higher levels of food addiction in those with lower incomes.⁹ Currently, the literature exploring why these risk factors increase rates of food addiction in these subpopulations is limited.

Disparities in obesity and BMI based on SES and race are demonstrable, and lower SES is an established risk factor for obesity.^{24,25} Studies are show a clear association between food addiction and BMI, and food addiction has been posited as one of many factors in the increase of obesity, despite the lack of literature focused on the associations between SES and food addiction. The purpose of this review is to summarize the current literature focused on the association between SES, race, and food addiction and to identify patterns in these associations.

Materials and methods

Data sources and searches

A search strategy was developed in collaboration with a research librarian (PS) to capture studies reporting associations between food addiction that included all iterations of the YFAS for adults with SES and SES proxies, including race. Search strategy terms included food addiction and YFAS, terms for SES and proxies (income, educational achievement, occupation status, food security, government assistance, and race). Searches were completed on CINAHL, Embase, Ovid, PsycINFO, PubMed, and Web of Science. Controlled vocabulary and standardized key words (MeSH terms in PubMed, and Emtree terms in Embase) were included when appropriate. A full search strategy for PubMed is provided in **Appendix A**.

Literature published from 1 January 2009 to 31 December 2023 was included in the search. The initial validation for the YFAS was published in 2009, which informed the search start date criterion. Search terms were developed and tested on December 5, 2023, and searches were completed March of 2024. Searches were limited to English language and human studies of adults (age 18+). Peer-reviewed cohort, cross-sectional, and case-control studies, as well as randomized control trials that provided baseline data were eligible for inclusion.

The protocol for this review was registered on The International Prospective Register of Systematic Reviews (PROSPERO registry: CRD420250478286).

Study selection

Articles were selected in two stages. Initially, AG and a research assistant independently screened the titles and abstracts of the articles. If the abstract met the inclusion criteria, the full text was reviewed by two independent screeners (AG and RB). Duplicates were removed by Endnote library and Covidence Software. Studies that did not report food addiction using a version of the YFAS were eliminated as were any that did not compare SES (or a proxy) and/or race to food addiction.

Upon inclusion, studies were grouped based on the SES measures and proxies included. Data extraction was completed within individual SES groups. Due to the number of studies included, and sparse number of studies per group of SES and SES proxy measures, a narrative approach to summarizing the findings was deemed most appropriate.

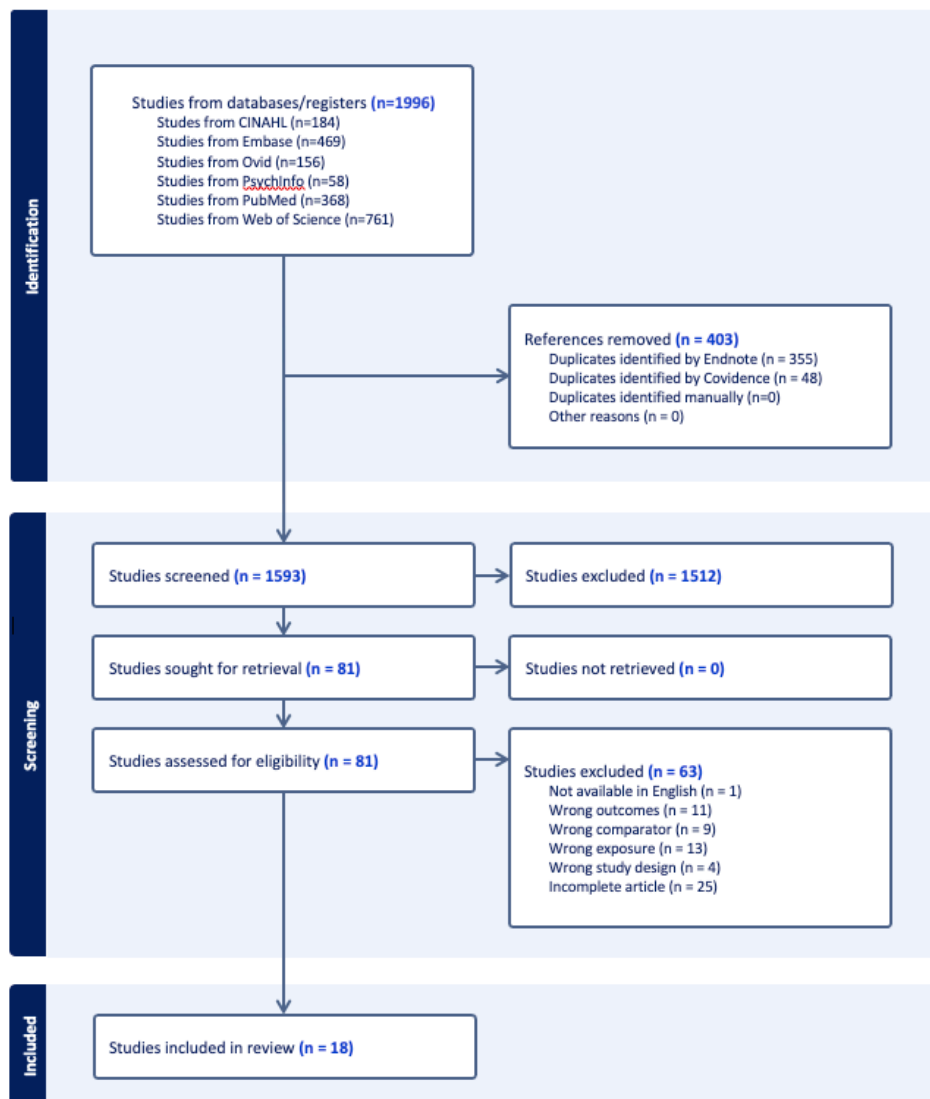
Risk of bias and data synthesis (GRADE)

Currently, no tool exists to assess the risk of bias (ROB) in cross-sectional nutrition studies. To address this deficit, we modified the Newcastle-Ottawa Scale to assess ROB. The

Newcastle-Ottawa Scale assesses the quality and bias of nonrandomized studies. The adapted version is available in **Appendix B**.

Two independent reviewers, AG and RB, assessed the ROB of each study, using ROB forms created in Excel. Disagreements were resolved by consensus. ROB was determined by the star system, as described in the Newcastle-Ottawa guidance.²⁷ The Grades of Recommendation, Assessment, Development, and Evaluation (GRADE) approach was planned to determine the strength of the included studies.²⁸

Figure 3.1: PRISMA flowchart of included studies



Results

Study characteristics

Database searches identified 1593 unique articles. Search results were uploaded to Covidence software.^{15,29,30} Initially, all studies that may be relevant to food addiction were identified. After removal of duplicates, abstracts of all publications were reviewed for relevance. Abstracts were screened by AG and a research assistant, which resulted in removal of 1512 articles due to irrelevance. Eighty-one full texts were screened by AG and RB. Any study deemed not relevant was discarded, with the reason for exclusion documented in **Figure 3.1**. All decisions were recorded in Covidence for ultimate reporting in a PRISMA flow diagram. Of the 18 included studies, all used a cross-sectional design. Fifteen of the included studies (83.3%) were conducted in the United States. One study took place in Turkey (5.6%), one in France (5.6%), and one in Italy (5.6%).

No studies were ineligible due to an alternative food addiction measure. All studies used some form of the Yale Food Addiction Scale. Eight used YFAS (44.4%), One of the eight that used YFAS was a publication that reported results based on two samples; one of which was the only that used mYFAS (5.6%), five studies used YFAS v2.0 (27.8%), and five used mYFAS v2.0 (27.8%). Five of the included studies used a validated translated version of the food addiction measure, these languages included Spanish, French, Italian, and Turkish, all validated prior to the studies. Detailed study characteristics and key results of included studies can be found in **Table 3.2** in **Appendix C**.

Food addiction and race/ethnicity

Nine of 18 studies (50%) examined associations of race and food addiction. Despite a seemingly ample number of studies in this subgroup, the researchers grouped race and ethnicity too differently to support meta-analysis. Sub-analyses were broken down by race/ethnicity, Black, White, and Hispanic groups where available.

Two studies (11.1%) reported mean symptom counts by race or ethnicity. One study demonstrated no significant difference between symptom counts in Black and White races.³² The second study noted a significant difference in mean symptom counts in Hispanics compared to their White counterparts, but no difference in symptom counts when compared to Black counterparts.⁹

Four studies (22.2%) reported race/ethnicity associations with food addiction by mean score for Black, White and other racial/ethnic groups, including Hispanic/Latino. Two of those four demonstrated no significant difference of food addiction prevalence by any race/ethnicity group. Only two studies of 18 included studies (11.1%) reported food addiction rates for race/ethnicity groups that were not Black, White, or Hispanic (i.e.,

tabulated as “other race/ethnicity”). One of these two studies reported Hispanic adults had higher symptom counts and diagnostic scores than did other race or ethnicity groups, including Black, White, Asian and other.³⁴ However, higher mYFAS v2.0 scores among Hispanics were associated with lower BMI, compared to higher BMI scores among Whites with elevated symptom scores.³⁵ Additionally, higher mean scores among Hispanics were also associated with binge-eating criteria and depression, showing possible confounding with other factors.¹⁰ The other study focused on the added stress due to the COVID-19 pandemic, and noted that during the pandemic food addiction symptoms were significantly associated with race, whereby Black and Latino people reported a higher number of food addiction symptoms compared to white counterparts under the stress of the pandemic.^{36,37} Although symptom counts among Hispanic adults were elevated consistently across the literature that examined the association, the most generalizable sample also showed an inverse association between food addiction symptom count and BMI. There were no consistent findings indicating that any other racial group demonstrated increased food addiction scores or symptoms.

Two studies (11.1%) compared only Black and White adults, both noting no significant difference in food addiction among adults with overweight/obesity by race. Additionally, one study reported there was no significant difference between impairment and distress due to food addiction by race.^{37,38}

Food addiction and educational attainment

Of the 18 included studies, five reported (27.8%) the relationship between food addiction and educational attainment. The findings were mostly non-significant, except for one instance in unadjusted models. Two reported p-values to determine statistical significance of differences in prevalence of food addiction based on education levels. One reported no significance in the relationship between years of education and food addiction ($p=0.514$, $n=1418$).³² In contrast, the other study,³¹ demonstrated significantly higher rates of food addiction in people with over 13 years of education during the stress of the COVID-19 pandemic, after adjusting for sex, gender, BMI, and marital status. No association with educational attainment was present when the model also adjusted for impulsivity and other addictive behaviors, or when adjusted for COVID-related stressors, however.³⁶

One study of adults with obesity and binge eating disorder found no significant difference in food addiction at any of four education levels.³³ Furthermore, a survey of 1067 low-income reproductive-aged women showed no significant differences in food addiction among three levels of educational attainment.³¹

One study from 2021 focused on the impairment and distress than can result from the experience of food addiction. In a sample of 1832 adults, the distress or impairment from

food addiction was significantly increased for those with some college or less compared to those with a college degree or greater($p=0.01$).⁹

In contrast, one study conducted during the COVID-19 pandemic found that those with greater educational attainment had significantly greater symptoms of food addiction than those with less education ($p<0.001$).³⁹

Food addiction and income

Of the 18 studies included in this review, two (11.1%) examined the association between income and food addiction. In a survey of low-income women, there was no significance in food addiction prevalence at or above \$15,000 annual income compared to incomes below \$15,000. However, 80% of participants in this study had an income of \$30,000 or less.³⁷ A significant interaction term was found for mYFAS v2.0 symptom score and income, with greater scores being related to increased BMI for only study participants who reported annual income below \$25,000 and \$25,000-49,999, and there was no significant difference in BMI and food addiction symptom scores at and above \$50,000.⁴⁰

Food addiction and occupational status

Two included studies (11.1%) compared employment status and food addiction. In French adults, unemployed adults (including unemployed, work-eligible, and retirees) had significantly higher rates of food addiction compared to those who were employed.²¹ A second study conducted in Finland, showed no significant difference of food addiction and employment status in 1418 university students.²¹

Food addiction and food security

Two studies (11.1%) compared food addiction and its association with food security. Both used the USDA's US Adult Food Security Module to determine food security levels.⁴¹ A 2022 study used baseline data from two quasi-experimental studies ($n=389$), both of low-income female adults with overweight and obesity.¹⁵ Both groups demonstrated significantly higher YFAS scores in those who experienced food insecurity, which retained statistical significance when adjusted for age, and with other sociodemographic covariates (rate ratios: 1.23, unadjusted; 1.22, age-adjusted; and 1.21, multi-variate adjusted).⁹

A survey of US adults with household income levels less than 250% of the 2022 poverty level demonstrated that adults with food insecurity experienced significantly more symptoms at higher frequency than those who were food secure (all symptoms $p<0.001$). In addition, in a multivariate logistic regression after adjustment for sociodemographic factors, food insecurity was associated with a 3.8 higher odds (95% CI 2.38, 6.17) of food addiction.⁹

Strength of Evidence

Study types eligible for inclusion in this review are listed in *Data Sources and Searches*. However, due to the limited literature after screening, the only studies eligible for inclusion were cross-sectional. For this reason, the evidence is deemed “very low quality” for the association of SES and its proxies (including race), and food addiction. For a complete review of ROB, see **Table 3.3** in **Appendix D**.

Discussion

This systematic review included a comprehensive search of literature from 2009 through 2023 on associations between SES, its proxies, and race with food addiction. The aim of this review was to examine the existing literature reporting associations between food addiction and SES, including race. Limited research aims to focus on the possible association between SES and food addiction. Eighteen articles met the inclusion criteria, reporting associations between socioeconomic status, its proxies, and race with food addiction. All included studies were cross-sectional, with quality ratings ranging from three to seven out of seven stars. Because all 18 studies were cross-sectional, the strength of the evidence demonstrating associations between SES, its proxies, and race with food addiction was rated as low. There was little consistency in findings among the included studies. Sub-analyses demonstrated possible associations within two groups, Hispanic adults and adults experiencing food insecurity, and food addiction.

Key findings

Overall, the limited available data suggest adults experiencing food insecurity are more likely to experience food addiction, and Hispanic/Latino adults may be more likely to experience food addiction. Due to the varied methods of measuring SES in nutrition literature, sub-analyses were conducted for associations between food addiction and race, educational attainment, food security, income, and occupational status. Half of the included studies (9) examined an association between food addiction and race. There is limited evidence of an association between Hispanic ethnicity and food addiction, given that three of the four studies including Hispanic participants reported significantly higher scores or symptom counts than those observed in White participants. Often, the significance among race were based on symptom counts, rather than severity of symptoms or overall scores, which does not include clinical significance. While this is the clearest association among race/ethnicity, the association with BMI is unclear. However, given the cross-sectional nature and limited data, more research is needed to determine the strength, if any, and reason for this association, and its possible interaction with BMI.

Two studies demonstrated an association between experiencing food insecurity and higher food addiction scores. Both studies suggest that even when groups within lower SES are

compared, people who are food insecure have higher YFAS scores than other people of low SES with food security.

Three studies found no significant differences in food addiction scores or symptoms across different education levels, including samples of university students, adults with obesity, and low-income, reproductive-aged women.

Other SES proxies, including income occupational status, did not demonstrate strong associations. Among low-income adults, there is no evidence that differing income levels are associated with food addiction. However, in a nationally representative U.S. sample, one study found a possible association between income and food addiction. Two studies examined employment status: one reported a weak association between unemployment and food addiction, while the other, conducted among students, reported no association. It is worth noting, that null finding does not rule out food addiction among those who are unemployed given students often have several responsibilities that do not provide income.

Interpretation of findings and implications

Hispanic/Latino adults may be more likely to experience food addiction. Two of the three papers demonstrating elevated rates of food addiction in Hispanic/Latino people posited possible reasons. In 2017, Schulte & Gearhardt noted an increased rate of Hispanic/Latino people having overweight/obesity as one explanation.⁴² A year later, Schulte & Gearhardt note that an elevated rate of food addiction in Hispanic/Latino individuals may be related to the prevalence of depressive symptoms and eating to cope with emotional states.⁴³ They also discuss the use of fasting-excessive dieting and use of diuretics for weight control while concurrently having high rates of binge-eating disorder in the Hispanic/Latino population, which may explain higher rates of food addiction having an association with lower BMI in this population.⁴⁴ Food addiction in Hispanic/Latino adults has been shown to also be associated with other eating-disorder psychopathology, depressive symptoms, and poorer mental health.⁴⁵ While mental health disorders are not significantly higher in the general Hispanic population than the White population, Hispanic/Latino adults are significantly less likely to receive mental health care.⁴¹ Studies demonstrate that mental health disorders such as anxiety and major depressive disorder have associations with altered eating behaviors.

The association between food insecurity and food addiction was strong across many covariates including age, gender, race, and ethnic group,^{46,47} and in both studies analyzing food insecurity and food addiction, low-income individuals with food security were less likely to experience food addiction than low-income individuals with food insecurity. Food insecurity is a stressor that has been shown to be associated with mental illness, such as depression, anxiety, and other mental health symptoms. This finding is also congruent with

dietary restraint theories, or that a restriction of food, for caloric limitation or other reasons, results in disinhibited eating, including overeating,⁵² most often connected to BED but may be a factor in food addiction.¹

The current body of evidence does not support a clear association between non-Hispanic race, educational attainment, income, or occupational status and food addiction. Given the relative novelty of the measure of food addiction published only in 2009, research is still developing, and few, if any, direct causes of food addiction have been identified.

Strengths and limitations

This systematic review with narrative analysis is limited by the validity of the SES measures used in the included studies and by the cross-sectional design of all studies. Nearly all SES data and all YFAS measures relied on self-report. While food addiction was measured consistently, greater consistency in how SES proxies and race are assessed would help researchers better examine associations between SES, its proxies, race, and food addiction. Additionally, studies using YFAS and mYFAS versus YFAS 2.0 and mYFAS 2.0 are difficult to compare. Given the limited literature and the number of sub-analyses needed to represent SES, its proxies, and race, we were unable to use meta-analytic techniques to quantitatively determine associations between food addiction and race, educational attainment, food security, income, or occupational status.

The inability to conduct a meta-analysis arises largely from the heterogeneity of the publications. Even within sub-analyses, exposures are measured too differently to directly compare food addiction scores and precludes finding clear associations between SES and food addiction.

Alternatively, a strength of this analysis lies in the homogeneity of the outcome measure. All four versions of YFAS can be used and compared with symptom counts or overall scores, which allows for direct comparisons of food addiction symptoms or severity when exposure allows. Additional strengths of this review is the inclusions of literature from the start of use of the YFAS up through and including the current iterations YFAS v2.0 and mYFAS v2.0.

Conclusion

This systematic review supports focusing future research on these two aspects of SES: race/ethnicity and food security. Overall, due to a lack of consistent findings, additional research examining socioeconomic status, race, and food addiction is needed. Given the limited evidence provided by this review, prospective studies may be necessary to establish causal relationships between SES, its proxies, race, and food addiction.

Credit author statement

Anna Grossman: Conceptualization, Writing- Original Draft, Analysis **Ric Bayly:** Analysis, **Kimberly R. Dong:** Writing- Review & Editing **Wenhui Feng:** Writing- Review & Editing **Paige Scudder:** Methodology, Validation **Aviva Must:** Writing- Review & Editing, Supervision

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Appendix A: PubMed Search Terms

1	Search: (Yale Food Addiction* or (Addict* and Food) or Addict*AND eat* or YFAS) or "Food Addiction"[Mesh]
2	Search: "Socioeconomic Factors"[MeSH Terms] OR "Racial Groups"[MeSH Terms] OR "Poverty"[MeSH Terms] OR "Income"[MeSH Terms] OR "Educational Status"[MeSH Terms] OR "Public Assistance"[MeSH Terms] OR "Food Assistance"[MeSH Terms] OR "Food Insecurity"[MeSH Terms] OR "Access to Healthy Foods"[MeSH Terms] OR "Food Security"[MeSH Terms] OR(((socioeconomic* or "SES" or poverty or wealth* or "low* income*" or ((soci* or economic* or education*) adj2 (status* or level* or factor* or environment* or class* or hierarch* or milieu* or attain*)) or Food*) adj2 (insecur* or secur* or assistan* or vulnerabl*)) or Occupation or (race or raci* or Ethnic*))
3	Search: #1 AND #2 Filters: English

Appendix B: Adapted Newcastle Ottawa Scale

Newcastle-Ottawa Quality Assessment Scale, Adapted for cross-sectional studies from Newcastle-Ottawa Quality Assessment Scale for Cohort Studies

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be given for comparability

Selection:

1. Representativeness of the sample:

- a. Truly representative of the average in the target population. (all subjects or random sampling)*
- b. Somewhat representative of the average in the target group. (non-random sampling)*
- c. Selected group of users/convenience sample.
- d. No description of the derivation of the included subjects.

2. Sample Size

- a. Justified and satisfactory (including a sample size calculation or explanation of decision making)*
- b. Not justified
- c. No information provided

3. Non-respondents

- a. Proportion of target sample recruited attains pre-specified target or basic summary of non-respondent characteristics in sampling frame recorded.*
- b. Unsatisfactory recruitment rate, no summary data on non-respondents.
- c. No information provided

Comparability:

1. Comparability of subjects in different outcome groups on the basis of design or analysis. Confounding factors controlled

- a. Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, BMI, etc. **
- b. Data/results not adjusted for all relevant confounders/risk factors/information not provided.

Outcome:

1. Assessment of outcome

- a. Results for the analysis described in methods presented.*
- b. Results for the analysis described in methods not presented.

2. Statistical test

- a. Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value). *
- b. Statistical test not appropriate, not described or in

Appendix C: Table of Included Studies

Table 3.2: Table of included studies, characteristics, and key findings

First author, date	Title	Country	Population	Sample size	Food addiction measure	SES or proxies measured	Key results
BERENSON, 2015	Prevalence of Food Addiction Among Low-Income Reproductive-Aged Women	US	Nonpregnant low-income women ages 16-40	1067	English and Spanish YFAS	Race, educational attainment, income	Prevalence of food addiction was not statistically significant based on race/ethnicity, educational attainment or income.
CARR, 2017	Measurement invariance of the Yale Food Addiction Scale 2.0 across gender and racial groups	US	College students from introductory psychology courses at a midsize Midwestern university	642	English YFAS v2.0	Race	No significant difference in prevalence of FA between White and Black participants.
CARR, 2021	Examining impairment and distress from food addiction across demographic	US	Amazon's Mechanical Turk online platform panel	1832	English mYFAS v2.0	Race, Educational attainment	No significant difference in impairment and distress between White and Black participants based on number of symptoms. Those with some college or less education had significantly more distress

	and weight groups						and impairment due to their FA symptoms compared to those with a college degree or greater.
CARR 2020	Measurement Invariance of the Modified Yale Food Addiction Scale 2.0 Across Gender and Racial Groups	US	Qualtrics qBus online panel	1050	English mYFAS v2.0	Income, race/ethnicity	Significant difference between the prevalence of FA with Hispanic participants having higher rates of FA than both Black and White participants. No associations between income and FA were reported
CLARK-SIENKIEWICZ, 2021	Racial Differences in Psychological Symptoms and Eating Behaviors Among Bariatric Surgery Candidates	US	Patients seeking bariatric surgery in a major Midwest hospital	284	English YFAS v2.0	Race	No significant difference in FA symptoms count between Black and White participants.

CUMMINGS, 2021	COVID-19 stress and eating and drinking behaviors in the United States during the early stages of the pandemic	US	Amazon's Mechanical Turk online platform panel	1038	English mYFAS v2.0	Race, educational attainment, income	During the COVID-19 pandemic, food addiction symptoms differed based on education, and were stronger among those who had greater education levels. During the COVID-19 pandemic, food addiction symptoms were significantly associated with race, where Black and Latino people had more symptoms of FA.
EICHEN, 2013	Exploration of "food addiction" in overweight and obese treatment-seeking adults	US	Adults seeking weight loss treatment	178	English YFAS	Race	Symptom count differed significantly by gender, where Black participants endorsed significantly more symptoms than any other race.
GEARHARDT, 2013	An examination of food addiction in a racially diverse sample of obese patients with binge eating disorder in primary care settings	US	Obese (BMI>30 kg/m ²)	96	English YFAS	Race, educational attainment	Race nor educational attainment had a statistically significant association with food addiction.

IVEZAJ, 2018	Food addiction among Spanish-speaking Latino/as residing in the United States	US	Spanish-speaking Latino/as on Amazon's Mechanical Turk panel	77	Spanish YFAS	Race	No association between race and food addiction symptoms or scores.
IVEZAJ, 2016	Examining binge-eating disorder and food addiction in adults with overweight and obesity	US	Adults with overweight/obesity	502	English YFAS	Race	No association between race and food addiction scores.
KICALI, 2021	Examining binge-eating disorder and food addiction in adults with overweight and obesity	Turkey	University students at Konya Selçuk University Central Campus	1418	Turkish YFAS	Years of education, occupation, income	No significant relationship between years of education, employment status, or income and FA.
LEUNG, 2023	Food Insecurity and Food Addiction in a Large, National Sample of Lower-Income Adults	US	US Adults with household income levels <250% of the 2022 Federal Poverty Guidelines using TurkPrime panel	1780	English mYFAS v2.0	Food security, race, educational attainment, income to poverty guideline	Those who were food insecure had significantly higher prevalence of FA than those who were food secure. Participants with food insecurity endorsed each symptom significantly more than those who are food secure. Associations between FA and race,

educational attainment, and income to poverty guideline were not reported.

PANNO, 2020	COVID-19 Related Distress Is Associated With Alcohol Problems, Social Media and Food Addiction Symptoms: Insights From the Italian Experience During the Lockdown	Italy	Adult residents of Italy	1519	Italian mYFAS v2.0	Educational attainment	Educational attainment was significantly associated with FA when adjusting for basic sociodemographics but was not significantly associated when adjusting for impulsiveness, smoking, drug use, and alcohol use.
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PARNAROUSKI S, 2022	Association of Food Insecurity and Food Addiction Symptoms: A Secondary Analysis of Two Samples of Low-Income Female Adults	US	low-income pregnant individuals with overweight/obesity and low-income female caregivers ages 27-57	389	English YFAS and mYFAS	Race/ethnicity , educational attainment, income, food security	Significant association between food insecurity and FA in both cohorts, MAMAS and FFS. Study did not report associations of FA and race/ethnicity, educational attainment, or income.
SCHULTE, 2017	Development of the Modified Yale Food Addiction Scale Version 2.0	US	Amazon's Mechanical Turk online platform panel	749	English YFAS v2.0	Race	Hispanic participants reported significantly greater symptoms than both Black and white participants.
SCHULTE, 2018	Associations of Food Addiction in a Sample Recruited to Be Nationally Representative of the United States	US	Qualtrics qBus online panel	986	English mYFAS v2.0	Race, Income	Both race and income were significantly associated with FA. Hispanic participants endorsed significantly more symptoms than Black, White, Asian or other races. Both race and income were significant interactions terms for FA and BMI.
SOM, 2022	Food addiction among morbidly obese patients:	France	Obese patients of patients of Rennes University Hospital	292	French YFAS v2.0	Occupational status	A statistically significantly higher proportion of unemployed patients had FA.

	prevalence and links with obesity complications						
STOJEK, 2021	Subjective Social Status Is Associated with Dysregulated Eating Behaviors and Greater Body Mass Index in an Urban Predominantly Black and Low- Income Sample	US	Adults, 18-65, seeking care in a publicly funded hospital in Atlanta, Georgia	89	English YFAS	Perceived social status, race/Ethnicity, income, educational attainment, and employment status	Lower social status scores were significantly associated with higher FA severity. Educational attainment, employment status and income were not associated with FA.

Appendix D: Risk of bias analysis

Table 3.3: Risk of bias analysis

	<i>Representativeness of the sample</i>	<i>Sample Size</i>	<i>Non- respondents</i>	<i>Comparability of subjects in different outcome groups on the basis of design or analysis. Confounding factors controlled.</i>	<i>Assessment of outcome</i>	<i>Statistical test</i>	<i>Stars out of 7</i>
Berenson, 2015	Somewhat representative of the average in the target group. * (non-random sampling)	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre- specified target or basic summary of non- respondent characteristics in sampling frame recorded.*	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value). *	7

Carr, 2017	Selected group of users/convenience sample.	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre-specified target or basic summary of non-respondent characteristics in sampling frame recorded.*	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value). *	6
Carr, 2020	Selected group of users/convenience sample.	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre-specified target or basic summary of non-respondent characteristics in sampling frame recorded.*	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and	6

						probability level (p value). *	
Carr, 2021	Selected group of users/convenience sample.	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre-specified target or basic summary of non-respondent characteristics in sampling frame recorded.*	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value). *	6
Clark-Sienkiewicz, 2021	Truly representative of the average in the target population. * (all subjects or random sampling)	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre-specified target or basic summary of non-respondent characteristics in sampling	Data/results not adjusted for all relevant confounders/risk factors/information not provided.	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including	5

			frame recorded.*			confidence intervals and probability level (p value). *	
Cummings, 2021	Somewhat representative of the average in the target group. * (non-random sampling)	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre- specified target or basic summary of non- respondent characteristics in sampling frame recorded.*	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value). *	7
Eichen, 2013	Selected group of users/convenience sample.	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre- specified target or basic summary of non-	Data/results not adjusted for all relevant confounders/risk factors/information not provided.	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of	4

			respondent characteristics in sampling frame recorded.*			association presented including confidence intervals and probability level (p value). *	
Gearhardt, 2013	Somewhat representative of the average in the target group. * (non-random sampling)	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre-specified target or basic summary of non-respondent characteristics in sampling frame recorded.*	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value). *	7

Ivezaj, 2016	Selected group of users/convenience sample.	Justified and satisfactory (including sample size calculation). *	No information provided	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value). *	5
Ivezaj, 2018	Selected group of users/convenience sample.	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre-specified target or basic summary of non-respondent characteristics in sampling frame recorded.*	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and	6

						probability level (p value). *	
Kicali, 2021	Selected group of users/convenience sample.	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre-specified target or basic summary of non-respondent characteristics in sampling frame recorded.*	Data/results not adjusted for all relevant confounders/risk factors/information not provided.	Results for the analysis described in methods presented.*	Statistical test not appropriate, not described or incomplete.	3
Leung, 2023	Selected group of users/convenience sample.	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre-specified target or basic summary of non-respondent characteristics in sampling frame recorded.*	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability	6

Panno, 2020	Selected group of users/convenience sample.	Justified and satisfactory (including sample size calculation). *	No information provided	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	level (p value). * Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value). *	5
Parnarouski s, 2022	Selected group of users/convenience sample.	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre-specified target or basic summary of non-respondent characteristics in sampling	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence	6

			frame recorded.*			intervals and probability level (p value). *	
Schulte, 2017	Selected group of users/convenience sample.	Justified and satisfactory (including sample size calculation). *	No information provided	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value). *	5
Schulte, 2018	Somewhat representative of the average in the target group. * (non-random sampling)	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre- specified target or basic summary of non- respondent	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association	7

			characteristics in sampling frame recorded.*			presented including confidence intervals and probability level (p value). *	
Som, 2022	Somewhat representative of the average in the target group. * (non-random sampling)	Justified and satisfactory (including sample size calculation). *	Proportion of target sample recruited attains pre- specified target or basic summary of non- respondent characteristics in sampling frame recorded.*	Data/results not adjusted for all relevant confounders/risk factors/information not provided.	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value). *	5

Stojek, 2021	Selected group of users/convenience sample.	Not justified.	Unsatisfactory recruitment rate, no summary data on non-respondents.	Data/ results adjusted for relevant predictors/risk factors/confounders e.g. age, sex, time since vaccination, etc. **	Results for the analysis described in methods presented.*	Statistical test used to analyze the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value). *	4
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Chapter 4: Prevalence of Food Addiction and SNAP utilization in Eastern Massachusetts Food Pantry Users

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Abstract

The current study aimed to determine the prevalence of food addiction among food pantry patrons, and to determine SNAP utilization among those with food addiction and different levels of food security. Pantries were purposively sampled for large-volume, diverse clientele, and different urban locations. Participants (n=145) self-reported food addiction by the modified Yale Food Addiction Scale version 2.0; food security by the USDA Adult Food Security Survey Module; chronic disease status, sociodemographic factors, weight, height, and frequency of pantry use. In this sample, the prevalence of food addiction was 9.0%, all participants with food addiction reported food insecurity. Of those with food addiction, six (46.2%) were currently receiving SNAP benefits. Forty-three percent of participants did not use SNAP benefits, despite 76.6% experiencing food insecurity. Building on the current food addiction literature and understanding SNAP access may inform public policy.

Introduction

Food Addiction

Food addiction is a theorized maladaptive hedonic eating behavior centering on foods high in saturated fat, sodium and sugar or refined carbohydrates.¹ Food addiction was first conceptualized in the 19th century and its understanding developed alongside the growing understanding of more universally recognized eating disorders.² The first instrument to measure food addiction, the Yale Food Addiction Scale, was introduced in 2009 based on the diagnostic criteria for addiction disorders in the Diagnostic and Statistical Manual of Mental Disorders fourth edition.³ The criteria for food addiction were updated in 2016 in response to the updated definitions of addiction disorders in the Diagnostic and Statistical Manual of Mental Disorders, Fifth edition (DSM V).⁴ Nonetheless, the concept of food addiction has been met with controversy for two key reasons. First, the updated criteria were controversial against the backdrop of the current understanding of addiction. Some investigators considered food addiction to reflect an addiction to food as a substance, while others posited that food addiction was a behavioral addiction to eating without a “substance.”⁵⁻⁷ Second, food addiction has many overlapping features with binge-eating disorder (BED). These overlapping features are not only the consumption of excess food beyond the point of fullness or eating in the absence of hunger, but also the distress of overeating, guilt, disgust, or depression, eating while not physically hungry, eating alone to avoid embarrassment in front of others, and a feeling of a lack of control.⁸ Despite these controversies, food addiction continues to be studied.⁹

Food Insecurity

Food Insecurity, a household-level economic and social condition of limited or uncertain access to adequate food,¹⁰ is a longstanding public health concern in the United States. In 2024, 13.7 percent of households experienced food insecurity, nationwide,¹¹ and is estimated to be as high as 37 percent in Massachusetts.¹² Food security is measured at four levels: food secure, marginal, low, and very low food security.¹⁰ Households with high food security report no indications of food-access problems, while households with very low food security report multiple indications of disrupted eating patterns and reduced food intake.¹⁰ Individuals with food insecurity have a reduction in the quality, variety, and desirability of their diets, and those with very low food security experience a change in eating patterns, including skipping meals or an overall reduction in food intake.¹³ Likely due to these changes in eating patterns, food insecurity is associated with several negative health outcomes, including hypertension, asthma, diabetes, coronary heart disease, stroke, and obesity.¹³⁻¹⁵

Food-at-home prices increased by only about 2.6 percent from the 1990's through 2019, but beginning in 2020 several factors put pressure to increase the price of food.¹⁶ The COVID-19 pandemic had a major influence on the increase of food prices in 2020, which rose by 3.4 percent in that single year.¹⁶ In 2022, at-home food prices increased by approximately 11.4 percent, due largely to an outbreak of avian flu and the Russia-Ukraine war.¹⁶ Food prices are expected to continue to increase at a rate larger than the historical average at least through 2026.¹⁶ In 2019, food insecurity rates were 10.5 percent nationally,¹⁷ and 19 percent in Massachusetts.¹² In 2024, food insecurity had risen to 13.7 percent nationally,¹¹ and up to 37 percent in Massachusetts.¹²

Food Pantries as a coping mechanism for food insecurity

Households use several strategies to access food while food insecure, including purchasing the cheapest food available and watering down food and drinks.¹⁸ About half of food insecure Massachusettsans experiencing food insecurity get half or more of their groceries from community food assistance programs, such as food pantries.¹⁸ Food pantries are distribution centers where food insecure households can receive food.¹⁹ Pantries provide food directly to households and often have more lenient income cutoffs compared to government programs, such as the Supplemental Nutrition Assistance Program (SNAP).²⁰ A study of food pantry users in Eastern Massachusetts reported that 39 percent of people accessing food pantries had experienced hunger in the last 30 days, and 54 percent were enrolled in the SNAP.²¹ Additionally, 84 percent of households accessing food pantries in Eastern Massachusetts were making less than \$1500 per month.²¹ Food insecurity rose drastically during the COVID-19 pandemic,^{22,23} and has remained higher

than pre-pandemic levels.²⁴ Accordingly, the utilization of food pantries increased in 2020, likely due to the COVID-19 pandemic.²⁵ Between 2020 and 2025 pantry rates varied due to economic instability, food price changes, but food pantry use has since continued to remain significantly higher than pre-pandemic utilization.²⁶ Increased frequency of pantry use has been shown to increase overall health, consumption of healthy foods, and food security.^{27,28}

Lack of SNAP use among low-income individuals

SNAP is the nation's largest federal nutrition assistance program, providing benefits to low income Americans for eligible food products.²⁹ It has been shown to decrease food insecurity by up to 30 percent.^{30,31} Eligibility for SNAP can be modified by state law, and Massachusetts requires a household to make under 200 percent of the federal poverty line.³² The One Big Beautiful Bill Act (H.R. 1), enacted in 2025 tightened the SNAP work requirements. Upon enactment, Massachusetts work requirements include the mandate that household members between the ages of 18-64 years with no dependents including children under 14 years of age or elderly or disabled people, be required to work a minimum of 80 hours per month.^{33,34} Before H.R.1 went into effect, work requirements in Massachusetts applied to people ages 18-55. H.R.1 also removed exemptions from the work requirements for people experiencing homelessness, veterans, and those 18-24 who aged out of foster care, or people with dependents 14-17.³⁴ Additionally, prior to H.R. 1, many categories of non-citizens were also eligible for SNAP, but upon the enactment of H.R.1, only lawful permanent residents (often referred to as green card holders) and Cuban and Haitian entrants are eligible for SNAP without citizenship.³⁵ Prior to these changes in June 2025, 674,362 Massachusetts residents were enrolled in SNAP by November 2025, that number had dropped to 631,699.³⁶ Immigration status and stricter work requirements are not the only reason that low income households do not enroll in SNAP. Other barriers include administrative hurdles, asset limits, lack of information, and stigma.^{37,38} An additional burden to low-income households is the "SNAP cliff" in which there is a sudden, often unexpected, decrease or termination of SNAP benefits due to a small increase in earnings.³⁹ A small earnings' increase can put households out of eligibility for SNAP.³⁹ For these reasons, some households do not receive SNAP benefits despite being food insecure, and rely on other mitigation strategies such as food pantries.

Food Insecurity and Food Addiction

Food insecurity and food addiction are separately associated with obesity.⁴⁰⁻⁴² Emerging food addiction literature also shows possible associations with chronic diseases, like diabetes, and some stroke risk factors.^{9,43} Ultra-processed foods (UPFs) are foods formulated using highly processed mechanisms or chemical modifications often

combined with unmodified food substances.⁴⁴ Their increased intake is also associated with obesity and some chronic diseases including diabetes and hypertension.^{45,46-49} Given that UPFs are often high in saturated fat, sodium, and sugar, limited studies have demonstrated that food addiction and eating binges are associated with UPF consumption.^{50,51} Food insecurity is also positively correlated with UPF consumption with a dose-response demonstrating more severe food insecurity is associated with higher UPF consumption.^{52,53} UPFs tend not only to be high in saturated fat, sodium, and sugar, but also low-cost per kcal and high overall kcals.^{54,55}

The literature estimating the prevalence of food addiction among people experiencing low socioeconomic status and food insecurity is limited. One 2023 paper estimates a 11.7 percent prevalence of food addiction in a food insecure sample, compared to a 2.5 percent prevalence of food addiction in food secure individuals.⁵⁶ An additional paper focused on two low-income samples of pregnant or caregiving females, showing in both samples that household food insecurity was associated with significantly higher symptom counts of food addiction (pregnant 21% higher symptoms, caregivers 56% higher symptoms).⁵⁷ One objective of the current study was to build on the growing body of literature focusing on the prevalence of food addiction in low-income adult populations. A secondary objective of this study is to identify the proportion using SNAP of those with food addiction, and, among pantry patrons at different levels of food security.

Methods

Study Population

This cross-sectional, one-time 54-item survey, took place initially as a successful pilot in August 2025 and between January to March 2026 at three food pantries in the Greater Boston Area. Data were not collected during the October-November 2025 government shut down which paused SNAP benefits.⁵⁸ Pantries were selected purposively based on their volume of patrons, the diversity of community served by the pantry, and its location, with the goal to ensure recruitment of a diverse sample. Surveys were available in English and Spanish, and all participants who could read and/or understand English and Spanish were recruited for the full duration that the pantry was open on the day of administration. Individuals were excluded if they did not consent or could not read and/or understand English or Spanish. The paper survey was self-administered to 145 adults living in the Greater Boston Area, which includes the city of Boston and its immediately surrounding suburbs. Upon request, participants with lower literacy were orally given the survey ($n < 5$). Participants were compensated for their time with physical gift cards to a local grocery store chain. Completed paper surveys were entered electronically by trained research assistants; 25 percent were double-entered to ensure data quality. The study was

considered exempt by the Tufts University Social, Behavioral, and Educational Research Institutional Review Board (IRB ID: STUDY00006137).

Food Security

Food security was measured using the U.S. Adult Food Security Survey Module, a tool to assess food security for all adults in a household, validated in English and Spanish.^{59,60} The 10 items relate to worrying about food due to lack of money, skipping meals or reducing food intake, and the inability to access food and balanced meals due to funds over the previous 12 months.⁵⁹ Food security can be categorized either into four severity levels (food secure, marginal food security, low food security, very low food security), or a binary variable that groups food secure and marginal food security as “food secure” and low food security and very low food security as “food insecure.”⁵⁹

Food Addiction

Food addiction was measured using the modified Yale Food Addiction Scale version 2.0 (mYFAS v2.0),⁶¹ which has been validated in both English and Spanish.⁶¹⁻⁶³ The mYFASv2.0 is a shortened version of the Yale Food Addiction Scale version 2.0,⁶¹ and assesses the addiction criteria defined in the DSM V.⁶¹ It contains 13 questions, one for each of the 11 addiction criterion, and two designed to determine clinical significance.^{61,64} The questions ask about eating behaviors, physical and emotional outcomes of overeating, and distress surrounding eating habits of foods such as sweets (ice cream, chocolate, cookies, cakes), salty snacks (chips, crackers, pretzels), starches (white bread, pasta), fatty foods (bacon, hamburgers, pizza, French fries), and sugary drinks (soda, lemonade)⁶¹ Each question asks for a frequency of occurrence ranging from never to everyday.⁶¹ The mYFAS v2.0 can be calculated with symptom counts, categorized by severity of food addiction, or by positive or negative “diagnosis” of food addiction.⁶¹

Additional Measures

Study covariates were included based on previously established relationships with food security and food addiction. Covariates include age, race (White, Black or African American, Asian, mixed race, or other), ethnicity (Hispanic or Latino), household income, housing type, insurance (private, Medicare, Medicaid, Military or veteran’s health coverage, other, none), educational attainment (no formal education, less than high school, high school diploma or equivalent, some college, Associate’s or vocational degree, Bachelor’s degree, graduate degree, professional degree), experience of homelessness in the last 12 months, self-reported chronic disease (myocardial infarction, cardiovascular disease, stroke, hypertension, diabetes), mental illness status, and self-reported height and weight to calculate BMI. Pantry use frequency was measured with a single multiple-choice item

(more than monthly, about once a month, about every other month or 5-7 times per year, a few times or 2-4 times, one time).

Statistical Analysis

Sample characteristics were summarized by proportions. Data was analyzed using R Studio Software.⁶⁵ Descriptive statistics were calculated for sociodemographic and chronic disease variables. Symptom counts were determined and examined rates of individual symptoms and clinical significance by food security status. To determine significance, Fisher Exact tests were used to identify differences in food addiction status among those with and without food security. Differences in food addiction symptoms by food security status categories were examined using Fisher Exact tests. We then explored frequency of pantry use and number of SNAP beneficiaries in each level of food security.

Results

Demographics

A total of 145 food pantry patrons were surveyed from three pantries in the Greater Boston Area. Otherwise eligible possible participants refused due to their requiring a different language (n=17), survey being perceived as taking too long (n=11), the gift card was to an inconvenient store (n=2), or the incentive of \$20 in the form of a gift card being too small (n=1). The majority of the sample was female (67.1%), and 41.6 percent of the sample was Black or African American, 27.7 percent were White, and 10.9 percent sampled were Asian. 34.8 percent of the sample is Hispanic or Latino. The average age of pantry patrons was 53.5 years (SD: 14.7). Self-reported height and weight were used to calculate BMI, which resulted in an average BMI of 29.1 (SD 5.9).

Socioeconomic factors were also measured. Food insecurity levels of the sample are shown in **Table 4.1**, 76.6% of the sample was food insecure, while 49.6 percent were currently enrolled in SNAP. About a quarter (23.7%) of participants had less than a high school diploma, while 18.3 percent had at least a bachelor's degree. Over half (55.3%) had an annual income of less than \$20,000, and 11.9% of participants had experienced homelessness in the last 12 months.

Chronic Disease and Mental Illness

Overall, 69 participants (47.7) reported having at least one chronic disease, including hypertension, diabetes, CVD, myocardial infarction, or stroke. Of those, 39 reported having more than one chronic disease. The most commonly reported chronic diseases were hypertension and diabetes. Fifty-two (44.1%) of participants reported being told by their healthcare provider they had hypertension while 26 (21.1%) reported having diabetes. In addition, 31.8 percent of participants reported having some mental health diagnosis,

25.6% of them having a depressive disorder. For full demographics, socioeconomic factors, and chronic disease levels stratified by food addiction status, see **Table 4.1**.

Table 4.1: Demographic characteristics of participants stratified by food addiction status

	Full Sample (n=145^a)	Food Addiction (n=13^a)	No Food addiction (n=132^a)
Age	53.5 (14.7)	53.1 (13.7)	53.6 (14.8)
Gender	44 (30.8%) Male 96 (67.1%) Female 3 (2.1%) Transgender or Nonbinary	5 (38.5%) Male 6 (46.2%) Female 2 (15.4%) Transgender or Nonbinary	39 (30.0%) Male 90 (69.2%) Female 1 (0.8%) Transgender or Nonbinary
Race	38 (27.7%) White 57 (41.6%) Black/AA 15 (10.9%) Asian 3 (2.2%) Mixed or more than one of these 16 (11.7%) Other ^b 8 (5.8%) Unsure	6 (54.5%) White 4 (36.4%) Black/AA 0 (0%) Asian 0 (0%) Mixed or more than one of these 1 (9.1%) Other ^b 0 (0%) Unsure	32 (25.4%) White 53 (42.1%) Black/AA 15 (11.9%) Asian 3 (2.4%) Mixed or more than one of these 15 (11.9%) Other ^b 8 (6.3%) Unsure
Ethnicity	46 (34.8%) Hispanic or Latino	1 (8.3%) Hispanic or Latino	45 (37.5%) Hispanic or Latino
BMI	29.1 (5.9)	30.5 (6.5)	28.9 (5.8)
FOOD security	68 (46.9%) VLFS ^c 43 (29.7%) LFS ^c 28 (19.3%) MFS ^c 6 (4.1%) HFS ^c	8 (61.5%) VLFS 5 (38.5%) LFS 0 (0%) MFS 0 (0%) HFS	60 (45.5%) VLFS 38 (28.8%) LFS 28 (21.2%) MFS 6 (4.5%) HFS
Educational level	16 (12.2%) No formal education 15 (11.5%) Less than HS 44 (33.6%) HS or GED ^e 22 (16.8%) Some college 10 (7.6%) Associates or Vocational 16 (12.2%) Bachelor's 6 (4.6%) Grad 2 (1.5%) Professional	2 (15.4%) No formal education 1 (7.7%) Less than HS 4 (30.8%) HS or GED 1 (7.7%) Some college 1 (7.7%) Associates or Vocational 1 (7.7%) Bachelor's 3 (23.1%) Grad 0 (0%) Professional	14 (11.9%) No formal education 14 (11.9%) Less than HS 40 (33.9%) HS or GED 21 (17.8%) Some college 9 (7.6%) Associates or Vocational 15 (12.7%) Bachelor's 3 (2.5%) Grad 2 (1.7%) Professional
Housing	34 (24.6%) House 93 (67.4%) Apartment 5 (3.6%) Shelter or on the street 3 (2.2%) Hotel/Motel 1 (0.7%) Group living home, institution 2 (1.4%) Other	1 (7.7%) House 11 (84.6%) Apartment 0 (0%) Shelter or on the street 0 (0%) Hotel/Motel 0 (0%) Group living home, institution 1 (7.7%) Other	33 (26.4%) House 82 (65.6%) Apartment 5 (4.0%) Shelter or on the street 3 (2.4%) Hotel/Motel 1 (0.8%) Group living home, institution 1 (0.8%) Other
Homeless in the last 12 months	15 (11.9%)	2 (15.4%)	13 (11.3%)

Income	28 (21.2%) no income 45 (34.1%) Under \$20,000 21 (15.9%) \$20,000-\$29,999 8 (6.1%) \$30,000-349,999 7 (5.3%) \$40,000-\$49,999 8 (6.1%) \$50,000-\$59,999 3 (2.3%) \$60,000-\$69,999	2 (18.2%) no income 4 (36.4%) Under \$20,000 1 (9.0%) \$20,000-\$29,999 0 (0%) \$30,000-349,999 1 (9.0%) \$40,000-\$49,999 2 (18.2%) \$50,000-\$59,999 1 (2.3%) \$60,000-\$69,999	26 (23.9%) no income 41 (37.6%) Under \$20,000 20 (18.3%) \$20,000-\$29,999 8 (7.3%) \$30,000-349,999 6 (5.5%) \$40,000-\$49,999 6 (5.5%) \$50,000-\$59,999 2 (1.8%) \$60,000-\$69,999
Insurance	22 (17.2%) Private 51 (39.8%) Medicaid 29 (22.7%) Medicare 5 (3.9%) Other ^f 14 (10.9%) None	2 (16.7%) Private 7 (58.3%) Medicaid 1 (8.3%) Medicare 1 (8.3%) Other ^f 1 (8.3%) None	20 (17.2%) Private 44 (37.9%) Medicaid 28 (24.1%) Medicare 4 (3.4%) Other ^f 13 (11.2%) None
SNAP currently	69 (49.6%) SNAP	6 (46.2%) SNAP	63 (49.6%) SNAP
Chronic disease (self report)	52 (44.1%) Hypertension 26 (21.1%) Diabetes 14 (10.4%) Cardiovascular disease 8 (5.9%) Myocardial Infarction 7 (5.4%) Stroke	8 (66.7%) Hypertension 3 (27.3%) Diabetes 3 (23.1%) Cardiovascular disease 1 (7.7%) Myocardial Infarction 1 (8.3%) Stroke	44 (41.5%) Hypertension 23 (19.2%) Diabetes 11 (9.0%) Cardiovascular disease 7 (5.7%) Myocardial Infarction 6 (5.1%) Stroke
Mental illness (self report)^g	42 (31.8%) had some mental illness 23 (17.4%) Depression 14 (10.6%) Post traumatic stress disorder 14 (10.6%) Another anxiety disorder 2 (1.5%) Schizophrenia or psychotic disorder 10 (7.6%) Other mental or emotional condition	7 (53.8%) had some mental illness 3 (23.1%) Depression 3 (23.1%) Post traumatic stress disorder 3 (23.1%) Another anxiety disorder 0 (0%) Schizophrenia or psychotic disorder 1 (7.7%) Other mental or emotional condition	35 (29.4%) had some mental illness 20 (16.8%) Depression 11 (9.2%) Post traumatic stress disorder 11 (9.2%) Another anxiety disorder 2 (1.7%) Schizophrenia or psychotic disorder 9 (7.6%) Other mental or emotional condition

Table 4.1: a: percentages are representative of variable after removing missing data from variable. b: Includes participants who identified as American Indian/Alaska Native, Native Hawaiian or Pacific Islander, or “other” group not listed. c: VLFS = very low food security, LFS = low food security, MFS = marginal food security, and HFS = high food security d: Low and very low food security are considered as food insecure by the USDA ⁵⁹ e: GED = General Education Development Test, or a test given as a high school diploma equivalent f: other insurance includes military or veterans coverage as well as self-selected “other” insurance coverage. g: this question was select all that apply, and several diagnoses may have been selected, percents given for individual mental health illnesses are based on the number of people who provided an answer to the previous question “Have you ever been told by a mental health professional, such as a psychiatrist or psychologist, that you had a mental health condition?”

Prevalence of food addiction

For this sample, the food addiction prevalence was 9.0 percent. All respondents with food addiction were currently experiencing low food security (n=5, 38.5%) or very low food security (n=8, 61.5%). Food addiction was significantly more prevalent among adults with food insecurity (11.7%) than those with food security (0%) ($P=0.039$). Food addiction prevalence was not significant for any other sociodemographic factor.

Table 4.2 shows the amount and percentage of survey participants that endorsed each of the eleven symptoms and distress or impairment of food addiction. Distress or impairment is considered to indicate clinical significance in the mYFAS v2.0.⁶¹ The most commonly endorsed symptoms of food addiction for the full sample were continued use, despite interpersonal problems (13.8%), continued use despite consequences (13.1%) and experiencing cravings (13.1%). Six symptoms appeared only in the food insecure group; these included substance taken in larger amount for longer period than intended, spending time to obtain and use substance, socialization and responsibility reduction, continued use despite emotional consequences, tolerance, and impairment or distress (clinical significance). Two symptom groups were present as a significantly larger proportion in the food insecure group compared to the food secure group: continued use despite consequences ($P>0.01$) and clinically significant impairment or distress ($P=0.024$).

Table 4.2: Endorsement of food addiction symptoms by food security status

Symptom	Overall Sample (n=145)	Food secure (n=34)	Food insecure (n=111)
Substance taken in larger amount for longer period than intended	8 (5.5%)	0 (0%)	8 (6.5%)
Persistent desire or repeated attempts to quit	12 (8.3%)	2 (9.5%)	10 (8.1%)
Much time/activity to obtain, use, recover	4 (2.8%)	0 (0%)	4 (3.2%)
Important social, occupational, or recreational responsibilities given up or reduced	12 (8.3%)	0 (0%)	12 (9.7%)
Use continues despite knowledge of adverse consequences	19 (13.1%)	0 (0%)	19 (15.3%)
Tolerance (increase in amount with a decrease in effect)	7 (4.8%)	0 (0%)	7 (5.6%)
Characteristic withdrawal symptoms; substance taken to relieve withdrawal	18 (12.4%)	1 (4.8%)	17 (13.7%)

Continued use despite interpersonal problems	20 (13.8%)	3 (14.3%)	17 (13.7%)
Failure to fulfill major role obligations	18 (12.4%)	1 (4.8%)	17 (13.7%)
Use in physically hazardous situations	10 (6.9%)	1 (4.8%)	9 (7.3%)
Cravings	19 (13.1%)	1 (4.8%)	18 (14.5%)
Clinically significant impairment or distress	16 11.0%	0 (0%)	16 (12.9%)

Table 4.2: bolded rows have shown significance of proportion of individuals with that symptom in the food insecure compared to the food secure group at a 95% confidence interval

SNAP Utilization

Sixty-nine participants reported current access to SNAP (49.6%), and an additional 28 participants (36.8%) without current SNAP benefits report being previous SNAP beneficiaries. Six (46.2%) participants with food addiction were currently participating in SNAP, and an additional 4 (30.8%) had previously been on SNAP but did not currently have benefits. Of the 13 participants with food addiction, three (23.1%) had never participated in SNAP. Of the 132 participants without food addiction, 63 (49.6%) currently had access to SNAP benefits, and an additional 24 (18.9%) had previously been on SNAP but did not currently have benefits. Forty-five (34.1%) participants without food addiction had never participated in SNAP.

Six participants reported high food security, and one of them (16.7%) currently has access to SNAP benefits, and an additional participant (16.7%) reported previous SNAP benefits. Twenty-eight participants reported marginal food security, and of those participants, 8 (28.6%) currently have access to SNAP benefits, while an additional 5 (17.9%) have had access to SNAP benefits previously. Forty-three participants reported low food security; 20 (46.5%) of them currently receive SNAP benefits, while an additional 7 (16.3%) previously have had access to SNAP benefits. Sixty-eight participants reported experiencing very low food security, and of these, 40 (58.8%) currently have SNAP benefits, while an additional 15 participants (22.1%) had SNAP benefits previously. Overall, 43.2% of participants experiencing food insecurity do not currently benefit from SNAP, and of them, 47.9% have never accessed SNAP benefits.

Discussion

Prevalence of food addiction

The aim of this study was to determine the prevalence of food addiction among food pantry users in the Greater Boston Area. In this sample, the prevalence of food addiction was 9.0 percent, and of participants that reported food insecurity, the prevalence of food addiction was 11.7 percent. This study of food pantry patrons adds to the growing body of literature demonstrating the estimated prevalence of food addiction among adults using food

pantries who are largely food insecure. Studies previously examining food addiction among low-income populations sampled based on income cutoffs rather than food access, such as pantries. Leung (2023) sampled U.S. adults with household incomes less than 250 percent of the poverty line, and found 52.1 percent were food insecure.⁵⁶ Parnarouskis (2022) conducted a secondary data analysis of two groups of low-income women.⁵⁷ One sample was eligible if they were pregnant, 18 through 45 years, and with a household income less than 500 percent of the federal poverty line. The other sample was eligible if they were caregivers, aged 27-57 years, and with a household income less than or equal to 200 percent of the federal poverty line.⁵⁷ Food insecurity was estimated at 41.8 percent and 60.1 percent, respectively.⁵⁷ In the current study, participants were accessing food through pantries, and 76.6 percent reported being food insecure. This level of food addiction aligns with other studies estimating the prevalence of food addiction among food insecure, low-income adults.^{56,57} Our findings also suggest a positive association between experiencing food insecurity and food addiction. Extant literature suggests that this level is lower than the national prevalence of 15 percent,^{57,66} but higher than low-income adults without noted food insecurity.^{56,67} Given that low-income food insecure adults have higher rates of obesity and chronic conditions than low-income food secure adults,^{41,42} this discrepancy of higher food addiction rates among food insecure low-income adults may be one of the contributing factors in higher obesity rates among food insecure adults^{14,68} or UPF consumption due to its low cost per kcal.^{53,55} We also found, in bivariate analysis that food insecurity was associated with food addiction. Future research should evaluate what aspects of food insecurity affect overeating and explore chronic disease risk among individuals with food addiction. Despite the association between food addiction and obesity, and other chronic disease risk factors shown previously,⁶⁹ our study did not identify a significant difference in chronic disease status between those with and without food addiction, but given findings from other studies future research should aim to elucidate these possible associations.^{9,43}

SNAP utilization

A very large proportion of the participants sampled were experiencing food insecurity, while half did not currently use SNAP benefits. Low-income households may not access SNAP for one or more reasons. These include immigration status,³⁵ stricter work requirements, stigma, administrative burdens, asset limits,^{37,38} or the “SNAP cliff.”³⁹ SNAP and the increased frequency of pantry use both decrease food insecurity,^{27,31} and frequent pantry utilization can increase consumption of healthy food.²⁸ Future research should continue to explore strategies to mitigate food insecurity, particularly pantry utilization and SNAP access and their impact on food security and healthy diets.

Limitations

Several limitations should be noted. This study is cross-sectional which precludes the ability to make causal inference. Nonetheless, our findings add to the growing literature indicating the positive association between food insecurity and food addiction, given our focus on those accessing food using food pantries and the rate of food insecurity among this sample. No scales exist at present to measure food addiction or other maladaptive eating behaviors among food insecure adults. This may be key to understanding the nature of the association between food addiction and food insecurity given that the types of foods of focus in the mYFASv2.0 are often considered UPFs which are low cost per kcal and may be consumed out of hunger and necessity, rather in response to cravings and/or enjoyment. While the iterations of the YFAS focus on several foods, many are considered UPFs (including store bought ice cream, doughnuts, cookies, cakes, candies, salty snacks, pizza, and sugary drinks). UPFs may be consumed by food insecure households at a higher rate due to their low cost or by necessity due to geographic access, rather than by addiction or choice. One qualitative study notes that those with food addiction and food insecurity described food addiction as both a response to previous economic instability and the availability of food as a cause for their overeating, in combination with descriptions of food addiction more in line with food secure populations.⁷⁰ Lack of access was also attributed to withdrawal symptoms and experiences of deprivation.⁷⁰ While initial evidence links food addiction to food insecurity, more research is needed to determine if the YFAS accurately represents food addiction in the food insecure population, given the possible impact food insecurity has on eating behaviors. Additionally, our sample size is powered to determine prevalence in one population, so was limited in its ability to explore other important associations. This recruited sample was not a probability sample; effort was made to recruit a diverse sample. Because of these limitations, our results may not be generalizable beyond the Greater Boston Area. Food addiction was treated as a binary variable rather than four levels of food addiction (none, mild, moderate, severe) due to our small sample size, a greater sample may have provided more granular food addiction information per level of food security. Given that the prevalence of food addiction in our low-income sample is less than 10 percent, the number of individuals with food addition was relatively small. Thus, we were unable to complete a multivariate regression, as the models would likely be unstable and/or unreliable.⁷¹ Because of this, our findings may be confounded. Future studies with larger sample sizes are needed to determine if there is an association between severity of food security and severity of food addiction.

Conclusion

This study aligns with the early but growing literature focused on the prevalence of food addiction within food insecure populations, specifically food insecure food pantry patrons.

Food insecurity and hunger often alter eating behaviors, future research should focus on food addiction as one possible behavioral maladaptation to experiencing food insecurity. These results also expand on the likely association between food insecurity and food addiction, while noting possible heightened UPF consumption of food insecure households, due to necessity – a rational response to a challenging environment. While there is established literature demonstrating a connection between food security and eating disorders, such as binge-eating disorder, food addiction is a separate pathology with a limited body of literature. Given the chronic disease burden of food insecurity and connection between food insecurity and altered eating behaviors, public policies should work to increase food security through increasing SNAP eligibility and outreach, minimizing administrative burdens to access SNAP, and increasing access to other food insecurity mitigation strategies, such as pantry access.

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Appendix E: Description of surveyed pantries

For survey administration, we purposively sampled three large volume pantries, each in a different area of the Greater Boston Area to reduce possible overlap of patrons and to ensure a diverse sample.

Pantry 1:

Located in the South End neighborhood, pantry 1 was the only pantry located in Boston proper. It serves a large community of Boston residents who have been referred by their primary care physicians to receive food from this pantry. Options of food for pantry patrons preselected for pantry patrons based on their dietary restrictions and health conditions. Pantry patrons can receive food twice a month from pantry 1. Pantry 1 distributes over 1 million pounds of food annually to over 6,000 households a month.

Pantry 2:

Pantry 2 is located in Quincy, MA, a southern suburb of Boston, and welcomes residents from several other towns and suburbs south of Boston. Since the COVID-19 pandemic, pantry 2 is primarily a drive through style pantry, though patrons are welcome to walk in as well. Pantry patrons can receive food from pantry 2 once per month. Pantry 2 distributed over 1 million pounds of food annually. Pantry 2 serves a diverse population, but given the location, has primarily Asian, White, Black, and Hispanic/Latino patrons. Patrons can receive meat, eggs, dairy products, frozen foods, and fresh fruit as well as nonperishable foods.

Pantry 3:

Located in East Somerville, pantry 3 serves towns and suburbs north of Boston. Pantry 3 is a walk-up pantry, in which patrons wait in line to receive food. Additionally, pantry 3 has a community cupboard and fridge, in which food not desired by patrons, or food from other community members, can be left for food insecure individuals that can be accessed at any time. Pantry 3 distributes between 400,000-500,000 pounds of food annually to up to 450 families a week. Patrons receive dried grains and legumes, fresh proteins, produce, and eggs, as well as non-perishable goods.

Chapter 5: Policy Analysis of Nebraska's Persistence in Maintaining a Modified SNAP Ban for Drug Felony Convictions

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Abstract

When the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) was signed in 1996, SNAP benefits were banned for individuals with felony drug convictions. States can opt out of the felony drug conviction SNAP ban. Twenty-one states, including Nebraska, currently have a modified felony drug conviction SNAP ban. Throughout 2016-2025, legislation has been introduced in the Nebraska legislature every session to remove this modified ban with no success, despite other conservative states removing similar felony drug SNAP bans. We aim to explore this lack of policy change in Nebraska over the last decade. We use the Multiple Streams Approach to guide analysis of semi-structured interviews of current and former state senators and advocates, as well as a content analysis of legislative transcripts and news articles and segments. According to this approach, when the problem, policy, and political streams combine, a policy window opens and legislation can be enacted. Our analysis finds that the most recent policy window was not able to overcome a gubernatorial veto. The multiple Streams Framework is represented in this lack of policy change due to lack of incremental change, a clear policy entrepreneur, and the brevity of the policy window. The future of this bill remains uncertain due to the makeup of the legislature and the passing of the One Big Beautiful Bill Act, which increases SNAP state SNAP administrative burden.

Keywords: SNAP, criminal justice, food insecurity, social welfare

Highlights

- Nebraska is one of 21 states with a modified felony drug conviction SNAP ban.
- Over the last ten years, a bill has been introduced to remove this SNAP ban with no success.
- Qualitative and content analyses show several factors as barriers to passing this bill.
- Barriers to passing the removal of Nebraska's SNAP ban includes: interpersonal issues among state senators and pressures from the governor.

Introduction

Since the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) was signed in 1996, United States state legislatures have been considering whether or not people with drug related convictions should be eligible to receive Supplemental Nutrition Assistance Program (SNAP) benefits.¹ PRWORA was the culmination of several years of debate focused on welfare reform, and drastically changed several government benefits systems, including welfare programs such as Temporary Assistance for Needy Families (TANF), and altered SNAP to allow for more state control over eligibility.² Studies have demonstrated that those with a history of felony convictions require support, such as government benefits,³⁻⁵ in order to reenter the community and to reduce recidivism. People with drug distribution felonies without access to SNAP are about 9 percent more likely to return to prison in comparison to those with former convictions and access to SNAP,³ and recidivism is likely due to financial hardship. Furthermore, up to 91 percent of formerly incarcerated individuals are food insecure.⁶ As defined by the US Department of Agriculture, food insecurity is the “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.”⁷ Food insecurity is associated with several major chronic diseases including hypertension, diabetes, arthritis, asthma, and chronic obstructive pulmonary disease (COPD).⁸ SNAP has been shown to reduce food insecurity up to 30 percent, and can aid in reducing poverty overall by allowing households to spend more of their money on non-food basic needs.⁹

As of mid-2025, 28 states and Washington D.C. have fully opted out of this SNAP eligibility criterion.¹⁰ Currently, 21 states have modified versions of the PRWORA guidance, and one state maintains the full ban.¹⁰ Nebraska is one of the states with a modified version of the PRWORA guidance, the law described in **Figure 5.1**. Studies have shown that these PRWORA drug conviction SNAP bans increase recidivism. One example, upon implementing the drug conviction SNAP eligibility criteria in Florida, recidivism in a sample of 1000 drug traffickers increased 60 percent.³

Figure 5.1: Sections 4a and b of the Nebraska Revised Statute Chapter 68 -1017.02

(4)(a) Within the limits specified in this subsection, the State of Nebraska opts out of the provision of the federal Personal Responsibility and Work Opportunity Reconciliation Act of 1996, as such act existed on January 1, 2009, that eliminates eligibility for the Supplemental Nutrition Assistance Program for any person convicted of a felony involving the possession, use, or distribution of a controlled substance.

(b) A person shall be ineligible for Supplemental Nutrition Assistance Program benefits under this subsection if he or she (i) has had three or more felony convictions for the possession or use of a controlled substance or (ii) has been convicted of a felony involving the sale or distribution of a

controlled substance or the intent to sell or distribute a controlled substance. A person with one or two felony convictions for the possession or use of a controlled substance shall only be eligible to receive Supplemental Nutrition Assistance Program benefits under this subsection if he or she is participating in or has completed a state-licensed or nationally accredited substance abuse treatment program since the date of conviction. The determination of such participation or completion shall be made by the treatment provider administering the program.

Figure 5.1: Sections 4a and 4b of the revised Nebraska statute describing the modified drug conviction SNAP eligibility criteria. 4a states that as written PRWORA will not be applied to the state law. 4b describes a modified version of the PRWORA SNAP eligibility criteria including that individuals with three or more drug possession or use or one or more sale or distribution of illegal drug convictions will be banned from SNAP. Those with one or two drug possession or use convictions must complete a state-licensed or accredited substance use disorder treatment program in order to have access to SNAP benefits.

The Nebraska legislature is a unique legislating body. Nebraska is the only state-level nonpartisan unicameral body in the United States, meaning that rather than having a bicameral with two legislative bodies (for example, a house of representatives and a senate), one legislating body made up of 49 senators elected as nonpartisan serve.¹¹ The Nebraska legislature works on a biennial calendar, with one session that lasts two years; one “long session” (90 working days) and one “short session” (60 working days), in which the budget of the next biennial must be completed by the close of the “long” session.¹² This schedule provides for two opportunities for bill introduction per biennial; these occur during the first ten days of each 60- or 90-day-long session. This process allows for bills to be carried over from one year to the next.

While the senators are elected as nonpartisan officials, candidates often still have the support of the Democrat or Republican parties, and most candidates are registered to vote under a specific party. For example, a registered republican has served as Speaker of the Nebraska Legislature since 1997.^{13,14} The Speaker of the Legislature sets the agenda for the session, including the order of debate on bills. Additionally, the current legislature (2025-2026) has 15 registered Democrats, 33 registered Republicans, and one registered independent.¹⁵ Given that there are no majority or minority whips and individual legislators are considered nonpartisan, there may not be the same expectation to adhere to party goals.

To pass bills in the 49-person Nebraska legislature, a bill must first be introduced. Following introduction, a reference committee determines which standing committee will hold a public hearing for the bill.¹⁶ Every bill introduced receives a public committee hearing in which citizens can express their opinions to committee members; public comments are recorded and transcribed into the official record.¹⁶ Upon completion of a committee hearing, the standing committee votes on three options: to the bill to a first round of debate and voting, or to general file; to postpone the bill indefinitely; or to take no

action. If a bill is passed through committee, there are up to three rounds of debate and voting within the legislature:¹⁶ General file, select file, and final reading. At each of these steps a bill can be debated, voted through, voted down, or filibustered.¹⁶ A bill passes with a simple majority on final reading and is sent to the Governor for signing into law or for veto.¹⁶ Because of this small, nonpartisan legislature, it is posited that Nebraska is uniquely situated for more collaboration between senators. Compared to states with larger, partisan, bicameral governments, there are no party leaders, majority or minority whips, or platforms to which individual senators are held accountable in Nebraska.¹¹ An additional hurdle legislators face in passing bills in Nebraska is the “single subject rule,” which only allows bills to pass that are of a single subject, often making omnibus legislation unfeasible.¹⁷

In the last ten years (2015-2025), three Nebraska state senators have attempted to pass a bill to remove this modified SNAP ban, described in **Figure 5.1**. During that time, seven versions of the bill were introduced, and, due to the structure of the Nebraska legislature, three of these versions covered two years of legislative sessions, a breakdown of introduced bills is shown in **Table 5.1**. Between 2015 to 2025, a bill was introduced or rolled over in the biennial to remove or lessen the SNAP ban a total of 10 times.¹⁸⁻²⁴ In several of those years, including the 2017-18 biennium, 2020, and the 2023-24 biennium, a bill to remove the modified SNAP ban did not get voted out of committee.^{19,21,23} Four times, 2016, 2019, 2022, and 2025, the bill was voted out of committee.^{18,20,22,24} The first, in 2016, was amended and subsumed onto a larger justice reform bill focused on parole and post release issues; it failed at the second round of debate.^{18,25} The second, in 2019, passed through committee, but failed at general file.²⁰ The third, in 2022, was successfully filibustered during the second round of debate.^{22,26} Last, in 2025 the bill was successfully passed, but was vetoed by Nebraska Governor Pillen, and could not garner enough support to override that veto.^{24,27}

States similar in makeup and ideology to Nebraska, such as other largely rural and Republican states, have successfully passed bills removing partial drug SNAP bans. SNAP eligibility may change through omnibus legislation as occurred in Alabama, Georgia, and Mississippi, all which removed a modified SNAP ban as part of larger justice reform bills.²⁸⁻

³⁰ In 2015, Texas allowed eligibility bans for people with drug convictions upon completion of their sentence to sunset.³¹ In 2019, West Virginia reduced the ban to include only individuals with drug convictions who had been involved in misusing SNAP, loss of life, or other physical harm while in the process of committing a drug felony.³² North Dakota removed its ban completely in 2017, followed by South Dakota in 2020.^{33,34}

In contrast to the aforementioned states, over the last 10 years, many bills have been introduced, language has been modified to accommodate centrists in the legislative body. Advocates and nonprofit organizations have also worked to aid the bill to remove the modified SNAP ban in Nebraska without success. During this same period, equally conservative and rural states have removed the partial ban with apparent relative ease. What key events have kept this bill from passing over the last 10 years? With such a small legislative body, do interpersonal issues come to the forefront or has the opposition provided rational policy-making decisions? Have the proponents and opponents altered their arguments on this issue over the last 10 years? We sought to answer these questions by reviewing legislative transcripts, interviews, and reviewing news articles and segments.

Methods

Legislative transcripts from 2016 to 2025 inclusive were identified for discussion of bills to remove the SNAP drug conviction eligibilities criteria. All transcripts, which included transcripts of committee hearings and legislative floor debate, were categorized by the specific bill proposed remove the SNAP drug conviction eligibility criteria. We removed any transcript that listed only the bill without debate or discussion.

Additionally, we conducted key informant semi-structured interviews of current or former state senators and local non-profit advocates conducted between December 2024 and December 2025. We interviewed individuals who were knowledgeable about the introduction of one or more versions of the bills to remove the SNAP drug eligibility ban. We attempted to recruit both proponents and opponents of the bills to remove the partial SNAP ban that spoke during committee hearings or during floor debate on this topic between 2016 and 2025. Questions focused on perceptions of people using government benefits, perceptions of people with a history of drug convictions, attitudes and perceptions of food security and recidivism, views regarding current SNAP eligibility criteria, views of proponents and opponents regarding removal of the drug conviction SNAP eligibility criteria, and previous tactics that have allowed the legislature to expand government assistance in Nebraska. Previous introducers of one or more of the bills were also asked to expound on their experience in their attempts to pass their bills, and barriers during their time as introducer to passage. When answers were non-specific, the sole interviewer (AG) probed for greater detail, for the full semi-structured interview guide, see [Appendix I](#).

Analysis of legislative transcripts and key informant interviews were supplemented with a content analysis of additional secondary data that included published news articles as well as radio and television segments. To search published news articles, the following search terms in the Lexus Nexus database:³⁵ *"Nebraska" and (SNAP w/s eligibility OR food*

stamps w/s eligibility OR EBT w/s eligibility) and (drug OR felon OR convict* OR dealer OR distribut* OR substance OR probation OR parole).* We then searched individual television or radio news websites in all markets. All news media, including from Lexus Nexus and local radio and television stations, were screened for relevancy and context.

Using multiple sources of data allowed for a comprehensive understanding of the attempts to remove the modified drug conviction SNAP ban as well as the goals of the opponents to its removal.

We used John Kingdon's Multiple Streams Framework to guide analysis of interview transcripts, committee hearing and legislature floor debate transcripts, published news articles, and television and radio segments.³⁶ We assessed thematic results across the multiple streams: problem stream, policy stream, political stream, and the policy window. The problem stream represents a current condition being framed as a problem that needs to be altered or improved.³⁷ The policy stream represents policy alternatives to that current condition generated from policy communities, including legislators, advocates, and activists.³⁷ The political stream is the bargaining and compromise of proposals offered to change the current conditions based on the national mood, interest groups, and the government.³⁷ The policy window is a point in time in which the streams couple and an opportunity exists for advocates of proposals to push solutions.³⁷ Additionally, policy entrepreneurs are the advocates who are "willing to invest their resources" including time, energy, reputation, and resources, to promote a position.³⁷ Transcripts from interviews and legislative hearings and debates were coded as belonging to a specific stream. News articles and segments were used to confirm findings and to add detail and context.

All procedures were performed in compliance with United States and Nebraska state law, and the interview protocol, informed consent protocol, and interview guides have been deemed exempt by Tufts University Social, Behavioral, and Education Research IRB, IRB ID: STUDY00005475. Privacy rights of interviewees have been observed and informed consent was obtained for each participant.

Results

Two forms of primary data were analyzed: 6 semi-structured interviews and 20 legislative transcripts over the 10-year window. Semi-structured interviews and review of legislative transcripts informed the description of the problem stream, policy stream, politics stream, and policy window. News articles and segments provided additional context to the last decade of debate. Although there is no single cause for the failure of these bills introduced over the last decade, issues in each stream and in the policy window likely played a role. For an overview of introduced legislation from 2016 through 2025, see **Table 5.1**.

Problem Stream

Recidivism and overcrowding

Throughout the last decade of debate around changes to the felony drug conviction SNAP eligibility criteria, several key issues emerged that advocates and legislators agreed need action. Both in interviews and in legislative transcripts recidivism was a recurring concern. In 2019, one senator [Arch] stated about removal of the drug conviction SNAP eligibility criteria:

“However, what I heard in testimony was that our transition out of prison at the present time probably takes more discussion. Do we have an effective way of transitioning? Because we all are of the opinion that we want to reduce recidivism. We do not want to see prisoners come back to prison. We do not want to see that revolving door continue, what can we do? So when I heard [LB 169] in committee, my question is: was this worthy of debate on the floor? Was it worthy of debate purely from the pragmatic standpoint of should we be having the discussion of is there a way to better-- to improve this transition once you have served some time, probably not all time, but some time in prison to transition out?”³⁸

Debate about recidivism has recurred over the last decade, due largely to severe overcrowding in Nebraska state prisons.³⁹ Since 2015 legislation, a correctional system overcrowding emergency exists anytime the inmate population is 140 percent of “design” capacity (the number of inmates planners or architects intended for a facility⁴⁰),⁴¹ with this term being replaced in 2025 by “operational” capacity (the number of inmates that can be accommodated based on a facility’s staff, existing programs, and services⁴⁰),⁴² thereby allowing increases the capacity without triggering an emergency. In a 2020 report, Nebraska’s prisons were at 156.9% of design capacity and 115.4% of operational capacity.⁴³ Prison overpopulation is such a common concern in the Nebraska legislature that budget was appropriated in 2021 to build a new state prison in 2021.⁴⁴ While explaining that SNAP reduces recidivism, and expanding access to people with drug convictions, Senator Lathrop stated in 2019:

“We have an honest-to-God crisis in our Department of Corrections. An honest-to-God crisis in our Department of Corrections. And the people that stand up and say drug addicts don't deserve SNAP are missing an opportunity to have a conversation about a crisis facing this state. We have people who are-- our Department of Corrections hit 163 percent of capacity. We are now in the midst of a lawsuit by the American Civil Liberties Union over the conditions of the Department of Corrections. And now we have a small piece that's before you for your policy consideration, and we've taken it off into campaign stuff. We've taken it off into campaign stuff, and we've missed an opportunity to have a conversation about policy.”⁴⁵

Recidivism is a consistent theme throughout the decade of this debate, as well as discussions on any bill that deals with corrections. In an interview with an advocate for removal of the SNAP ban, they discussed a 2024 report from a consultant firm, Epiphany, hired by the governor of Nebraska stating that, *“The department of corrections is one of their main focus areas, and Health and Human Services. And in their most recent report... They note that if a prison inmate does not get sufficient services they’re gonna recidivate, and basically that costs money.”*

Aging population

Nebraska has an aging population; over one-third of Nebraskans are over 50 years of age.⁴⁶ In a survey of people over 50 in Nebraska, 64.2 percent report that “having enough food to eat” is a top five concern.⁴⁶ This concern is echoed in discussions of removing the felony drug conviction SNAP eligibility criteria. In a 2023 committee hearing, the following was noted;

“29 percent of applications denied due to this SNAP drug felony ban were 60 years of age or older. 29 percent were homeless at the time of their application. 12 percent were determined disabled by the federal government. 3.4 percent were veterans. And 57 percent were extremely low income, which means their monthly income was less than the cost of their monthly rent.”⁴⁷

Beyond direct applicants, advocates noted in a 2020 committee hearing that aging people who have family caretakers that are barred from SNAP likely have been denied or reduced benefits due to the SNAP applications counting for the income of the ineligible household member. An aside to many discussions had during floor debate about the aging population is twofold. One, that these convictions may have occurred many years ago and people are still being punished, and two, because of this many people barred from SNAP are elderly and may need additional help. A continued concern for the aging population in Nebraska has been consistent in debates and discussions around SNAP eligibility criteria since 2020.

Views on Punishment

How proponents and opponents of removing the felony drug conviction SNAP eligibility criteria view punishment of a drug crime are strikingly different. Opponents have stated on floor debate, that:

“Drug dealers: why do we treat them differently? They are the most despicable criminal out there, the most self-centered individual that there is. You can’t speak of another crime that has more victims. Murder, yes. Some of their victims die from overdoses. They are mass murderers. For wealth, for money. They are despicable. And it is a business to them. Most of

them are not addicted to drugs. It's bad for business. When they get out, they continue it. They continue it while they are in prison with their subordinates.”³⁸

In contrast, in the same year, 2019, proponents largely viewed addiction as a disease rather than as a moral failing. Over the decade of debate, the view of opponents that those with drug convictions are inherently bad has fallen out of favor and been replaced by a focus on victim impact. As recently as the veto override in 2025, senators spoke about a choice of the offender’s “poor judgement” and the victims of that poor judgement.

“I'm going to sound like a broken record because I've done this before, but I am never going to stop standing up for the victims of these crimes. It's as if this body has an allergy to the word victim. Drug crimes, drug distribution, drug sales are not victimless crimes. How many people have lost their lives when their poor judgment, admittedly, or their accidental association with felons who poison them, whether intentionally or not, with drugs tainted with chemicals like fentanyl in support of these enablers, the very, very same felons. These victims don't need SNAP. These victims lost their lives. But their families still have needs. Their children still need to eat. Right? There are no guarantees they will receive SNAP, because you don't know what happens to the victims of these-- children of these victims.”⁴⁸

A consistent concern of proponents of removing the felony drug conviction SNAP eligibility criteria is the continuation of punishment long after the completion of a sentence, especially in comparison to other crimes in which no change in eligibility for government benefits is instituted. Even as early as 2016, senators during debate asked:

“How long are we going to punish individuals after they’ve paid their debt to society? I’ll tell you that going through my district, a district that has a lot of folks who have paid their debt to society and are trying to get back on their feet, a lot of those individuals see barriers they could have never even dreamed of or imagined before they got out.”⁴⁹

One advocate in a 2021 committee hearing stated:

“How utterly absurd it is to punish drug offenders by withholding federally funded SNAP benefits when no one else is punished in that way. They have served their time just like everyone else. And, like everyone else, they need the food and nutrition support that SNAP can give them.”⁵⁰

This line of argument continues throughout the discussion of removing this ban. In 2025, a proponent of removing the ban during committee hearing stated:

“Consequences for committing drug crimes are and should be determined by a judge. Once individuals serve their sentence, they should not be punished a second time for the same crime, which is the position that DHHS is currently put in through the SNAP ban.”⁵¹

Religiosity

Nebraska is a largely Christian state, with 74 percent of Nebraskans identifying as Christians compared to 62 percent of the US population.⁵² This profile is reflected in the demographics of the state legislators, and differing Christian ideologies have surfaced over the last decade of debate on this policy. Overall, these differing Christian ideologies are one of the factors that keeps a bill to remove the modified SNAP ban from progressing. In 2016, former senator Kintner discussed keeping the government out of Christian obligations:

“You know, these big government programs, they’re false idols. They thrive on taking our individual Christian obligation of helping our neighbors and replacing it with governments. Nothing Christian about that. There is nothing Christian about forcibly taking someone’s money and giving it to someone else.”⁵³

Christianity has also been used as a distraction from this bill to focus on other, seemingly unrelated, bills. In 2025, Senator Lonowski started his comments during debate:

“Thank you, Mr. President. I stand in support of the governor's veto. And before I get started, I want to talk about the word Christian and Christianity. I hope we remember that when we start talking about the 2,500 babies that we destroy in the, in the womb each year and we talk about fetal remains.”⁴⁸

Alternatively, in 2025, Senator Rountree opened the debate to override the governor’s veto by citing the Christian bible:

“This legislative body is filled with Bible scholars. As I prayed and stayed before the Lord this weekend, I asked, how should I go? But most of us went to church only yesterday, so you've already had a sermon. So, I won't go that way today. But I do recall in the Book of Kings when the great men came to make David king of Hebron, the great men of all the 12 tribes. But of the tribes of Issachar, the word tells us that they understood the times, and they knew what Israel ought to do. Well, we understand the time and the season that we're in now and know what we should do to take care of the people of Nebraska, and specifically, these over 1,000 families that are impacted [by not having access to SNAP].”⁴⁸

As early as 2019 Nebraskan’s Catholic leaders stated their support for removing the felony drug conviction SNAP eligibility criteria, and in 2021, representatives started attending committee hearings to publicly state their support on the record. A representative from the Catholic church in Nebraska stated, when interviewed:

“Again, what I would say is, this issue really doesn’t seem ultimately about food. It ultimately is about theories of punishment, and which one takes priority. Is it reentry, rehabilitation, or is it retribution, you know? And if somebody’s done something enough times wrong, it’s sort of [a] retributive mentality as the primary aim of what needs to occur for these people who find themselves in the situation versus, I think, the other side

saying...reentry [and] restoration, access to basic needs that everybody has, regardless of their own decisions in their life. I think that's really at the core of this more than it's about like food or economics."

Proponents and opponents have identified current conditions as relevant to the issue, including the need to reduce recidivism, an overcrowding crisis in the Department of Corrections, the aging population, changing views of addiction, harsher levels of punishment for people with drug convictions, and their own religious views. Given the minor changes in the framing of the problems on this issue, support for the bills to ease or remove the felony drug conviction SNAP eligibility criteria went relatively unchanged.

Policy Stream

The policy stream has been slow to change over the last decade of debate. Key points of the policy stream include that allowing those with felony drug convictions to benefit from SNAP will have minimal impacts on state funds, discussing alternatives or compromises that soften the policy rather than remove the modified ban entirely, and general refusal by opponents of any policy change writ large. One aspect of the policy stream that has changed is the national view of this eligibility criterion, and the states neighboring Nebraska that have modified these criteria entirely or softened them.

Resource management

Since the beginning of this debate advocates and legislators have compared the cost of recidivism with the cost of increasing the number of SNAP recipients despite the fact that SNAP funds come from the federal, rather than state, government. Initial introduction of this bill by former Senator Morfeld noted the cost comparison in 2017:

*"As you can see, it is much cheaper to provide minimal food support to someone who is facing reentry than it is to incarcerate them. This bill is incredibly cost-effective and the General Fund impact is minimal, and it actually saves money in the long term...not even the long term, I would say the short term. Further."*⁵⁴

Early in the last decade, some senators considered the cost that might burden the Department of Health and Human Services (DHHS) for administration unfeasible, but that concern has largely been mitigated by clear explanation from DHHS that they could absorb it. A DHHS representative shared in a 2021 committee hearing *"Yeah, the cost would be absorbed. The benefits that are coming through are 100 percent federal. And so the cost for determining eligibility could be absorbed within current [SNAP administration]."*⁵⁰

Comparison to neighboring states

From 2016 to 2025 several neighboring states have removed or lessened their own felony drug conviction SNAP eligibility criteria. Because of this, proponent senators have compared the issues in Nebraska to these nearby states that have shifted their policies. In a 2017 committee hearing, a Food Bank for the Heartland representative shared:

“This law is enacted in 1996 during the war against drugs only, after only a few minutes of debate, and states can opt out through legislation. Most of our neighboring states have removed this barrier, including Iowa, Kansas, and South Dakota.”⁵⁴

More recently, in the debate that failed to override the Governor’s veto in 2025, the Health and Human Services chair brought up other states again:

“Why did I support LB319 as HHS chair? We often ask, who else is doing this? Here in Nebraska, we don’t often like to be first. Twenty-six states are doing this, including Wyoming, South Dakota, Iowa, Arkansas. Hardly bastions of progressivism. We in Nebraska have the data on how recidivism looks when we use the modified system that we are currently using. But why are more than half of the states doing this another way? Might it work better than what we are currently doing? Do I want to reward bad actors? Nope. That’s why they serve the time. This is transitional help.”⁴⁸

When asked about other states changing their SNAP eligibility and how that impacted Nebraska’s debate, one senator offered:

“[Nebraska] never wants to be first, and I think that sometimes those legislatures that have [success] because I’m sure 85 percent that those bills were introduced by Republicans. And you know in these red, red states...as long as a Republican does it, it’s safe for every other red state to do it, but because progressives have always introduced this bill [in Nebraska].”

The integration of other states’ policy changes into Nebraska’s debate demonstrates some level of conformity to country-wide changes.

Compromise and amendments

Although most often bills that have been introduced initially seek direct removal of the felony drug conviction SNAP eligibility criterion, amendments to help build coalition provide possible alternatives to the policy. Most commonly, shifting from a complete removal of the ban to lessening its restrictions is added, more specifically requiring treatment programs and/or drug testing in order to receive SNAP after felony convictions. Notably, most people with drug convictions are required to graduate an accredited drug treatment program to stay in good standing during probation or parole^{55,56} and those in violation of their probation or parole are not eligible for SNAP or several other government benefits.⁵⁷ There are two instances in the last decade in which the bill was introduced or amended to add focus on testing and treatment, rather than a complete removal of the

felony drug conviction SNAP eligibility criteria. LB121 (in 2022) and LB319 (in 2025) LB121 was introduced by Senator Hunt after several years of introducing more complete reversals of the modified SNAP ban.²² Hunt introduced the bill, saying:

“I have been working on this bill for over four years now and I have met with Speaker Hilgers and the Governor and over the years, done everything I can to make this bill work for the body. And this year, Governor Ricketts was willing to meet with me, which is great, and Speaker Hilgers has been great to work with and I made it clear to both of them that LB121, colleagues, is my only ask this year. I'm willing to deal, I'm willing to figure out paths on other things because LB121 this year is not just my priority because we have to pick a priority, it's my only ask. This bill has the support of the Omaha Police Officers Association, the Catholic Conference, as well as, you know, the usual advocates that we see coming up for antipoverty issues like RISE Nebraska, the ACLU, Together, Nebraska Appleseed. And this bill is really an example of folks coming together around an issue in a way that we don't frequently see here in this body so I'm very proud of that.” [she continues] “LB121 removes this lifetime ban and ties SNAP eligibility for people with these convictions to parole, probation, and post-release supervision, the terms of which include mandatory treatment and counseling for drug addiction and drug testing. These people also have to pay for those drug tests themselves and they have to refrain from unlawful conduct, which would include drug use. So by tying eligibility for SNAP to probation, parole, and post-release puts more control in the hands of judges to make sure that people are getting the right treatment that they need.”²³

With the adjustments made to get more centrists willing to vote for LB121, this legislation made it farther than any of Senator Hunt's previous bills on the issue.²² Senator Rountree introduced a bill (LB319) to remove the felony drug conviction SNAP eligibility criteria in 2025, in which people with drug convictions would be eligible for SNAP upon completion of their sentence including probation or parole.²⁴ While working with colleagues to get LB319 through three rounds of debate, Rountree amended his initial bill to require testing and treatment of people with drug convictions.²⁴ LB121 failed at select file, whereas LB319 passed the Senate, but failed to override the governor's veto.

Access to food pantries

Despite working with centrists, all three introducers of one or more bills to remove the modified SNAP ban failed to get a bill to remove the felony drug conviction SNAP eligibility criteria. It seems that there is a group of legislators who refuse to “soften-up” to the change in policy. This often is due to not viewing the issue as a problem. Resistance to viewing the current policy as problematic has taken many shapes over the last decade. Prior to 2019, legislators often noted there was no issue with the current law due to the large networks of food banks and pantries. In 2016, one former senator [Greone] stated in debate, “You lose

*the ability to be in the SNAP program, you can go to a church food pantry. You can get a job and buy food.”*⁴⁹ In 2019, the availability of food pantries were brought up again during debate. Senator Clements states:

*“Now if that person is not in a household, there was a claim that eligible felons would not be able to eat. I did a search for food pantries in some of the Nebraska cities. I was surprised how many I found. Here in Lincoln, I found-- I did a Google search for "food pantry Lincoln, Nebraska." In Lincoln I found nine.... In Omaha, I found 20.”*⁵⁹

Since 2019, early on in debate, introducers of the bill have explained that pantries are limited access, and that many have struggles getting to and from pantries when they are open, as well as increased demand for pantries since the COVID-19 pandemic.

Several alternatives to the policy have been posited within the policy stream. First, was an informational correction allowing the policy to continue to be debated- that SNAP is federally funded, and any additional applications could be absorbed by the current Department of Health and Human Services in Nebraska. Second, was interest in the changes of policy in states neighboring Nebraska. Many neighboring states, as well as states that are considered more conservative, have lessened or removed modified bans in their statute. This discrepancy became a talking point throughout the last decade of debate. Third, similar alternatives to removing the ban as a whole have been put forward, both as initial bills and as amendments to other bills. While these compromises allowed bills to progress further, shown in **Table 5.1**, efforts in 2022 nor in 2025 failed to become law. One constant throughout the last decade, is a group of legislators obstinate to the removal of the felony drug conviction SNAP eligibility criteria.

Political Stream

Legislature makeup

Due to the relatively small legislating body, the makeup of the Legislature can change the outcomes of bills. Senators who strongly spoke against the removal of the modified SNAP ban have been term-limited, resigned, or lost re-election. Many of the legislators who viewed people with drug distribution convictions as “evil”³⁸ or those who were “*simply categorically opposed to expanding government benefits to three-time drug felons.*”⁵⁸ are no longer in the state legislature, and the leader of the filibuster that kept LB 121 from progressing beyond select file in 2022, Senator Slama, did not run for reelection in 2024.⁶⁰ This allowed Senator Rountree much more latitude to work within the nonpartisan legislature. The 2025 session brought in 16 freshmen senators, 15 of whom had never been state senators prior to their 2024 election.⁶¹ When interviewed, one legislator said of the 2025 session:

“So, in a couple years back, it might have been that they're really locked down and not gonna pass anything, but now that tide is lifted, the bill comes back, it's presented in... with the same [language], pretty much the same thing, but maybe just a different presentation, new people, new opportunities, a new place that we are, so... I just try to read the times.”

Interpersonal conflicts

Another change that a large incoming freshmen class of senators can provide is the ability to disregard interpersonal conflicts that characterized previous years. In one interview, an advocate for the removal of the modified ban stated *“Normally, it's just those people in power, and many times it's been a reaction to the introducer, [Senator] Morfeld or [Senator] Hunt -- can't let them get a victory.”* In 2023 the Senator Hunt was in conversation on the microphone during debate and told another senator *“Next year, you introduce it. It'll pass. [LAUGHTER] I'm right.”*⁴⁷ In an interview, one senator opined:

“Some of the hard work of the speaker is in scheduling, it's making sure that a bill that deserves a good chance gets a good chance, because it's not bookended by drama... No policy stands alone. It's influenced by all the- all the attitudes and feelings in the context of the social life around it.”

Despite the large 2025 class of freshmen senators and the change in the bill's introducer LB319 failed on a veto override. When asked about this in an interview, one senator said:

“Others got off board because they had things they still wanted to get done with the governor, and they feared being in that position as well... all of us have one power, and that's one vote, and you have to do what you need to do with that vote.”

Another senator posited while being interviewed:

“When it's a freshman, sometimes you want them to have a little win, you want them to feel like they did something, but you don't want to let them get too big for their britches. You don't want to help them get on a high horse. And so, I think that those factors were kind of in play with [Rountree's] bill.”

Policy Window

A policy window represents a period of time where there is an opportunity for advocates of proposals to push their solutions or attention to their problem by coupling of one or more streams.³⁷ Policy windows are rare periods, and often relatively short in duration. Because of the changes in all three streams, a brief policy window opened that allowed Senator Rountree's bill to initially pass. Seemingly, the political stream shifted once again, and the window closed, and precluded the legislature from override the governor's veto. Just prior to the failed vote, Senator Rountree spoke during the floor debate:

“If we’ve been doing something that’s not working, let’s make a change. And if that change is not good, then we also have an opportunity to revise that as well. To each and every one that has spoken, I appreciate this today. And so, with that, I just want to finish with a quote from Dr. Martin Luther King, Jr. And it states, the arc of the moral universe is long, but it bends towards justice. I believe, as we stay in the unicameral, we will move forward and do the things that are right for the people of Nebraska.”⁴⁸

In his letter to the legislature to declare his veto, Governor Pillen states:

“Individuals that distribute or sell illicit drugs should not be entitled to tax-payer-funded benefits. An illegal drug users should be required to complete treatment before they receive their third felony conviction. It is for these reasons that I have decided to veto LB319.”⁶²

Policy Entrepreneurs

A policy entrepreneur is the person or advocate who pushes their proposed solution upon coupling of the streams.³⁷ This can range from legislators to journalists or interest groups. In this case, there are three clear policy entrepreneurs over the last decade, Senators Morfeld, Hunt, and Rountree. All three senators introduced legislation to remove the drug conviction SNAP eligibility criteria over the last decade. Each individual passed the language for the bill to the next entrepreneur, who then often altered the language slightly to better mirror the current legislating body. All three entrepreneurs worked with nonprofit advocates to build coalitions throughout their time as the bill’s introducer by, among other strategies, finding individual advocates who have been impacted by the drug conviction SNAP eligibility criteria.

Discussion

Over the last ten years, senators have tried to remove the drug conviction SNAP eligibility criteria that is currently in place, but as of this writing (April 2026) have yet to succeed. In the problem stream, several aspects influenced policymakers’ views on SNAP eligibility but did not seem to influence policy change, including recidivism and overcrowding, an aging population, views on appropriate levels of punishment, and religiosity. In the policy stream, legislators focused on feasibility and alternatives to expanding SNAP eligibility such as resource management, policies other neighboring and similar states passed, compromised bills and amendments, and access to food pantries for people without SNAP. In the political stream, two key aspects arose: the legislative makeup and interpersonal conflicts. A brief policy window appeared in 2025 but closed upon the veto of the bill introduced by the most recent policy entrepreneur, Senator Rountree.

We aimed to answer the questions: 1. What key events have kept this bill from passing over the last 10 years (2016-2025) 2. With such a small legislative body, do interpersonal issues come to the forefront or are there rational policy-making decisions leading the opposition?

3. Have the proponents and opposition altered their arguments on this issue over the last 10 years?

First, the most definitive event that has kept the drug conviction SNAP eligibility criteria in place is the 2025 veto by Governor Pillen. Although other conflicts arose in the previous nine years of bill introduction, no one event defined any previous legislative session's views on the modified SNAP ban. There are additional events that created barriers to progression during certain years but likely did not solely bar the bill from passing. This includes the 2022 filibuster by Senator Slama, given the bill had enough votes to move to select file, but not enough to invoke cloture.

Secondly, it has become clear through interviews and review of legislative transcripts that interpersonal conflicts have, over the last 10 years, kept many of the bills introduced from progressing. Senator Hunt noted during a committee hearing that if someone else introduced this bill it would pass, and it nearly did the first year an alternative senator introduced it. Yes, upon failing the veto override in 2025, a senator posited that it was the influence of the governor on the senators who initially voted for the removal to then vote against the veto override.

Third, both proponents and opponents seem to employ consistent rhetoric when debating this issue. Over the last ten years the issue debated are the same: recidivism and overcrowding of prisons and jails, the aging population, differing views of punishment for these types of crimes, how one views crime within their Christian faith, and availability of food pantries as an alternative. However, two developments over the last ten years have influenced the debate. First, prior to the passing of the One Big Beautiful Bill Act of 2025 (H.R. 1.),⁶³ it had been made evident that those who oppose the removal of the modified SNAP ban stopped discussing the influence of cost on this policy. This is likely because of repeated discussion that this would cost the state little, and that DHHS could absorb the increase of SNAP beneficiaries without a personnel increase. Second, as states politically or geographically near Nebraska (e.g., Iowa, Texas, South Dakota, and Wyoming) continued to remove their versions of the drug convictions SNAP criteria, it allowed proponents of removing the modified SNAP ban to use these states as examples. Specifically, it provided a point of comparison and conformity to other Republican states, rather than seeming like a progressive ideal. This reframe likely helped the 2025 LB 319 progress in debate as far as it did. Despite the nonpartisan legislature, it is clear from legislative debate transcripts that there is still a divide among Republican and Democrat ideologies within the legislature. This can appear in several ways, most notably in 2025, when it seemed that Governor Pillen used his influence on the senators who are registered as Republicans to prohibit LB 319 from overriding his veto. Furthermore, party allegiances remain a force in the continued

support for these bills by those who are registered as Democrats and independents over the last decade, while the opposition is largely among senators registered as Republicans.

Many of the issues that arise in the problem stream do not influence the proposed bills. For example, while both proponents and opponents of the removal of the Nebraska modified SNAP ban discuss the concerns of an aging population. Despite this concern, no policymaker has brought forth a policy version to create an exception of the eligibility criteria for older adults. There is little variation among the alternatives to the current policy, either a full repeal of the policy, a policy which requires completion of sentences and/or requirement of substance use disorder treatment. None of these alternatives adjust the policy proposed for an aging population. Additionally, opponents of the removal of the drug conviction SNAP eligibility criteria often speak about their particular concerns about those how distribute drugs. Prior to 2025 when LB 319 was amended to only expand eligibility for drug possession, not drug distribution, there was no compromise on this clear divide of acceptability.

Currently, people with two or less drug possession charges to receive SNAP must complete an accredited substance use disorder treatment program. Within the policy stream an alternative that has been incorporated onto some introduced, initially or through amendments, bills, is a provision that with removal of the modified SNAP ban, individuals with three or more drug related convictions would still be required to complete substance use disorder treatment. However, an issue that does not come up when discussing this alternative is the availability of the treatment. Outside of the two largest cities, Omaha and Lincoln, Nebraska has a total of 12 inpatient treatment centers, and only one in the western half of the state.⁶⁴ Sixty-two counties in Nebraska have no substance abuse treatment facilities, and no hospitals or clinics that can provide outpatient substance use disorder treatment.⁶⁴ This leaves few options for people who need to complete treatment in order to receive SNAP.

Limitations

While this study focused on the policy process in a unique setting, the only unicameral in the United States, there are limitations. First, all data collected were from 2016 to 2025, this may leave out changes to this policy between when it was first introduced by PRWORA in 1996 through 2016. Additionally, despite considerable effort to interview past and present opponents of the bills to remove the modified SNAP ban, none replied to the request. To overcome this limitation and have a wide range of opinions included in the study we supplemented the interview data with legislative transcripts and news articles and segments discussing the drug conviction SNAP eligibility criteria.

Conclusions

Kingdon's Multiple Streams Framework is a useful model for understanding many aspects of policy reform. Given the lack of incremental change over the last decade, but clear softening of the opponents during a brief policy window, the Multiple Streams Framework is particularly helpful in dissecting the last decade of attempts to remove the drug conviction SNAP eligibility criteria in Nebraska. The bills that have been introduced between 2016 and 2025 to remove or reduce the modified SNAP ban can be viewed through the lens of the Multiple Streams Framework. First, the influence of the senators who continue to bring up this policy and bring advocates to committee hearings and attempt to collaborate and compromise with other senators to create a policy window. Second, the clearly defined problem stream that stems from the existing modified SNAP ban burdens an overcrowded carceral system by increasing recidivism. While alternative policies and compromises have been discussed during debate, the interpersonal conflicts and overall make-up of the Nebraska legislature highlight the importance of Kingdon's political stream as an opportunity for a policy entrepreneurs to create a policy window. In this case, Senator Rountree created a policy window long enough to initially pass the bill with two clear differences from previous policy entrepreneurs, being a freshman senator, he had little opportunity for previous interpersonal conflicts with other senators and by amending LB 319 to be more acceptable to centrists. This policy window closed upon the governor's veto, likely due to Governor Pillen's influence on the override vote.

Looking forward, the future of this bill is in question due to the passing of the One Big Beautiful Bill Act, or H.R. 1. This bill changes the provisions of SNAP and the required inputs of the states. Most importantly to this study, starting in 2027, the USDA now can only provide 25 percent of administrative costs to the states, down from 50 percent of administrative costs.⁶⁵ In 2023, the total administrative cost of SNAP in Nebraska was \$49,711,277,⁶⁶ meaning that if the administration costs have not increased since 2023, Nebraska's share of the cost would increase from \$24,199,485 to \$37,283,458. This 13-million-dollar increase would likely revive concerns about the increase in administrative burden on the Nebraska DHHS if a bill to remove the modified SNAP ban were to be introduced in the future.

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Glossary

SNAP: Supplemental Nutrition Assistance Program

Unicameral: (of a legislative body) having a single legislative chamber

Design Capacity: the number of inmates that planners or architects intended for a facility

Operational Capacity: the number of inmates that can be accommodated based on a facility's staff, existing programs, and services.

CRedit Author Statement

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Appendix F: Introduced Bills to Removed the Modified SNAP Ban

Table 5.1: An overview of bills to remove the modified drug conviction SNAP eligibility criteria in Nebraska from 2016-2025

Session	Year	Bill Number	Introducer	Key Policy Points (Introduced Version)	Amendments of Note	End status	Farthest point
104	2015	690	Adam Morfeld	Removes entire drug conviction ineligibility section	Amended onto LB 910 with AM 2469, no changes in language	Indefinitely Postponed	Amended bill failed at select file
	2016						
105	2017	311	Adam Morfeld	Removes entire drug conviction ineligibility section	None	Indefinitely Postponed	committee, no votes on floor
	2018						
106	2019	169	Megan Hunt	Removes drug conviction ineligibility for two or less convictions, requires accredited substance use treatment program for three or more felony drug convictions	Amendments were filed but remained pending when LB 169 was indefinitely postponed	Indefinitely Postponed	Failed at general file
	2020	1038	Megan Hunt	Removes ineligibility upon completion of sentence or under community supervision	None	Indefinitely Postponed	committee, no votes on floor
107	2021	121	Megan Hunt	Removes ineligibility upon completion of sentence or under community supervision	Amendments used as filibuster to fill debate time	Indefinitely Postponed	Failed at select file, Slama Filibuster
	2022						
108	2023	88	Megan Hunt	Removes ineligibility upon completion of sentence or under community supervision	None	Indefinitely Postponed	committee, no votes on floor
	2024						
109	2025	319	Victor Rountree	Removes ineligibility upon completion of sentence or under community supervision	Amended with AM 1176, only changes eligibility for possession convictions; allows for healthcare provider exception to substance use treatment; requires those with three or more possession convictions to participate an accredited substance use program	Fail at veto override	Passed, Vetoed, Veto override failed

Chapter 6: Conclusions and Implications

Living at low socioeconomic status in the United States may exacerbate chronic disease outcomes, likely due to several factors, prominent among them is food insecurity. This dissertation comprises three individual studies with differing methodologies designed to examine the implications of low socioeconomic status and/or its proxies on risk for food addiction, and current policies that impact individuals experiencing food insecurity with drug convictions. This final chapter summarizes the main findings from each of these studies (chapters 3-5), and discusses implications of the findings, and makes recommendations for future research directions.

Summary of aims and key findings

Chapter 3: Identify socioeconomic factors that are associated with food addiction by conducting a formal systematic review

We conducted a systematic review with a narrative analysis with the aim of determining associations between socioeconomic status (SES), its proxies, with food addiction. SES proxies included income, occupational status, food security, educational attainment, along with race and ethnicity. Searched databases include CINAHL, Embase, Ovid, PsycINFO, PubMed, and Web of Science. Both title and abstract and full texts were double-screened. Studies included used any iteration of the YFAS. Studies were grouped by SES proxy to narratively describe the association between the SES measure and food addiction. After screening, 18 studies were included in the final analysis. A narrative approach was used due to the variability in reporting of SES factors and the limited number of studies. Risk of bias was evaluated using an adapted Newcastle-Ottawa scale. Educational attainment, income, and occupational status demonstrated no clear association with food addiction. Hispanic/Latino ethnicity and food insecurity had possible associations with food addiction, both likely due to several factors including food micro-environments, cultural views of food, and ultra-processed food (UPF) consumption, the latter due to either preference or necessity.

Chapter 4: Estimate the prevalence of food addiction among individuals using food pantries in and around Boston, MA

In this cross-sectional study, we surveyed 145 patrons of three high-volume, diverse food pantries in the Greater Boston Area. Paper surveys measured food addiction using the modified Yale Food Addiction Scale version 2.0 (mYFASv2.0), food security using the 10-item USDA Adult Food Security Module, pantry use frequency, current and historical

Supplemental Nutrition Assistance Program (SNAP) benefit use, body mass index (BMI) by self-reported height and weight, self-reported chronic disease status of hypertension, diabetes, stroke, cardiovascular disease, myocardial infarction, self-reported mental health status, and sociodemographic characteristics, including race, ethnicity, income, homelessness, and insurance type. Thirteen (9.0%) of the 145 participants reported having food addiction based on the mYFAS v2.0. One hundred and eleven (76.5%) of the participants reported food insecurity. All individuals with food addiction were food insecure, and we found a significant association between experiencing food insecurity and food addiction. Of those who had food addiction, 6 were currently receiving SNAP benefits (46.2%). Two symptoms of food addiction on the YFAS were found to be significantly more represented in the food insecure population of pantry users compared to food secure pantry users, consumption of food despite consequences and impairment or distress due to eating habits.

Chapter 5: Identify barriers in the legislative processes and advocacy efforts to remove the partial SNAP ban in Nebraska, which currently permanently bans those with certain drug convictions from becoming SNAP beneficiaries.

This policy analysis used semi-structured interviews with Nebraska state senators, and non-profit advocates, content analysis of 10 years of Nebraska legislative transcripts, and news segments and articles to analyze the lack of progress in removal of the partial SNAP ban in Nebraska through the application of the Multiple Streams framework. The problem stream included arguments focused on prison overcrowding and recidivism, the aging population, differing views on punishment, and religiosity. The policy stream experienced little change during the time frame studied (2016-2025), with discussions that focused on resource management, comparison to changing policies in neighboring or ideologically similar states, working to create compromise prior to bill introduction and through amendments, and public access to food pantries. Although the problem and policy streams were the focus of the debate, the transcript and interview review demonstrated that the political stream prevents progress given that a large barrier to the removal of the partial SNAP ban are interpersonal conflicts among senators and the makeup of the Nebraska legislature itself. In 2025, the bill to remove the partial SNAP ban (Legislative Bill 319) was voted through, vetoed, and through pressure exerted by the executive branch, the legislature proved unable to override the governor's veto.

Between 2016 and 2025, three state senators acted as policy entrepreneurs and introduced the bill to remove the partial SNAP ban, attempting to create a policy window. In his first year, 2025, Senator Rountree attempted to pass this bill, after the previous bill introducer, Senator Megan Hunt, noted the refusal of more moderate opponents to compromise with her. Senator Rountree was able to work collaboratively with several in the

legislature and able to craft a compromise. But ultimately, several senators who voted for the amended bill withdrew their support upon the veto by the governor. While there was little change in the problem stream over the decade studied, the issues within the problem stream did not affect the bills introduced.

Integration of aims

Prior to the research in this dissertation, two studies had demonstrated a connection between food insecurity and food addiction.^{1,2} The goal of aim 2 was to aid in the building of this foundation to continue to study the connection between food insecurity and eating behaviors and addictive tendencies. In adults, food insecurity is associated with other, more established eating disorders, such as bulimic-spectrum disorders and binge-eating disorder,³ and specific disordered eating behaviors, including binge eating episodes, laxative use, and dietary restrictions.⁴ There is no indication that food addiction would differ in this association, given the overlapping pathologies of food addiction and binge-eating disorder. These associations between food insecurity and food addiction and/or disordered eating may occur due to the “feast or famine” cycle, in which food intake can increase during relative food abundance in reaction to past periods of, or anticipation of future periods, of scarcity.^{5,6} Food addiction and binge-eating disorder, may additionally play a role of the increased rates of overweight/obesity in food insecure adults.⁶

While this dissertation does not directly address this possible crossover between food security, food addiction and ultra-processed foods, another related connection that is represented in the literature is the greater consumption of ultra-processed foods by both people experiencing food insecurity and people with food addiction.⁷⁻⁹ Food insecure adults with and without SNAP benefits consume more ultra-processed foods than their food secure counterparts.^{9,10} This may reflect preference, but given that ultra-processed foods are lower cost per calorie, it may also be by necessity given insufficient funds for less processed alternatives.¹¹ Furthermore, people with lower SES are more likely to live in under-resourced food environments, such as food deserts and “food swamps.”¹² Food deserts and “food swamps” can overlap, creating a geographic area in which UPFs are widely available with limited access to healthy alternatives.¹³ Lastly, highly processed foods are often designed to be hyperpalatable and due to that, may be consumed in higher quantities. The YFAS specifies foods for consideration while completing the instrument, all of which are high in saturated fats, sodium, and sugar or refined carbohydrates.¹⁴ Given that UPFs are generally higher in one or more of these nutrients compared to less processed foods,^{11,15} it raises the possibility that the measurement of food addiction is biased towards people who eat more UPFs. Additionally, early research has also posited that food addiction may be more specific and is an addiction to UPFs.^{16,17}

Both food insecurity and food addiction have been shown to increase risk of chronic disease. Food addiction has been shown to have a positive association with BMI,¹⁸⁻²¹ and chronic conditions, including type 2 diabetes and some stroke risks.^{22,23} Food insecurity is associated with overweight and obesity,^{6,24} as well as a host of other chronic diseases, including hypertension, asthma, diabetes, coronary heart disease, and stroke.^{25,26} As previously noted, both people with food addiction and people experiencing food insecurity consume more UPFs than those without food addiction or who are food insecure.^{7,9,10,17} Increased UPFs are also associated with obesity, hypertension, diabetes, and cardiovascular disease,^{8,27-29} providing another potential mechanism linking food addiction to chronic disease risk.

Public and private sectors approach food insecurity at the local, state, and national levels to reduce food insecurity and its negative impacts. Two such approaches, addressed by this dissertation were food pantry utilization and SNAP. Food pantry utilization increased in 2020 and continues to grow through 2026 due to economic instability.^{30,31} Food pantry utilization has been shown to increase food security, healthy food consumption as determined by the Healthy Eating Index, and overall health.³²⁻³⁴ Similarly, SNAP has been shown to reduce food insecurity by up to 30 percent,³⁵ and is linked to positive health outcomes, making fewer doctor visits, and missing fewer days of work due to illness.³⁶ SNAP also likely reduces the burden of the cost of healthcare, as SNAP resources may free up household funds for medications reducing hospitalizations resulting from missed or reduced doses.^{37,38}

In our sample of 145 food pantry patrons in the Greater Boston Area, approximately half (49.6%) currently had SNAP benefits. Massachusetts eligibility requirements to access SNAP are among the country's most broad. Eligibility criteria in Massachusetts are a) be at or below 200% of the poverty line;³⁹ b) asset limits only if a member of the household has record of intentional [SNAP] program violations or if the household has income above 200% of the poverty line but includes one or more 60+ member getting disability benefits;⁴⁰ and c) able-bodied adults without dependents (ABAWDs) must work, do approved employment trainings, and do community service or volunteer for 80 hours a month.⁴¹ Twenty-four states have lower poverty limits, ranging from the federal SNAP limit of 130 percent to 185 percent of the poverty line.³⁹ Additionally, states may have additional eligibility rules, such as stricter work requirements for ABAWDs, and asset limits. Twelve states, including Nebraska, have asset limits, ranging from \$3,000 to \$25,000.⁴² Twenty-two states limit SNAP eligibility due to previous felony drug convictions,⁴³ including Nebraska, the focus of chapter 5. It is likely that states with more restrictive SNAP eligibility criteria have a higher proportion of food insecure households that do not have access to SNAP.⁴⁴⁻⁴⁶ Additionally, given the current political climate at the time of this writing (2026), there is

concern that as immigrants attempt to recertify their SNAP access, many will be removed from the program due to the eligibility changes. The One Big Beautiful Bill Act⁴⁷ included language to limit access to federal safety net programs for immigrants without green cards. Given the likely connections between food security and food addiction, UPF consumption, and chronic diseases, increased food access may reduce chronic disease burden overall.⁴⁸

Implications

Our goal was to add to the developing literature connecting food insecurity with food addiction. Although the pathology of food addiction may not be new, the identification of and ability to measure food addiction and its symptoms is relatively recent. Chapter 3 identifies gaps in knowledge; primarily the association between socioeconomic factors and food addiction are yet to be understood. Chapter 4 bolsters the initial evidence that experiencing food insecurity is associated with reported food addiction with distress and impairment. As food addiction research continues to develop, we hope that food insecurity and food addiction will be considered in the treatment of obesity and obesity-related chronic disease.

Through this dissertation, we aim to develop additional resources for policy makers to work to expand SNAP benefits and access to food pantries and other charitable food services. Increased food security may reduce chronic disease burden, either alone or in tandem with reduced UPF consumption, as people with lower food security consume higher rates of UPFs.^{9,10,17,49} We recommend the 22 states with full or partial felony drug conviction SNAP bans remove these bans to increase accessibility for SNAP. Given what we have ascertained from chapter 5, this may require changes in the make-up of state legislatures rather than compromise. Furthermore, given the unique structure of the Nebraska legislature, there may be distinct strategies or changes needed in differing states.

Future directions

The first two aims of this dissertation (Chapters 3 and 4) set the stage for continued research focusing on SES, food security status, and food addiction. As food addiction research evolves, ensuring individuals experiencing food insecurity are represented in the research is of importance. We expect the recent interest in glucagon-like-peptide-1 medications to reduce binge eating and as a treatment for substance use disorders to gain prominence in the food addiction research space.^{50,51} However, even if they are shown to reduce food addiction symptoms, it is likely that adherence to these medications will be cost prohibitive for people experiencing food insecurity.⁵² Treatment for food addiction must consider the cost burden for populations that are food insecure.

SNAP and food pantries represent two food insecurity mitigation strategies, both reducing food insecurity while improving health. However, studies demonstrate that SNAP

beneficiaries consume more UPFs than low-income individuals without SNAP.¹⁰ As the One Beautiful Bill Act continues to impact low-income Americans with and without access to SNAP, future research questions focused in changed eating behaviors due to food insecurity should be pursued.

Conclusion

This dissertation seeks to connect food addiction, food security, and SNAP access. Three studies were completed, first to identify associations between SES and food addiction, second to determine the prevalence of food addiction among food pantry utilizers in Massachusetts, and third to analyze the lack of progress in removing the felony drug conviction partial SNAP ban in Nebraska. We add to the growing body of literature focused on SES and food addiction and identify barriers to removal of the Nebraska SNAP ban and highlight the need for expanded food access.

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Appendix 1: Full Search Terms for Aim 1

Table 7.1: Complete search strategies for included databases in Specific Aim 1 (Appendix 1)

Database	Search Terms
CINAHL	(yale AND food AND addiction* OR (addict* AND food) OR addict*and) AND eat* OR yfas) AND (((socioeconomic* OR 'ses' OR poverty OR wealth* OR 'low* income*' OR ((soci* OR economic* OR education*) AND adj2 AND (status* OR level* OR factor* OR environment* OR class* OR hierarch* OR milieu* OR attain*)) OR food*) AND adj2 AND (insecur* OR secur* OR assistan* OR vulnerabl*) OR occupation OR race OR raci* OR ethnic*)
Embase	((yale AND food AND addiction* OR (addict* AND food) OR addict*and) AND eat* OR yfas OR 'yale food addiction scale'/exp OR 'food addiction'/exp) AND ((socioeconomic* OR 'ses' OR poverty OR wealth* OR 'low* income*' OR ((soci* OR economic* OR education*) AND adj2 AND (status* OR level* OR factor* OR environment* OR class* OR hierarch* OR milieu* OR attain*)) OR food*) AND adj2 AND (insecur* OR secur* OR assistan* OR vulnerabl*) OR occupation OR race OR raci* OR ethnic* OR 'socioeconomics'/exp OR 'poverty'/exp OR 'income'/exp OR 'race'/exp OR 'food insecurity'/exp OR 'food security'/exp OR 'food assistance'/exp OR 'social care'/exp OR 'education'/exp)
Ovid	((Yale Food Addiction* or (Addict* and Food) or Addict*AND eat* or YFAS).mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word]) OR exp Food Addiction/) AND (((socioeconomic* or "SES" or poverty or wealth* or "low* income*" or ((soci* or economic* or education*) adj2 (status* or level* or factor* or environment* or class* or hierarch* or milieu* or attain*)) or Food*) adj2 (insecur* or secur* or assistan* or vulnerabl*)) or Occupation or (race or raci* or Ethnic*)).mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol

	supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word] OR exp Socioeconomic Factors/ or exp Social Class/ or exp Racial Groups/ or exp Income/ or exp Food Assistance/ or exp Educational Status/ or exp Food Security/)
PsycINFO	(yale AND food AND addiction* OR (addict* AND food) OR addict*and) AND eat* OR yfas) AND (((socioeconomic* OR 'ses' OR poverty OR wealth* OR 'low* income*' OR ((soci* OR economic* OR education*) AND adj2 AND (status* OR level* OR factor* OR environment* OR class* OR hierarch* OR milieu* OR attain*)) OR food*) AND adj2 AND (insecur* OR secur* OR assistan* OR vulnerabl*) OR occupation OR race OR raci* OR ethnic*)
PubMed	((Yale Food Addiction* or (Addict* and Food) or Addict*AND eat* or YFAS) or "Food Addiction"[Mesh]) AND ("Socioeconomic Factors"[MeSH Terms] OR "Racial Groups"[MeSH Terms] OR "Poverty"[MeSH Terms] OR "Income"[MeSH Terms] OR "Educational Status"[MeSH Terms] OR "Public Assistance"[MeSH Terms] OR "Food Assistance"[MeSH Terms] OR "Food Insecurity"[MeSH Terms] OR "Access to Healthy Foods"[MeSH Terms] OR "Food Security"[MeSH Terms] OR(((socioeconomic* or "SES" or poverty or wealth* or "low* income*" or ((soci* or economic* or education*) adj2 (status* or level* or factor* or environment* or class* or hierarch* or milieu* or attain*)) or Food*) adj2 (insecur* or secur* or assistan* or vulnerabl*)) or Occupation or (race or raci* or Ethnic*)))
Web of Science	(yale AND food AND addiction* OR (addict* AND food) OR addict*and) AND eat* OR yfas) AND (((socioeconomic* OR 'ses' OR poverty OR wealth* OR 'low* income*' OR ((soci* OR economic* OR education*) AND adj2 AND (status* OR level* OR factor* OR environment* OR class* OR hierarch* OR milieu* OR attain*)) OR food*) AND adj2 AND (insecur* OR secur* OR assistan* OR vulnerabl*) OR occupation OR race OR raci* OR ethnic*)

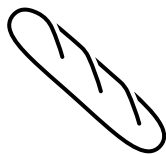
Appendix 2: Yale Food Addiction Scale Iterations

Table 7.2: Yale Food Addiction Scale Iterations (Appendix 2)

<i>Name of scale</i>	<i>Abbreviation</i>	<i>DSM Version</i>	<i>Year introduced</i>	<i>Number of items</i>
Yale Food Addiction Scale ¹	YFAS	DSM IV	2009	25
modified Yale Food Addiction Scale ²	mYFAS	DSM IV	2014	9
Yale Food Addiction Scale version 2.0 ³	YFAS v2.0	DSM V	2016	35
modified Yale Food Addiction Scale version 2.0 ⁴	mYFAS v2.0	DSM V	2017	13

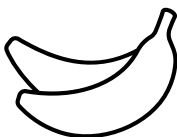
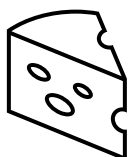
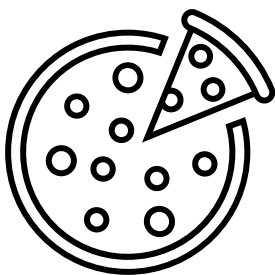
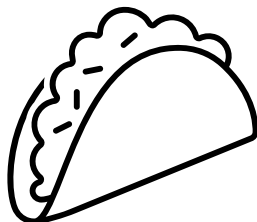
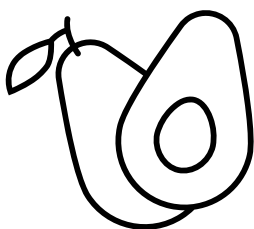
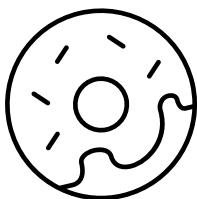
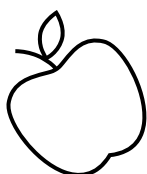
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Appendix G: Food Pantry Eating Behavior and Health Survey



Food pantry eating behavior and health survey

Conducted by researchers at Tufts University



In years, what is your age? _____years old

Are you able to understand, speak, and answer questions in English?

- ☐ **Yes**
- ☐ **No**
- ☐ **Unsure**

Do you currently reside in the greater Boston area?

- ☐ **Yes**
- ☐ **No**
- ☐ **Unsure**

Who are you at the food pantry to provide food for today?

- ☐ **Myself only**
- ☐ **My household (family or others I live with)**
- ☐ **Someone else or a different household from the one I live in**

#_____

Thank you so much for your participation in the Eating Behaviors and Food Pantry Use Survey! Please mark the bubble that most closely matches how you would answer. If you are uncomfortable answering any of the questions, you can skip that question. To receive your \$20 gift card, please answer a minimum of 20 questions.

1. What is your current gender identity?

- ☐ Male
- ☐ Female
- ☐ Male to female transgender
- ☐ Female to male transgender
- ☐ Nonbinary, genderqueer
- ☐ Something else, please specify: _____

2. Are you of Spanish, Latino, or Hispanic origin?

- ☐ Yes
- ☐ No

3. Which of these categories describes your race? *Please select all that apply.*

- ☐ White
- ☐ Black or African American
- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Native Hawaiian or Pacific Islander
- ☐ Something else, please specify: _____
- ☐ Unsure

4. Do you currently receive support from Food Stamps or the Supplemental Nutrition Assistance Program (SNAP/EBT)?

- ☐ Yes, skip to question **5** 
- ☐ No
- ☐ Unsure

4a. Have you ever received support from Food Stamps or Supplemental Nutrition Assistance Program (SNAP/EBT)?

- ☐ Yes
- ☐ No
- ☐ Unsure

5. Do you currently receive support from Women, Infants and Children (WIC)?

- ☐ Yes
- ☐ No
- ☐ Unsure

Below are several statements that people have made about their food situation. For these statements, please tell me whether the statement was *often true*, *sometimes true*, or *never true* for you in the last 12 months.

6. I worried whether my food would run out before I got money to buy more.

- ☐ Often True
- ☐ Sometimes True
- ☐ Never True

7. The food that I bought just didn't last and I didn't have money to get more.

- ☐ Often True
- ☐ Sometimes True
- ☐ Never True

8. I couldn't afford to eat balanced meals.

- ☐ Often True
- ☐ Sometimes True
- ☐ Never True

9. In the last 12 months did you ever cut the size of your meals or skip meals because there wasn't enough money for food?

- ☐ Yes
- ☐ No, skip to question **11**

10. If you have cut the size or skipped meals, how often did this happen?

- ☐ Almost every month
- ☐ Some months but not every month
- ☐ Only 1 or 2 months

11. In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food?

- ☐ Yes

☐ No

12. In the last 12 months, were you ever hungry but didn't eat because there wasn't enough money for food?

☐ Yes

☐ No

13. In the last 12 months, did you lose weight because there wasn't enough money for food?

☐ Yes

☐ No

14. In the last 12 months, did you (or other adults in your household) ever not eat for a whole day because there wasn't enough money for food?

☐ Yes

☐ No, skip to question **16**

15. If you did not eat for a whole day, how often did this happen?

☐ Almost every month

☐ Some months but not every month

☐ Only 1 or 2 months

16. Including today, in the last 12 months, how often did you go to this or any other food pantry?

☐ More than once per month

☐ About once per month

☐ About once every other month, or 5-7 times a year

☐ A few times, or 2-4 times

☐ One time

This survey asks about your eating habits in the past 12 months. People sometimes have difficulty controlling how much they eat of certain foods such as:

- Sweets like ice cream, chocolate, doughnuts, cookies, cake, candy

- Starches like white bread, rolls, pasta, and rice

- Salty snacks like chips, pretzels, and crackers

- Fatty foods like steak, bacon, hamburgers, cheeseburgers, pizza, and French fries

- Sugary drinks like soda pop, lemonade, sports drinks, and energy drinks

When the following questions ask about “CERTAIN FOODS” please think of ANY foods or beverages similar to those listed in the food or beverage groups above or ANY OTHER foods you have had difficulty with, in the past year

17. I ate to the point where I felt physically ill.

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

18. I spent a lot of time feeling sluggish or tired from overeating.

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

19. I avoided work, school, or social activities because I was afraid I would overeat there.

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

20. If I had emotional problems because I hadn't eaten certain foods, I would eat those foods to feel better.

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

21. I had significant problems in my life because of food and eating. These may have been problems with my daily routine, work, school, friends, family or health.

- ☐ Never
- ☐ Less than monthly

- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

22. My eating behavior caused me a lot of distress.

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

23. My overeating got in the way of me taking care of my family or doing household chores.

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

24. I kept eating in the same way even though my eating caused emotional problems.

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

25. Eating the same amount of food did not give me as much enjoyment as it used to.

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

26. I had such strong urges to eat certain foods that I couldn't think of anything else.

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

27. I tried and failed to cut down on or stop eating certain foods.

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

28. I was so distracted by eating that I could have been hurt (e.g., when driving a car, crossing the street, operating machinery.)

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month

- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

29. My friends or family were worried about how much I overate.

- ☐ Never
- ☐ Less than monthly
- ☐ Once a month
- ☐ 2-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☒ 4-6 times a week
- ☐ Every day

The next set of questions asks about your general and mental health

30. In general, would you say your health is:

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor

How true or false is each of the following statements for you?

31. I seem to get sick a little easier than other people.

- ☐ Definitely true
- ☐ Mostly true
- ☐ Don't know
- ☐ Mostly false
- ☐ Definitely false

32. I am as healthy as anybody I know.

- ☐ Definitely true
- ☐ Mostly true
- ☐ Don't know
- ☐ Mostly false

☐ Definitely false

33. I expect my health to get worse.

- ☐ Definitely true
- ☐ Mostly true
- ☐ Don't know
- ☐ Mostly false
- ☐ Definitely false

34. My health is excellent.

- ☐ Definitely true
- ☐ Mostly true
- ☐ Don't know
- ☐ Mostly false
- ☐ Definitely false

Has a doctor, nurse, or other health professional ever told you that you had any of the following? For each, tell me yes, no, or you're not sure.

35. Ever told you that you had a heart attack also called a myocardial infarction?

- ☐ Yes
- ☐ No
- ☐ Not sure

36. Ever told you that you had cardiovascular disease or heart disease?

- ☐ Yes
- ☐ No
- ☐ Not sure

37. Ever told you had a stroke?

- ☐ Yes
- ☐ No
- ☐ Not sure

38. Ever told you had diabetes?

- ☐ Yes
- ☐ No, skip to question **40**
- ☐ Not sure, skip to question **40**

39. How old were you when you were told you had diabetes? _____ years old

40. Ever told you had hypertension or high blood pressure?

- ☐ Yes
- ☐ No
- ☐ Not sure

41. Have you ever been told by a mental health professional, such as a psychiatrist or psychologist, that you had a mental health condition?

- ☐ Yes
- ☐ No, skip to question **44**
- ☐ Not sure, skip to question **44**

42. If yes, specify which, *select all that apply*.

- ☐ A depressive disorder
- ☐ Manic-depression, bipolar disorder, or mania
- ☐ Schizophrenia or another psychotic disorder
- ☐ Post-traumatic stress disorder
- ☐ Another anxiety disorder, such as a panic disorder
- ☐ A personality disorder (such as an antisocial or borderline personality disorder)
- ☐ Any other mental or emotional condition:
Specify _____

43. When were you most recently told that you had this (these) conditions?

- ☐ Less than 6 months ago
- ☐ 6 months to 1 year ago
- ☐ 1 to 2 years ago
- ☐ More than 2 years ago

This last set of questions asks about general questions about yourself.

→ **44.** In feet and inches, how tall are you?

_____ feet and _____ inches

45. In pounds, how much do you weigh?

_____ pounds

46. What is the highest level of education you've completed?

- ☐ No formal education
- ☐ Less than high school diploma or equivalent
- ☐ Highschool diploma or equivalent (GED)
- ☐ Some college
- ☐ Associate's degree or Vocational Degree
- ☐ Bachelor's Degree

- ☐ Graduate Degree (MS, MA, PHD)
- ☐ Professional Degree (MD, JD)

47. What type of housing or dwelling do you currently live in?

- ☐ House
- ☐ Apartment
- ☐ Trailer or mobile home
- ☐ Rooming-house, hotel or motel
- ☐ On the street or in a homeless shelter
- ☐ In a group living situation or institution, such as a hospital, halfway house, recovery home, dormitory, etc.
- ☐ In another type of housing? Please specify:

48. In the last 12 months has there been a time when you were homeless, living on the street or in a shelter?

- ☐ Yes
- ☐ No

49. Which of the following best represents your annual household income?

- ☐ No income
- ☐ Under \$20,000
- ☐ \$20,000-29,999
- ☐ \$30,000-39,999
- ☐ \$40,000-\$49,999
- ☐ \$50,000-\$59,999
- ☐ \$60,000-\$69,999
- ☐ \$70,000 or more
- ☐ Don't know

50. Are you currently employed?

- ☐ Yes
- ☐ No, skip to question **52** _____

51. Is this full-time, part-time, or occasional work?

- ☐ Full-time
- ☐ Part-time
- ☐ Occasional

52. Do you currently have health insurance?

- ☐ Private health insurance offered through an employer or union or someone else's job
- ☐ Private health insurance plan that you bought yourself

- 
- ☐ Medicaid or some other type of state-funded medical assistance
 - ☐ Medicare (the government program that pays health care bills for people over age 65 and for some disabled people)
 - ☐ Military or veteran's health insurance coverage
 - ☐ Other _____
 - ☐ None
 - ☐ I don't know

53. What is your relationship status?

- ☐ Single
- ☐ In a relationship
- ☐ Married
- ☐ Divorced
- ☐ Widowed

54. Do you have a pet cat or dog?

- ☐ Yes, dog(s)
- ☐ Yes, cat(s)
- ☐ Yes, both cat(s) and dog(s)
- ☐ No

Thank you so much for taking our survey! Please return the survey to receive your gift card!

For questions or comments please contact Anna Grossman:
anna.grossman@tufts.edu or 402-880-7300

Appendix H: Semi-structured Interview Guide

Nebraska SNAP Qualitative Study

Participant ID: _____

Interview Date: __/__/____

Overview

Hi, thank you again so much for taking the time to chat with me today. While I'm originally from Nebraska, I am currently a PhD student at Tufts University. The purpose of this interview is to understand different perspectives and views of government assistance, including SNAP or Supplemental Nutrition Assistance Program, also known as food stamps or EBT, perspectives of drug use, and perceptions of the consequences of drug convictions in Nebraska. Thank you so much in advance for your time today

Read through Informed Consent From

Thank you, I will begin the recording now.

Do you agree to participate today? YES / NO

Do you agree to be audio recorded for the duration of this interview? YES / NO

1. Introduction

Tell me a little about yourself, what do you do?

How long have you lived in Nebraska?

2. Perceptions of people using government benefits, like SNAP

Next, I want to discuss SNAP and other government benefits.

Thinking about the government assistance Nebraska and the federal government provides, do you think it is too little, about the right amount or too much? Why?

What government assistance programs, if any, do you think are the most beneficial to Nebraskans? Why are they/is it beneficial?

What government assistance programs, if any, do you think are the least beneficial to Nebraskans? Why?

What are the circumstances, in your opinion, in which people should receive these types of benefits?

Other than the current ban on people with certain drug convictions, the eligibility to criteria to receive SNAP is to have a gross income less than 165% of the poverty line (for 1 person, this is \$24,057 per year), be a citizen of Nebraska or lawful-non citizen, if able bodied and between the ages of 18-49, and to work a minimum of 20 hours per week.

[For interviewer if asked by interviewee:

Other states federal poverty limit: North Dakota and Colorado, 200% of the poverty line; Iowa 160% of the poverty line; South Dakota 130% of the poverty line

Other states work requirement- all yes, Iowa and Colorado up to age 54, North Dakota up to age 59

All states- Citizen or lawful non-citizen

Iowa, South Dakota, Colorado, North Dakota, all have removed any from of a SNAP ban due to drug convictions]

Of these criteria, is there anything you would change? Why?

Outside of the current eligibility criteria, are there people in Nebraska you believe should be unable to participate in SNAP?

Are there any people who are currently ineligible for SNAP that you think should be able to benefit from it?

Who in Nebraska most often use government assistance, like SNAP?

3. Perceptions of people with history of drug convictions, incarceration, drug use

Now I want to ask you a few questions about, marijuana and other illegal drugs (like cocaine, crack, methamphetamines, and opiates), addiction and incarceration.

In Nebraska, how serious an issue is illegal drug use?

Could you describe, for me, a person who uses “hard drugs”? What about marijuana?

What do you think is the appropriate legal response to drug possession convictions if there is one? *Three felony drug possession convictions remove your eligibility from SNAP.*

Probe: Does it change by type of drug? What about number of repeated offenses? Why?

What do you think is the appropriate legal response to drug distribution? *One felony drug distribution conviction removes your eligibility from SNAP.*

Probe: Does it change by type of drug? What about number of repeated offenses? Why?

In October of this year (2024), the Nebraska Supreme Court upheld a bill that was approved by the legislature that allowed felons to vote upon completion of their sentence, including any parole.

What are your opinions on the law which was passed and was reinforced by the supreme court, that allows felons to vote upon completion of their sentence?

Probes: Types of crimes? Drug crimes?

4. Attitudes and perceptions of food security and recidivism

Recidivism is when someone who has been convicted of a crime re-offends, often but not always the same crime. This can often result in being re-incarcerated. Currently, Nebraska's recidivism rate is about the United States average, but also one of only a few states to have increased recidivism since 2008.

When thinking about drug crimes, what might be some reasons someone might reoffend? (addiction, financial gain, poverty, environment)

What about why someone might **not** reoffend? (deterrence due to existing punishment, social support, substance use treatment and support)

People who have been in jail or prison and/or been on community supervision like probation or parole are often less well-off economically compared to those who have not been convicted of a crime. Based on your understanding, why is that?

I'd like to ask you about your thoughts on people who use food access and security.

Could you tell me what you think about people on probation or parole receiving government assistance, such as SNAP, WIC- or food assistance for Women, Infants and Children, and Temporary Assistance for Needy Families (TANF)?

5. Questions about current ban, overall views, changes if removed

Currently in Nebraska, if someone receives three drug possession felony convictions or one intent to distribute felony conviction they cannot receive SNAP indefinitely. I want to ask you some questions about your thoughts on this.

What are your views on this policy? Why?

Do you think this policy is, and I have a few options, just about right, need to be changed to provide more restrictions to people with certain drug related convictions, or needs to be changed to provide less restriction to people with certain drug related convictions?

If they think change is needed: Can you say more about what kind of changes you think are needed?

If someone has one or two possession felonies, in order to receive SNAP, they must pay for and participate in a state approved drug treatment program. Could you tell me your opinions on this policy?

If this ban were to be removed, how might that impact Nebraskans?

Probe: What about taxes Nebraskans pay?

If this ban were to be removed, how might that impact people with drug convictions in Nebraska?

If this ban was enhanced or made stricter, and any single felony drug conviction resulted in a ban from SNAP indefinitely, how might that impact Nebraskans? Taxes in Nebraska? People with drug convictions in Nebraska?

If people with 3 or more possession felony convictions or one or more intent to distribute were able to access SNAP, what concerns would you have, if any?

6. Key barriers to removing SNAP ban, advocacy groups

The bill to remove the drug conviction partial SNAP ban has been introduced in the Nebraska legislature several times in the last 10 years. The next few questions ask about advocacy groups and individuals, both who support and oppose removing the drug related conviction SNAP ban.

Are there any organizations or advocacy groups that are advocating for or against these bills? What groups? Could you tell me about this organizations views on this specific issue?

What key issues do opponents discuss, either in committee hearings or during debate, regarding these bills?

Have their arguments changed over time? If yes, how so?

What key issues do proponents discuss, either in committee hearings or during debate, regarding these bills?

Have their arguments changed over time? If yes, how so?

7. Previous tactics that have worked to expand government assistance

Last, I want to ask you about a few times in Nebraska that the legislature expanded who could receive government benefits.

During the COVID-19 pandemic, Nebraska expanded its SNAP income eligibility to 165% of the poverty line compared to 130%. Despite the pandemic ending, this expansion recently was extended through at least 2025.

Could you tell me what you think about the income limit increase extension?

What helped facilitate this extension to the SNAP income expansion?

Despite it being passed, were there any barriers to this extension? If so, tell me more about that.

In 2023, Medicaid was expanded to cover postpartum people from 60 days to 6 months, and Department of Health and Human Services provides up to 12 months of Medicaid coverage.

Could you tell me what your opinion is about the extension of Medicaid coverage for postpartum people? Is it an improvement or a setback in Medicaid coverage?

What helped facilitate this expansion of coverage?

Despite it being passed, were there any barriers to this expansion of coverage? If so, tell me more about that.

Thank you so much for your time and input!