

Summary

This research project examines the degree to which urban church food pantries are connected to the clients they serve as assessed through a social network analysis. Results from an online survey of urban churches (N = 26), indicate that the size of a church does not limit the service range of its food pantry. Medium-sized churches (n = 13) with memberships between 100-299 were found to have the most social network ties.

Introduction

Food insecurity is the limited access to adequate food due to a lack of money or other resources. In 2018, 11.1% of U.S. households were food insecure.¹ Food pantries are emergency food providers which seek to help food insecure households through the distribution of foods. In 2017, 26% of food insecure households utilized a food pantry for emergency food.² A recent report indicated that a large majority of food pantries (88%) are operated by faith-based or church groups.³ Churches are important links between food insecure households and access to food in times of need. Churches are not newcomers to the health arena and have found success in identifying members of at-risk populations.^{4,5} Examining the social networks of church food pantries and the clients they serve is important as it helps to explain their connectedness in the community, as well as demonstrate the potential that lies within and between these networks. Social networks can be explained as the system of relationships in which people are embedded or connected.⁶ When conducting a social network analysis, connections are viewed as “nodes” (e.g. individuals or points) and their adjoining “ties” (e.g. relationships between the nodes).⁷ Researching the social networks of church pantries can provide an understanding of how churches serve a city and its residents, as well as assist researchers or policymakers in enhancing the efficiency and effectiveness of the emergency food system. The **study objective** was to examine the degree to which urban church food pantries are connected to the clients they serve using the social network theory.

Methods

Study Design, Settings & Participants: The research design was a population-based, cross-sectional study using a snowball sampling method of church food pantries in Nashville, Tennessee, from 2015 - 2018. The study population included 93 urban churches in Nashville, Tennessee, with 46 having on-site food pantries. The study was approved by the Middle Tennessee State University Institutional Review Board (IRB).

Measurable Outcome/Analysis: Zip codes for church-based food pantries and the clients they serve were collected via an electronic survey tool distributed to urban churches. Self-reported data was collected and evaluation of the food pantry social network nodes and ties were analyzed utilizing UCINET 6 software.⁷ A sociogram, or visual matrix, was developed using NetDraw software.⁸

Results

A social network analysis was used to describe the relationship between church food pantries and zip codes served. The overall number of churches included in the sample was 26 from 30 different zip codes. Membership within the sampled churches ranged from 40 to 3000 parishioners. Baptist churches made up 26.9% (n = 7) of the sample followed by 23.1% Non-Denominational (n = 6), 15.4% Methodist (n = 4), 11.5% Church of Christ (n = 3), and 23.1% Other (n = 6) (Table 1). In the sociogram (Figure 1), or visual matrix, churches are color-coded for church size: blue for small-sized churches (membership = <100), pink for medium-sized churches (membership = 100 to 299), and green for large-sized churches (membership = ≥300). Zip codes of clients served by church pantries are indicated by orange boxes. The ties are represented by the black lines connecting the nodes. The social network analysis depicts 56 nodes (26 churches; 30 food pantry client zip codes) and 148 social network ties (Figure 1). Five large-sized churches, 13 medium-sized churches, and 8 small-sized churches were identified. Large-sized churches had 31 social network ties, medium-sized churches had 98 social network ties, and small-sized churches had 19 social network ties. Two central, medium-sized churches (Figure 2) had the most ties with 20 (NorthNashM) and 30 (DonelsonM), respectively. The “NorthNashM” church was a Methodist church with a 150 parishioner membership, and the “DonelsonM” church was an Episcopal church with a 200 parishioner membership.

Denomination	Frequency (N = 26)	Percent
Baptist	7	26.9
Non-Denominational	6	23.1
Methodist	4	15.4
Church of Christ	3	11.5
“Other” (e.g. Quaker, Episcopal, etc.)	6	23.1

Table 1. Denominations of urban church food pantries included in the social network analysis.

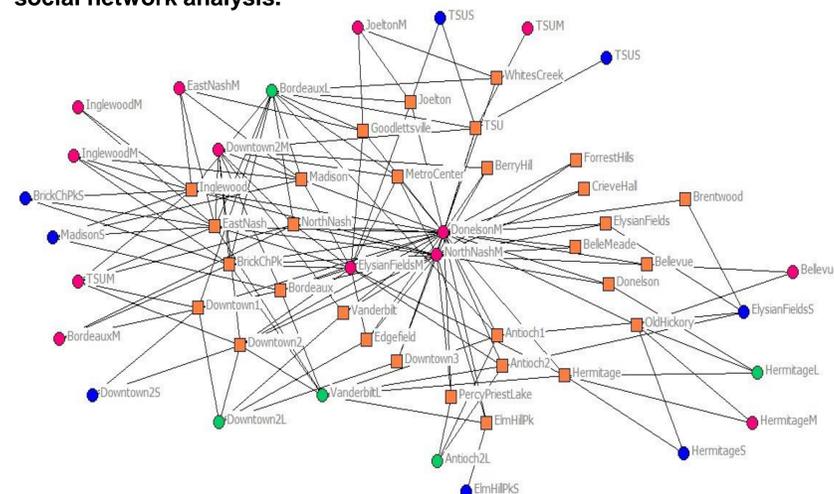


Figure 1. A social network analysis sociogram, or visual matrix, of urban church food pantries (N = 26) and the zip codes they served. Small (blue), medium (pink) and large churches (green) are represented by circles. Orange boxes are the zip codes served by the church pantries. The black lines are the ties or connections between church food pantries and client zip codes.

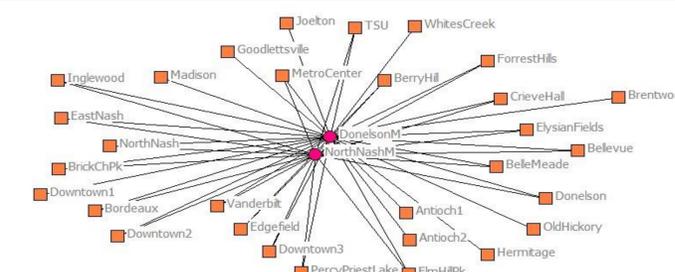


Figure 2. A social network analysis sociogram of two central, medium-sized urban churches (pink circles) with the most social network ties (black lines) and the client zip codes they served (orange boxes).

Discussion & Conclusions

When viewing the sociogram (Figure 1), the churches with fewer social network ties are located towards the outside of the visual matrix while churches with a greater number of social network ties are positioned or clustered towards the center. Although it was initially assumed that large-sized churches would have more social network ties, church size was not found to be a limiting factor in serving urban areas through food pantries. Limitations of the study include a relatively small sample size of 26 churches and self-reporting of client zip codes. In this study there was found no typical system of tracking food pantry client data from church to church. Further research using a larger sample size is needed to ensure a more representative picture of the extent to which church food pantry social networks reach vulnerable populations. In addition, the extent to which clients are adequately served should be assessed. Realistic estimation of church food pantry reach and usage in urban areas are vital for evidence-based decision making by policymakers and church leadership as they seek to address food insecurity in communities across the United States.

Key Findings

- Social network analysis can be useful in assessing the extent to which food pantries are located and serve a certain geographical area.
- Churches play an important role in linking food insecure households to food access through their pantries.
- A variety of church membership sizes and locations are needed in order to fully meet the needs of urban food pantry clients.

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