

Food Insecurity: A Single Question Survey in Angwin, CA

Ariane Gregory, Ana Hernandez, Becky Broeckel, and Monte Butler



Abstract

The purpose of this study was to assess food insecurity in Angwin, CA using a single question survey. Two hundred eighty-nine participants from four segments of the Angwin population were compared. Angwin laundromat customers and food program customers experienced high levels of food insecurity while student/staff/faculty housing residents and College Market customers experienced low levels of food insecurity. Food insecurity in Angwin is also experienced more by community members who prefer Spanish to English.

Introduction

In the United States, over fifteen percent of families with children have insufficient resources to feed household members properly (Nord, Andrews, & Carlson, 2007). Almost one third (30.4 percent) of households headed by single mothers experience food insecurity, and people living in urban areas suffer from food insecurity more often than do those in rural areas; however, food insecurity is still evident in rural areas (Nord, Andrews, & Carlson, 2007). Rush, Ng, Irwin, Stitt, and He (2007), in their work with immigrants, discovered that even those with good educations experienced one of several variations of food insecurity in the past 30 days. Rush et al. (2007) concluded that new immigrants had unhealthy food intake along with the other factors of food insecurity. In addition, food prices rose 52 percent between 2007 and 2008 (Buerkle, 2008). If food prices keep rising, food insecurity will increase.

Scientists studying hunger may use multiple surveys (as did Rush et al., 2007) or a single survey. Surveys can be long or short; each has its advantages and disadvantages. Longer surveys, while they can glean more information, are cumbersome and tedious and participants are less willing to volunteer input. Shorter surveys can efficiently collect specific data while not discouraging participation.

Kleinman, Murphy, Wieneke, Desmond, Schiff, and Gapinski (2007) developed a single-question survey to quickly assess food insecurity. The single question survey elicited accurate information 81 percent of the time. A test of the time-to-time stability showed that 77 percent of participants responded the same way.

The purpose of our study was to assess food insecurity in Angwin (an affluent community in the Napa Valley of California) using a single question survey. We predicted that clients of Angwin food programs would have the highest levels food insecurity, followed in decreasing levels of food insecurity by Angwin laundromat customers, student/staff/faculty housing residents, and College Market customers. Our hypothesis was based on the anticipated levels of disposable income in the groups.

Method

Participants

Participants were 289 individuals who completed surveys at the Community Services Food Pantry (10 [1.4%] 5 English speaking and 5 Spanish speaking), Neighborhood Table (28 [4%] 22 English speaking and 6 Spanish speaking) both of which were later categorized as Food Programs, student/faculty/staff housing (48 [6.9%] 45 English speaking and 3 Spanish speaking), Angwin Laundromat (52 [7.4%] 34 English speaking and 18 Spanish speaking), and the College Market (159 [22.6%] 152 English speaking and 7 Spanish speaking).

Apparatus

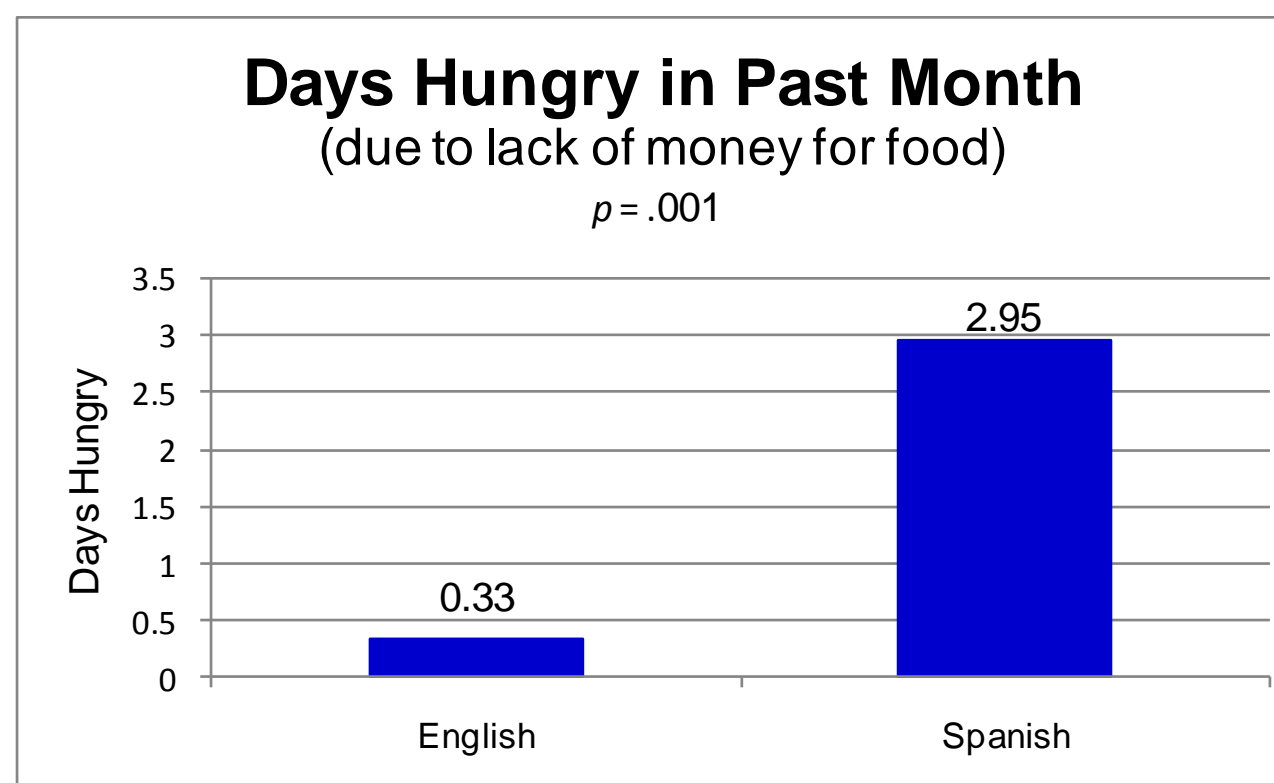
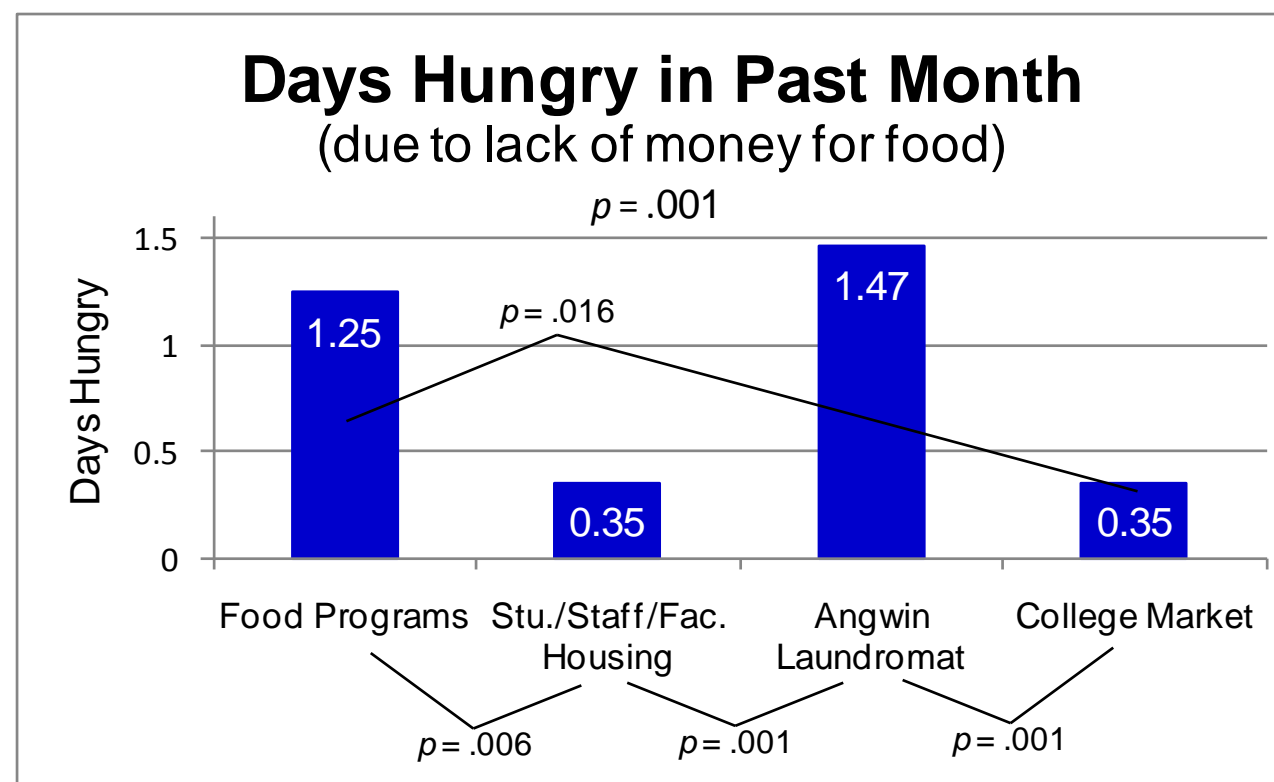
The survey was based on the single question design developed by Kleinman et al. (2007). Our survey, rather than allowing a yes or no response as was the case with the Kleinman survey, asked “How frequently in the past month did you or anyone in your family go hungry because you did not have enough money for food?” Another modification to the food insecurity survey we made was to translate it into Spanish. Translating the question into Spanish enabled us to include non-English speakers, thereby reducing bias against this segment of the Angwin community.

Procedure

We asked every visitor/resident if he or she was willing to participate in an anonymous, fifteen second survey concerning food insecurity. Participants then placed completed surveys in a drop box. We collected surveys from those who visited the Neighborhood Table—part of the Angwin food programs (Thursday, 11am to 1pm) the Angwin laundromat, (Sunday, 7am to 9pm), and the College Market (Tuesday, 11am to 2pm and 6pm to 7:30pm). We also collected surveys at the homes of those who used the Community Services Food Pantry—also part of the Angwin food programs (Thursday, 1:30pm to 2:30pm, 5pm to 7pm, and Friday 2pm to 4pm), and the homes of students/staff/faculty (Brookside Apartments: Wednesday, 5pm to 6:30pm; Mobile Manor: Thursday, 3pm to 5pm; Court place: Thursday, 6pm to 7pm).

Results

Of the 289 participants, 14.5% said that they, or a member of their family, experienced hunger due to lack of money for food in the last month. We used a Kruskal-Wallis analysis to test for differences in median levels of



food insecurity among participants in various locations (Angwin food programs, student/staff/faculty housing, the Angwin Laundromat, and the College Market). The test, corrected for tied ranks, was significant, $\chi^2(3, n = 289) = 19.34, p = .001$. The proportion of variability in the ranked levels of food insecurity was .07, indicating a moderate relationship between participant location and food insecurity.

We conducted follow-up Mann-Whitney U analyses to evaluate pairwise differences among the four groups, controlling for Type I error across tests using the Holm’s sequential Bonferroni approach. The results indicated that customers of the Angwin Laundromat and Angwin food programs experienced high levels of food insecurity while residents in student/staff/faculty housing and customers of the College Market had low levels of food insecurity.

We also conducted a Mann-Whitney U analysis to test for differences among preferred language (English or Spanish) and mean levels of food insecurity. The test was significant, $z = -7.93, p = .001$. Participants preferring to use the Spanish survey had a mean rank of 207.32, compared to 135.85 for English speakers.

Discussion

Our study was designed to assess which segments of the Angwin community suffer from food insecurity. The Spanish-speaking participants were found to have a higher level of food insecurity than their English-speaking counterparts. This result seems to support the idea that recent immigrants suffer from poor diets and/or food insecurity, regardless of education level (Rush et al., 2007).

These findings also reveal a need for additional programs to reduce food insecurity in Angwin. Programs addressing this need should be equipped to serve and advertise in both English and Spanish. Advertising should emphasize reaching customers of the Angwin laundromat and current food programs.