

# A Human Factors Analysis of Work in Food Pantries: A Case Study of Two Local Pantries

Nicholas A. Higgins

University of Central Florida, nhiggins@knights.ucf.edu

Danielle S. Vanderhill

University of Central Florida, dvanderhill@knights.ucf.edu

Keshia D. Pierre

University of Central Florida, keshiap@knights.ucf.edu

Jeremy DaCruz

University of Central Florida, jedacruz@knights.ucf.edu

Nicholas W. Fraulini

University of Central Florida, nicholas.fraulini@knights.ucf.edu

*See next page for additional authors*

Follow this and additional works at: <http://commons.erau.edu/hfap>



Part of the [Other Psychology Commons](#)

Nicholas A. Higgins, Danielle S. Vanderhill, Keshia D. Pierre, Jeremy DaCruz, Nicholas W. Fraulini, and Andrew B. Talone, "A Human Factors Analysis of Work in Food Pantries: A Case Study of Two Local Pantries" (April 4, 2016). *Human Factors and Applied Psychology Student Conference*. Paper 14.

<http://commons.erau.edu/hfap/hfap-2015/papers/14>

This Paper is brought to you for free and open access by the Human Factors and Applied Psychology Student Conference at ERAU Scholarly Commons. It has been accepted for inclusion in Human Factors and Applied Psychology Student Conference by an authorized administrator of ERAU Scholarly Commons. For more information, please contact [commons@erau.edu](mailto:commons@erau.edu).

---

**Presenter Information**

Nicholas A. Higgins, Danielle S. Vanderhill, Keshia D. Pierre, Jeremy DaCruz, Nicholas W. Fraulini, and Andrew B. Talone

A Human Factors Analysis of Work in Food Pantries:  
A Case Study of Two Local Pantries

Nicholas A. Higgins, B.S., Danielle S. Vanderhill, Keshia D. Pierre, Jeremy DaCruz,  
Nicholas W. Fraulini & Andrew S. Talone  
University of Central Florida

**ABSTRACT**

The goal of the present study was to investigate the work environment and main work processes in two small food pantries from a human factors perspective. Current research on enhancing food pantries in general is very limited, especially with a focus on human factors improvements. This study specifically aimed to understand and evaluate food pantry design (i.e., the environment and workflow), potential physical demands on worker performance (e.g., heavy lifting), and cognitive components of human-machine interaction for main tasks (e.g., perceptual-motor skills, disuse or misuse of the equipment, mental workload, decision-making, and error-recovery strategies). Findings were then used to identify improvements for current procedures and optimize the work environment and worker performance (i.e., increased comfort and efficiency) for both pantries through the application of human factors principles.

The study was conducted over the course of six months. Across both locations, 37 workers were observed in total (16 volunteers and 1 supervisor, 18 student volunteers and 2 supervisors; respectively). Two investigators for each location observed daily tasks and procedures within the pantry and conducted interviews with the pantry supervisors using techniques of ethnography (c.f., Wimmer & Dominick, 2006) and task analysis (c.f., Mayhew, 1999). Interviews addressed which tasks were the most or least common, the easiest or most difficult to perform, any issues workers had in general or specifically with the equipment, and clarification of observation notes. Then a more in-depth analysis was conducted on what were determined to be the main tasks for each pantry (i.e., obtaining pantry items, organizing pantry items, distributing pantry items to clients).

Suggestions for enhancing the human-machine interaction (e.g., enhancing the interface used for inputting volunteer and food information) and work environment (e.g., reducing clutter) are provided. It should be noted that sustainable improvement may be difficult to implement in small food pantries given the often transitional nature of the workers. Additional investigations should be implemented to further support small non-profit organizations such as these where there is a great need.

## Contact Information

Nicholas A. Higgins  
3609 Stonefield Drive  
Orlando, FL, 32826

**Phone:**

850-524-1875

**Email:**

nhiggins@knights.ucf.edu

**University Affiliation:**

University of Central Florida, Orlando, FL

Danielle S. Vanderhill  
Department of Psychology  
4000 Central Florida Blvd  
Orlando, FL, 32816

**Phone:**

407-371-7077

**Email:**

dvanderhill@knights.ucf.edu

**University Affiliation:**

University of Central Florida, Orlando, FL

Keshia D. Pierre  
Department of Psychology  
4000 Central Florida Blvd  
Orlando, FL, 32816

**Phone:**

407-361-8035

**Email:**

keshiap@knights.ucf.edu

**University Affiliation:**

University of Central Florida, Orlando, FL

Jeremy DaCruz  
Department of Psychology  
4000 Central Florida Blvd  
Orlando, FL, 32816

**Phone:**

434-213-0345

**Email:**

jedacruz@knights.ucf.edu

**University Affiliation:**

University of Central Florida, Orlando, FL

Nicholas W. Fraulini  
Department of Psychology  
4000 Central Florida Blvd  
Orlando, FL, 32816

**Phone:**

617-968-0496

**Email:**

Nicholas.fraulini@knights.ucf.edu

**University Affiliation:**

University of Central Florida, Orlando, FL

Andrew S. Talone  
Department of Psychology  
4000 Central Florida Blvd  
Orlando, FL, 32816

**Phone:**

407-362-8492

**Email:**

atalone@knights.ucf.edu

**University Affiliation:**

University of Central Florida, Orlando, FL