

# Chapter 22

## A Common Methodology: Using Cluster Analysis to Identify Organizational Culture across Two Workforce Datasets

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### ABSTRACT

*Organizational structures are comprised of an organizational culture created by the beliefs, values, traditions, policies and processes carried out by the organization. The work-life system in which individuals use work-life initiatives to achieve a work-life balance can be influenced by the type of organizational culture within one's workplace, for example a structured, rigid culture in which employees are afraid to ask questions versus a flexible, open culture where discussion is encouraged. Grouping methodologies such as cluster analysis or latent class analysis can be used to create typologies of organizational culture. The focus of this paper is to deconstruct the common methodology of cluster analysis used to identify typologies of organizational culture in the NSCW Study and the NOS Study, which set out to identify the impact of organizational culture on the use and existence of work-life benefits for individuals and organizations, respectively (Munn, 2012). The paper discusses the cluster analysis methodology in detail as well as another grouping methodology – latent class analysis - as a means to understanding the place of organizational culture in work-life research. The theoretical contributions of using cluster analysis to create typologies of organizational culture and the implications for workforce research are discussed.*

### 1. INTRODUCTION

Organizational structures are comprised of an organizational culture created by the beliefs, values, traditions, policies and processes carried out by organizations. Work-life initiatives aim to encourage healthy employees through the provision of organizational programs, practices, and policies implemented to support employee work-life balance (Lobel, 1999; Pitt-Catsoupes, Matz-Costa, & MacDermid, 2007). Knowing more about how organizational culture influences the decisions of employees to use or not to use work-life initiatives and how organizational culture influences the impact of work-life initiatives on organizational performance will help bridge the gap across the work-life system.

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“The work–life system includes three intersecting forces: individuals, organizations, and government, and three corresponding dimensions: work–life balance, work–life initiatives, and work–life policy. Each dimension in the work–life system has implications for workers, organizations, and government” (Munn, 2013, p. 403). The work-life system was conceptualized as part of two research studies, the NSCW Study and the NOS Study, which set out to identify the impact of organizational culture on the use and existence of work-life benefits (Munn, 2012, Munn, 2013).

In the NSCW Study it was hypothesized that an employee’s characteristics impact the use of work-life initiatives within a defined organizational culture. Similarly, in the NOS Study it was hypothesized that the existence of work-life initiatives impacts organizational performance within a defined organizational culture. Therefore, linking two of the forces of the work-life system - individuals and organizations (Munn, 2013) - both studies used a common methodology to first identify constructs of organizational culture available in the data and then to classify individuals (NSCW Study) and organizations (NOS Study) into homogenous groups (Munn, 2012).

There are some phenomena, such as employee behavior or organizational culture that can be “represented by a model in which there are distinct subgroups, types, or categories of individuals” (Collins & Lanza, 2013, Section 1.2, Para 1) or organizations. Each piece of the work-life system is influenced by the various cultures in which they exist. Understanding how the forces and dimensions of the work-life system interact within different organizational cultures can provide insight as to how work-life initiatives might be better provided and utilized (Munn, 2012).

To identify types of organizational culture in both the NSCW and the NOS Studies a cluster analysis (CA) was used to classify organizations. The result is a typology of organizational culture for each study, which can be used to answer the relevant research questions pertaining to the work-life system (see Table 5). The focus of this paper is to deconstruct the common methodology of CA used in both the NSCW and NOS Studies, discuss its pros and cons and identify other possible methodologies, such as latent class analysis which might also have been used to create a typology of organizational culture for this particular research (see Munn, 2012) as a means to understanding the place of organizational culture in work-life research.

This paper is divided into several sections. The second section provides context for the research by presenting brief descriptive information regarding the NSCW and the NOS Studies. (For the complete results of both studies see Munn, 2012). The third section provides a detailed discussion of grouping methodologies, including CA and latent class analysis (LCA). It deconstructs the use of CA in this context, identifies the typologies produced, and discusses the potential application of LCA to the NSCW and NOS data within this context. The fourth and fifth sections discuss organizational culture theory and links the identified typologies back to the existing literature around organizational culture. The paper concludes with implications for creating and using typologies of organizational culture in workforce research related to the work-life system.

## **2. DESCRIPTION OF NSCW STUDY AND NOS STUDY DATA AND FINDINGS**

The NSCW and NOS studies were chosen for several reasons. First, there is an identified connection between the work-life system and organizational culture. Second, both studies use publically available data sets. Because hierarchical data is difficult to obtain on organizations the NSCW data focused on the individual employee while the NOS data focused on the organization as the unit of analysis. Third, the

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