

A DESCRIPTIVE STUDY OF WORKPLACE ATTRIBUTES: ENVIRONMENTAL
PREFERENCE INDEX EXAMINED THROUGH ORGANIZATIONAL SYSTEM
PREFERENCE TYPOLOGIES

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by

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INDEX EXAMINED THROUGH ORGANIZATIONAL SYSTEM PREFERENCE

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DEDICATION

Tube socks are a one size fits all clothing article. Anyone from children to adults can purchase these type of socks and wear without alteration. Tube socks were created to address the need to fit the most people with one design regardless of size. Other socks with a special heel shape beckon the need for customization. I learned the tube sock analogy many years from Dr. Ronald Phillips as it applied to design and the need for integration research based design. I have carried his analogy with me for the past 20 years and is a big part of who and where I am today. His inspiration found within the common clothing element fits the study that is the basis of my research. His personal, academic, and research ideologies will always be with me, will continue to give profound nutrition to my own work, and will no doubt live beyond us all into the next generations to come. My sincere and profound indebtedness are his as I have navigated my own path. No doubt he will in all ways and for always be part of the people that I touch in the future.

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Finally, to the one that gave light to my path, my Lord. I do believe, I do have faith, and I know that you have always been there. But I know now firmly that you will never leave me and are my shelter. I have courage because of you.

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Abstract

Creating an effective workplace to fit each setting can be useful in changing social cognitive behavior, increasing employee retention, providing effective work environments, increasing company profits, and attracting new employees. Corporate businesses are in a heightened pressure state to adapt to changing world economies. The margin for error of a faulty space plan grows increasingly all the while the cost of doing business skyrockets. Businesses are being asked to adapt, realign, and alter their practices in order to promote greater profits and maintain a stable workforce. Traditional planning methods are being found ineffective in today's changing environment. Most space planning practices use past ideas and intuitive guesses to create what is needed for a satisfactory space plan. A deeper level of understanding is needed that capitalizes on management decisions and promotes employee satisfaction. The level of understanding would benefit from the development of a precise manner for determining workplace environmental preferences.

It is a common understanding within the architectural and business research fields that office employees are highly affected by the setting in which they conduct their work (Becker & Steele, 1995). The integration of two scaled indices to ascertain environmental preferences is an important area of study for today's research, design practice, and educational training which provide the opportunity to create patterns for creating environments that truly support the unique set of workers found within.

The Environment Preference Index (EPI) measures an office worker's built environment preferences which include the physical facility, furniture and equipment, the opportunity to control their surroundings, the organizational culture's integration into the

surrounding built environment, and the amenity spaces provided within the space. The Organizational System Assessment Scale index provides the ability to determine the organization's unique work type as a group or individual. The index provides the fundamental understanding to categorize all the workers within the studied organization by the way the worker views its current work setting and also their ideal way to work.

The final integration between the two indices provides insight to contribute to future research seeking to create work patterns to improve design and space planning. The need for this type of planning precision is profound and while many ideas seem to be common sense, many of the white paper resources currently available have not had formal testing that would lead to causal theory application. The research also has the opportunity to create a unifying bridge between different university colleges such as organizational studies found in the nation's business schools and architecture and design college institutions. Shared information would also be made available to further the link between education/research and private design planning practices.

The University of Missouri convenience study with a sample size of 411 respondents provides the opportunity to test out previously developed scaled indices, create a process to collect, study, and analyze survey data. As the University of Missouri Extension group sought to understand its workforce, they felt it important to know what areas in their overall physical structures could be enhanced to create a better work experience for its staff and faculty. The outcome for the study provides valuable insight into the organization's aggregate that previously would have been unavailable to researchers and practitioners alike as well as providing the opportunity for the contribution of improving the person and environment congruency.

Chapter 1. Introduction

“The office building is the most tangible reflection of a profound change in employment patterns that has occurred over the last one hundred years. In present-day America, northern Europe, and Japan, at least 50 percent of the working population is employed in office settings as compared to 5 percent of the population at the beginning of the 20th century” (Conway, 2010). The National Institute for Building Sciences considers whole building design the nature by which buildings are created through thoughtful consideration for all stakeholders and their individual needs (Whole Building Design Guide, 2015). The study’s purpose is to develop an organizational analysis planning process tool for practitioners to better plan design projects, for educators to prepare students for future practice, and for organizational analysis practice. As exemplified in Figure 1, understanding the relationship between the built environment and the people using the environment has beneficial feedback loop opportunities within each discipline’s practice as well as an informative connective possibility.

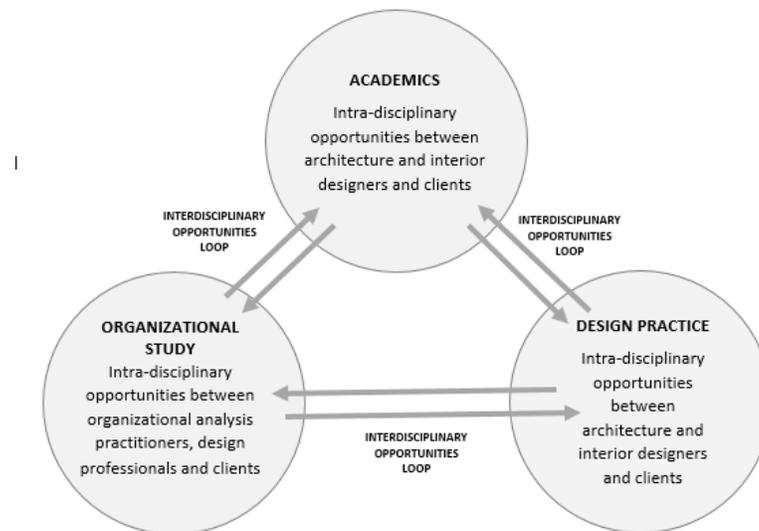


Figure 1. Discipline contribution and collaboration loop model, Ellis, 2015.

As professionals seek to understand the interactive built environment -person model, the need grows for clarity, precision, and valid research driven processes. Responding to increasingly shorter design timeline schedules, restricting design fee structures that clients are willing to pay, dwindling economic markets resulting in greater competition between competing firms, higher demand for project accuracy from the client to the practitioner, the study's central focus is to offer a process that might contribute to enhanced planning opportunities. Combining and sharing central theoretical models found within the business, design, and academic communities, the way that the design environment's person-environment fit can be understood more fully.

Specifically related to the design field, when professional architects and interior designers are planning for an organization's office workplace, they consider a full range of solutions in order to meet client needs. Planning strategies respond to client needs or requirements working toward providing functionally constructed space. The newly created space has the potential to contribute to business performance through an enhanced workplace uniquely fit the organization's representative people (Kaczmarczyk & Murtough, 2002). One means to assess if the project goals were met by the design team is to complete a post-occupancy review. Post occupancy reviews directly ask the client for feedback regarding the congruency between what was considered and what reality has delivered. The feedback can then be considered as future design contributions if the work was successful or things not to do if all didn't go as believed. Directly related to future design creations is the feedback loop that strives toward seeking past solution reflection. Reflecting upon past solutions to provide future improvement strategies is held within action research (Lewin, 1946). Unique organizational complexity studies

between the built environment and its occupants as the potential to create effectively built environments is a growing concern for practitioners and academics alike. As the need for increased levels of precision are being demanded by clients, developing a means to integrate research based problem solving strategies is particularly useful.

Integrating Organization, Person-Environment Fit, and Environment and Human Behavior theories as the macro-level theoretical framework in this study provides the opportunity toward workplace fit improvement processes when planning office space for the office worker.

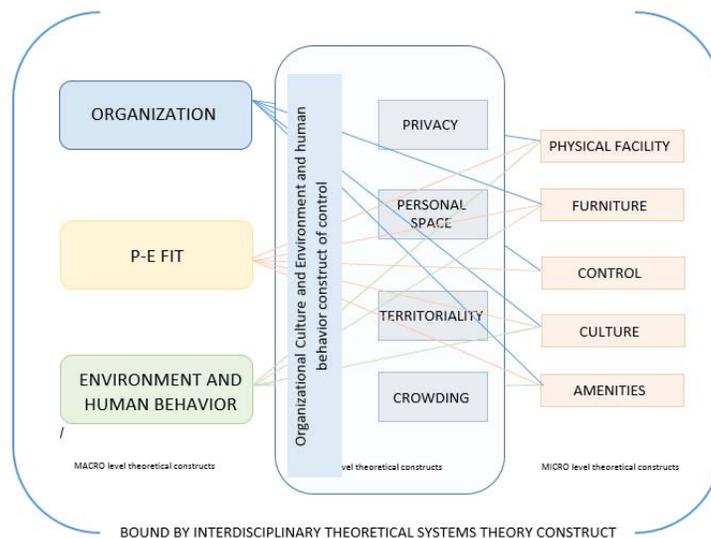


Figure 2. Environmental Preference Index framework, Ellis, 2013.

Understanding, studying, and applying these relational connections between people and their environment can be explored through a systematic analysis evaluation. The completed study considers the centrally held systems theory of organizations. The meta-analysis theories of organization behavior and organizational culture major contributing theories application from organizational studies and specific Environment and Behavior constructs. While both macro theories can be considered through, person-environment fit, and environment and human behavior theories (E&B), these theories are

delivered to the micro-level survey index constructs of control, culture, facility, furniture, and amenities through the meta level values of organizational culture and the E&B construct of control. It is the meta-level constructs that serve as a regulating mechanism for the micro-level constructs.

Two scaled indices used in this study and known as the Environmental Preference Index (EPI) and the Organizational System Assessment Scale (OSAS) measure an organization's work behavior types and related office environmental preferences. The outcomes indicate an office worker's existing and preferred environmental workplace settings, while contributing to the growing body of workplace research. This action research will benefit integrative design teams, including architects and interior designers, and provide a clearer understanding of the daily activities within the office setting and the environmental features needed to function effectively. Moreover, the results of this inquiry will assist with interior environment design improvements for office workers.

Background

The analytical study explores the link between the office setting and the associated knowledge workers. The term "knowledge worker" was coined by Peter Drucker and is a person who works primarily with information or one who develops and uses knowledge in the workplace (Drucker, 1999). The productivity of knowledge workers demands that they be seen as an asset and not merely an organizational cost: considering the office space's cumulative effect upon the office worker as a critical given, the nature of the relationship between the built environment and the worker indicates the importance of this study. Ultimately, the degree to which the relationship is strengthened can result in improved employee retention, the ability to attract future

workers, and finally, increased organizational revenue (Hameed and Amjad, 2009; Becker and Steele, 1995; Sundstrom, et al. 1994).

The study's primary purpose is to provide an in-depth understanding of employees' attitudes towards their work environment and their work type preferences. Workers have preferred work-negotiated processes with which they interact within the office environment and with colleagues. Likewise, people also have preferred office arrangements, settings, components that support the person and the contributions deemed important by the organization. The organization has the opportunity to improve the office environment by understanding these elements. Through a systematic discovery process, organizations can capitalize on, and enhance, their office environment by focusing on office worker typology and the related environmental preferences (Kaplan & Kaplan, 1982).

Research questions

In order to focus on the central links between the environmental preference index and the organizational work types, the following research questions are considered:

First question: What are the created patterns among the environmental preference constructs and the study sample's demographic characteristics regarding gender, age, tenure, location, organizational program group, employment title, length of term in current office place, and the number of inter-office relocations?

Second question: What are the highest environmental preference construct pattern associations for the office workers' by organization system typology?

Research contributions of this study

The study's contributions are multi-dimensional in that it establishes the beginning conceptualization for studying unique organizational settings with all stakeholders including workers and the built environment. Creating a process by which the current study operationalized itself accomplished the goal of understanding the University of Missouri's Extension group by its work typology preferences as well as its unique preference for different components held within the brick and mortar structure that their office work is completed. By testing previously developed scale indices in tandem, the resultant data provides illuminous highlights into the beginning of future causal research practices. The University of Missouri Extension group sought to gain large feedback responses from its workers and as such, a survey was sent out to its membership. The request sought to understand the nature of the work preference held by the group as a whole as well as the valued physical environment preferences.

The study's outcomes presents a platform for a rich and developing study. As workplace design represents over 50 percent of architectural practice efforts, the design industry is in a developing phase of better seeking understanding and validation of design strategies that until now have represented best guesses and past practice ideologies. Final outcomes points to affirmation of a research process and the results provide conclusive areas of thought for future practice.

Chapter 2. Literature review

The central idea for this research study is that architects and interior designers are continually progressing toward office space design planning improvement. Enhancing design solution methods provides the opportunity to contribute to office-worker congruence with their work environment. The literature review addresses the following considerations of the role that Systems theories, Organizational theories, and Environment and Behavior theories when woven together help to create a evaluative pattern platform by which today's modern office can be effected as they contribute to congruent built environment and office worker environments. Through the use of two theoretically connected scales, this research seeks to begin to establish relationships between people and their work surroundings. The Environmental Preference Index (EPI) measures an office worker's existing and ideal environment preferences, while the Organizational System Assessment Scale (OSAS) seeks to understand the organization's human resource composition. Organizational theory and human Environment and Behavior theories provide an ideal foundational framework from which to study and understand the relationship of office workers and their environment. Both scales emerge from theories of organizational learning, culture, and behavior, systems theory, person-environment fit, and behavior settings. General systems theory contributes to the development of both scales and provides the overarching connective language for the major framework theories. The underlying consideration for the research regards an organization's work environment and the worker as an interdependent system: when the complexities are understood, the resulting outcome contributes toward an optimized work experience (Sundstrom, Work environments: Offices and factories, 1987). Workplace

congruency can then contribute to business profitability in actual capital, as well as employee attraction and retention.

Linking organizational, person-environment fit, and systems theory with Environment and Behavior work is a natural direction for this research. The four theories provide a cross-discipline body of work informed by business and design research and professional work. At a macro level, this theoretical framework investigates the means by which organizations operate systematically and transfer or control information about themselves to their employees and to outsiders. Collected research study results can be useful for interior designers and architects at a micro level, as they seek to understand client operations and create the best possible client workspace. The systematic understanding application provides the opportunity for the researcher and practitioner to better accommodate their client. Successful design projects are highly dependent upon the strategic process of well-conceived selections and it is through client interview sessions and space use observations that a perceived preferred preferences level understanding occurs. Watkins and Marsick (1993, 1996) express the idea that all companies have the capacity to learn and grow, but in order to successfully improve the organization's performance and value, the group must be willing to ask the right questions and consider all factors. Similarly, the design community has the opportunity to improve its discovery processes. Combining past research work conducted by others with professional design practice solutions can form the fundamental base to assess an individual's office environment preferences.

Office history and design

Many benefits can result from the development of a measurement scale for environmental preferences. Through the discussion of the connecting theories, a background of the nature of the studied environment is a natural next step. The first consideration is to reflect upon the historical significance of the office, the reason the office came to be and the subsequent effects that the office environment has upon the workers using the space.

Sundstrom (1987) carries the definition of the office to be “settings where the primary activities comprise the handling of information for making plans and decisions.” Early offices were found in sixteenth and seventeenth century buildings such as the Palazzo Uffizi in Florence, Italy and the Bank of England building (Caruso St John Architects, 2012). As societies developed and fashioned ways to generate livelihood and promote business opportunities, an office naturally developed as a center to house the associated administration activities. Office work commonly centers upon the management of a particular business and its finances, and through the twentieth century, inventions and technologies created the opportunity to office manage a business differently. As with the development of communication technologies like the telegraph, telephone, and later the Internet, office functions could be remotely located from the business activity. The area for product production and the area where plans and decisions were reached no longer needed to be in close proximity. An example of this relationship is the American farm. The farmer’s home kitchen table may have served as the administrative center for a farm, but as societies moved from an agrarian-based economy to that of an industrial state, the need for the office expanded. As communication

technology advancements were made, the farmer was able to move his office from the home to a space more closely located with other related ventures and which was better suited for conducting business, such as selling the crops. New technologies allowed multiple businesses, like farmers' co-ops, to come together in business centers such as town squares and later office buildings. While these changes made a difference and allowed the farm more financial opportunity and gain, employment management and work practices also needed to be created. These changes in business practices affect the how employees do work, as well as how the office affects their work.

Commercial office spaces began appearing in North America during the late nineteenth century. As the capability to construct affordable steel structures developed, buildings expanded both in height and depth. The advent of fluorescent electrical lighting and office equipment technologies allowed businesses to stretch to new levels. With each change in the ability to produce supporting advancements, the office environment had to respond to workers' needs. Office types are widely varied, but all support knowledge exchange, contribution and generation for businesses and as background three different office types will be discussed.

As study focus, the University of Missouri Extension system will be studied. Extension's offices would be termed a functional or general office. The central nature is founded upon providing a physical place to accomplish the associated work toward delivering information internally within a particular unit location and out to America's public. These offices have supporting space types such as conference rooms, break rooms, and storage.

The general office is set apart by other office types such as creative or service office settings. The creative office considers environments created for a different type of creative collaboration such as an advertising office. Often these office types feature open plan offices with private office areas held to a minimum. The prevalence of open collaborative environment helps to contribute to high energy sharing opportunities between workers. Image and seemingly unrelated activities such as foosball and happy hour Fridays are commonplace in this type of office. Another office type might present a service/office setting. Service offices commonly feature public services and the offices held within these buildings are in support of those services.

Whether the office is a general typology, a creative office or a service office, they all reflect the occupying organization's culture. Even if the group found in residence of the built environment assumes unaltered space to accommodate their specific needs, there can be vast incongruence between how the space supports the work. To provide an exaggerated example, one could consider the construction boom of the 1980's. In a time of investors seeking capital investment properties, many contributed funds into the large shopping malls. As markets collapsed in 1987 during the period known as black Monday, the oversaturated mall sites experience low tenant occupancy and unmet capital payback. With missing retail anchors, investors holding securities began trying to conceive other means of filling space. Marketing efforts geared toward corporate office tenants were pursued to fill these vast empty spaces. While sometimes these efforts have been successful, often this strategy isn't met to meet the tenants work behavior and organizational culture. Tenants have tried to renovate spaces meant for large open spaces to spaces meant to support compartmentalization. Mechanical systems being inadequate

to meet these changes have provided often environmental confounding situations. Often when clients move into these spaces, they are new businesses or businesses attracted by lower grade office rental rates. Much like the hermit crab that seeks a new home when they grow too large for their present shell, the client moves into a space previously conceived for shopping and simply makes do.

University of Missouri Extension

With this background, the focus can turn upon the government/educational organization of Extension. At the turn of the twentieth century, over 50 percent of America's population was located in remote or rural locations and 30 percent of those living in rural locations earned their living through agriculture. A shift began occurring during the Industrial Revolution so today, less than 17 percent of the nation's population is located in rural areas with less than two percent earning their income through farming. This information demonstrates that as populations shifted from agrarian to urban centers, the need for collective agencies such as offices proliferated. Today, offices are the primary workplace focus in North America (Veitch, 2012) with half of America's labor housed in offices, and an unknown percent of industries with office components imbedded in an industry's primary structure (for example, hospitals, retail businesses, and educational sites). This discussion highlights the importance of using the lens of Environment and Behavior attributes to better understand an office worker's underlying environmental preferences as the research knowledge base is concerned with the manner that people and the built environment effect and influence one another.

All United States universities engage in research studies and teaching. This nation's land-grant institutions have an additional contributing mission component

known as Extension, by which the universities reach out to the American public and share knowledge resources (National Institute of Food and Agriculture, 2014).

NIFA's Strategic plan component diagram

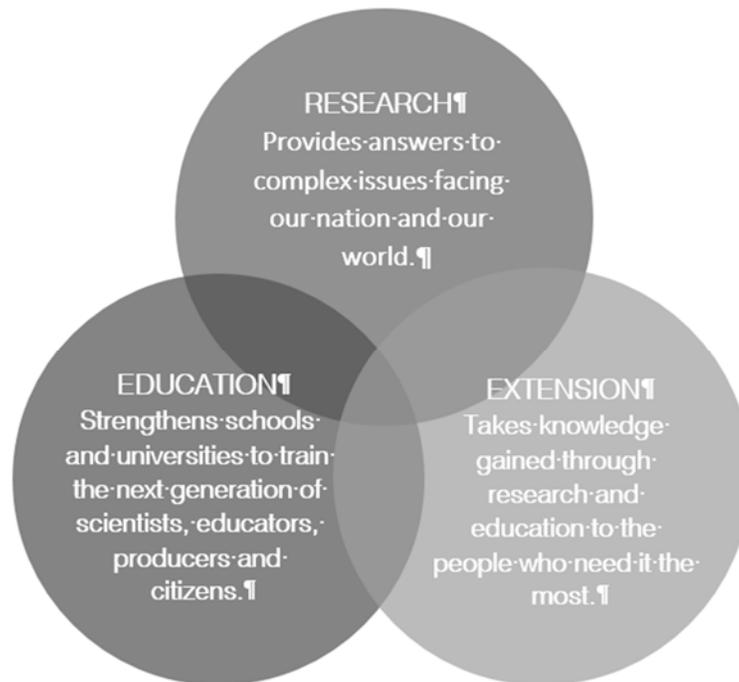


Figure 3. NIFA's Integrated Approach to Science, from the NIFA Strategic Plan, (National Institute of Food and Agriculture, 2014). Information integration to the American public through the components of research and education with Extension.

Through non-formal, non-credit educational programs, Extension creates problem-solving opportunities for agricultural producers, small business owners, consumers, youth, and individuals residing in communities of all sizes. Land-grant colleges and universities receive funds set in place by the Morrill Acts of 1862 and 1890. These institutions were centered upon the education of the working classes, and educational tracks included agriculture, mechanical crafts, military training, and liberal arts. Central to this vision and focused primarily for the nation's rural areas, the Cooperative Extension System (CES) was created in 1914 to distribute information taken

from the created agricultural experiment stations. The developed programs of the Morrill Acts along with the Cooperative Extension System's agricultural experiment stations formed the connecting research framework for the American public.

As the primary means of rural public information dissemination, Extension activities were located in campus offices sited at the nation's land-grant institutions. The essential ingredients for the Extension office and its organizational espoused values and underlying assumptions are recorded in the founding mission statement, which embraces the ideal of delivering credible, reliable and relevant expertise using a trustworthy, competent, and dynamic method. These values and assumptions can be seen through Environment and Behavior attributes. An organization's espoused values, artifacts, and assumptions are those determinants that paint its culture. Leadership's values and the actual assumptions will frame the manner by which an organization is perceived implicitly and explicitly. Artifacts can be considered through a diverse array of elements, varying from organizational processes to buildings and furniture. Through the organizational artifacts environmental behavior attributes can be studied with their combined linkages and the degree of success the linked attributes produce for the user's experience.

The provided background enables understanding for of the research's complexity. From the moment that the US government considered the importance of delivering higher education to agriculture and industrial workers located in remote or inaccessible areas, there has been a need to house those organizational activities. Systems theory is a research theory capable of this organizational workplace exploration. In order to fully

comprehend a diverse and multi-level organization such as the University of Missouri Extension system, an interactive approach is necessary.

University of Missouri Extension offices provide traditional work environments for faculty, researchers, and administrative personal to conduct duties across the state of Missouri. Typically, the university campus offers grouped offices with supporting spaces of conference rooms and ancillary spaces such as break rooms and file spaces. These offices can also be found across the state in city and county available rental space. While all of the offices are not found in one geographic boundary, they all do connect into the Extension framework and are in place to serve the program's central mission of delivering high quality information to the public.

Most commonly, these offices provide the setting for office workers to complete their work efficiently and to reflect Extension's public mission. The outward visual characteristics of traditional offices enforces the group's public mission and specifically, Extension offices maintain the image of being highly relatable to the public constituency. Work functions are accomplished with blended office types. The office types within Extension and most typical traditional or conventional offices are comprised of private and system's offices. Given the primary function of preparing research with the intent to educate, there is a high need for heads down, focused type of work opportunities for the Extension staff. These focused work tasks are most easily carried out in individual offices.

Weisman's essay entitled The Program beckons us to consider the part of the capital 'A' (Architecture) that seems obvious to most, but commonly is found ill conceived. . While we understand that buildings are created for people to use and

experience, many times the art of architecture overrides this elementary thought. The key question central to Weisman's framework centers upon the place in architecture for people (Weisman, 2001). It is through his model of place that four environment and behavior attributes of privacy, personal space, territoriality, and crowding are equisitely bound into an empirically testable frame. When understood through the theoretical framework model with Systems theory and organizational theories, the central Environment and Behavior constructs of privacy, personal space, territoriality, and crowding along with the connective agencies of Person-Environment Fit Congruence Model and Environmental Preferences are useful for studying the environmental preferences for the office worker.

Systems theory

By understanding the contribution and interaction of organizational components, refined and strategized design solutions can be implemented, and by moving past best-guess design practices and considering this systematic environmental preferences and organizational framework approach, design practice professionals can have an effective research-based assessment tool to fully understanding the considered office environment.

The study of system's theory finds its early endeavors within Von Bertalanffy's primary objective for systems thinking which considers an organization's relationship connections (Von Bertalanffy, 1968). Systems theory uniquely defines philosophy, methodology, and application subgroups as well significant contributions regarding person-environment fit theory and environment and human behavior understandings. Related to system's theory, the person-environment congruency model brings together

the bidirectional contributions found among systems, organizational, and environment-behavior theories.

Science field practitioners first regarded systems theory as linear and closed in nature. Closed systems theories consider entities as running parallel but never intersecting one another. Singular entities have their own unique internal effect, but as studies have noted also affect objects in their path. Physical and social sciences acknowledge open system theory's global effect upon multi-unit objects. This associative process found within macro-global ecosystems mark humankind for functional learning, growing, and changing opportunities. Systems perspective pervades diverse studies including medical practices, global warming considerations, and religious philosophies.

Organizational theories

An organization that seeks to minimize individual choice will look very different from one that seeks to provide for individual choice. Different types of organizations exist in the marketplace, ranging from isolated and highly structured, to those that freely share information across all employee positions and accepting of new ideas coming from any levels. Organization research and analysis considers the environment and the effects of open systems theories upon the way that growth occurs. The environment also consists of the intangible element of stakeholder involvement.

Often in organizational research, the "organizational environment is defined as all the elements existing outside the organization boundary" that have the opportunity to have an effect on different parts or the collective whole of the organization" (Daft, 1998, p. 82). Within the environments domain, there are sectors or subgroups that include

industry, raw materials, human resources, financial resources, market, technology, economic conditions, government, sociocultural, and international considerations (Daft, 1998). These sectors can then be further subdivided into specialized subgroups of “task and general environment” (Daft, 2003, p. p. 83). The nature of this preference study fits nicely within the task environment and then into the further detailed group held within of human resources. Borrowing from environmental psychology, DeYoung (2013) considered the environment to be “patterns of information” (p. 23) that enable organizational analysis work to be fully considered. Throughout a typical workday, an employee will process untold bytes of nonverbal, verbal, and electronic data flow and successful understanding brings about feelings of fundamental well-being for the individual. These messages are understood within the psychological domain for people as well as through surrounding physical components and materials. The nature of Environment and Behavior embrace both distinguishing aspects.

Organizations that learn and grow are known as “double loop learning,” and incorporate thoughtful consideration of every held belief, operational goals, employee interactions with each other, as well as the physical environment. In the same way that Barker (1968) elaborated upon Lewin’s theory (1946), Schoen’s research examines the effect of embracing organizational and systems theories. Organizational efficiency and value are empowered by consideration of all contributing stakeholders within the system (Watkins & Marsick, 1993). Studying the nature of the physical environment within the study of Environment and Behavior and organizational systems model has incredible contributory benefits. This blending of the intangible nature of a person’s experience

with the physical components of the space is integrated by means of the systems framework.

Before the mid-1960s, most organizational theorists viewed organizations as being closed and isolated from the world. During the sixties, more humanistic approaches emerged. No longer could it be held that these systems were not affected by many different influences. The closed theory model influences organizational efficiencies. The open systems model contends that all organizations are unique and that their structure should accommodate these distinctive elements (Katz & Kahn, 1978). Framing the open system theory are the constraints of all internal and external inputs and outputs, technological components and operations, internal and external environmental attributes, organizational goals and strategies, desired behavioral characteristics, all work-related processes, and culture issues for a particular environment. Each component is then connected by internal organization feedback loops and the feedback loops connect the idea that the systems are affected by the outputs (products and services) as well as the inputs. Because the theory involves all components of an organization, the members get the opportunity to learn and participate in the process and, later, the intervention. Through the open systems theory, an organization can be viewed in many ways from studying the organization's espoused values and beliefs and the effect that can be held for the entity as well as its employees. Schein provides a way to conceive the open system's nature through integration and understanding of all organizational components (Schein, 1990).

Learning organizations

Knowing that organizations evolve, learn and grow through organization learning provides the anchor that organizational theories are connected to the Environmental Preference Index. Related to a systems theory approach is the theory of transactional and transformative leadership. Organizational practices have traditionally been led by transactional leadership style. Transactional leadership styles place systems rewards upon workers that have displayed organization loyalty. While this carrot-at-the-end-of-the-string process has long been the inspirational benchmark for managers, worker mentalities have evolved and current generations of new workers now demand leadership that recognizes the importance of the individual. Key to future organizational strategies is transformational leadership engagement, which has the opportunity to contribute meaningfully toward inspirational work environments. In spite of this opportunity, often the underlying assumption becomes a matter of the expression, if it isn't broken, no need to fix it (Bass & Stogdill, 1990).

Transformational leaders are associated with organizational double loop learning. Double loop learning, seeks to learn from its past and be in a constant state of growth and opportunity. Leaders from this paradigm commonly desire to better understand how to inspire people to achieve organizational goals through extraordinary endeavors. Schoen (1995) describes the physical environment as a component for study when considering the manner in which organizations learn (Schon, 1995).

Organizational diagnosis is the integrated environment ripe for creating environmental congruency. Often the environment in organizational analysis is considered to be the stakeholders within the studied organization, as well as outside

contributory people and influences. In this analysis, the environment will be considered as the physical setting that finds people engaged in work activities.

Organizational analysis draws upon the open system model and is a complex process to consider. Often times, practitioners attempt a quick, ill-considered solution that often leads to an incomplete analysis and unsustainable solution. Analysts often will attempt to seek magic bullet solutions that are hastily conceived, hoping that the system can be “made all better.” Solutions to systematic problems are more complex and need holistic consideration, and often the practitioner needs to analyze things that the organization is unaware of. In order to come to know the organization, a thorough study needs to be made and this is a collaborative process between the practitioner and the organization is necessary in order to move environmental congruency to its closest point.

Two studies considered highly contributory are from Harry Levinson and Michael Harrison. The course of Levinson’s work considers that organizations seek to answers to a business problem they are either experiencing or causing (Levinson, Diagnosing organizations systematically, 1991). The nature of any problem can be studied within the environment of the organization while being able to interact with the client. Through careful observations and well-considered interviews, an open mind provides a path to useful diagnosis (Harrison, 2005). The problem must be understood by all parties and all assumptions that are in existence needs to be clarified. This information collection process enables the practitioner and project team to undertake the study in a scientific manner.

Levinson’s practice dictates that a hypothesis is completely based on the discovered information. The hypothesis has the opportunity for potential revisions, as

information is uncovered. Central to Levinson's research, along with the implementation of the Environmental Preference Index (EPI), is that it is important for the researcher to have an open experience of the organization.

Observations are collected from the facility, organizational culture, and all operations. It is the organizational culture that is paid particular attention because this is where the imbedded ideas and values live and this is where change occurs. Themes and patterns become more noticeable and are useful when recommendations are brought forward. The Environment Preference Index (EPI) is an appropriate tool for organizational leaders seeking to understand their group's underlying assumptions through its cultural artifacts.

The nature of transformational and organizational theories stress reciprocal opportunities for people and their surroundings (Stokols, 1995). Integration of responsive cultures is most easily understood through systemic processes and systems theory. The contributing research for environmental preferences is dependent upon successful integration of Environment and Behavior theory, person-environment fit, and organizational studies. A trans-disciplinary or holistic approach to systems thinking is central to organizational growth and goal attainment. In order to connect the organizational theories or culture and learning as they apply to creating work environments for people to thrive, system's theory is viewed as the research's central contributing mechanism.

Organizational culture

The theories of organizational culture and person-environment fit along with systems theory contribute heavily to Environment and Behavior research and associated

constructs. As Rapoport (1990, p. 16) stated “humans live in systems of settings” and it is the effect of these complex systems upon people that is the central challenge. The scientific nature of ideas is complex and highly interdisciplinary. At a practice level, the design process used by architects and interior designers is accomplished through problem identification and solution application. The problem, as provided by the client to the designer, involves complete dissection through communication efforts from the client to the designer, and arrive upon a final solution finds the project team with the best practical solution for all the project team’s stated goals. Throughout this process, new ideas have the opportunity to be introduced into the formal planning while on the other hand, ideas once regarded as highly important are sometimes discarded. The assimilation of client needs and designer experiences result in a created synergy among team members and often can be expressed, as ‘the sum of the parts is greater than the whole’. From a business model of considering the nature of how organizations operate, to understanding the practices of creating a best-fit environment, to planning an office space, these theories are connective and additive with their individual contributions. These contributions further clarify that organizational theory is not just the study of facts relating to people groups, but that this theory is also is derived through the interaction of people based on patterns and regularities (Daft, 1998, p. 21). Systems research and organizational theories are self-correcting and cumulative at their roots (Rapoport, 1994). Through sharing of information and the contributions of all stakeholders, an organization has the opportunity to learn and grow.

Organizations set these practices and policy opportunities to individuals through its culture. The heart and soul of any organization commonly is experienced through its

culture, and culture is the delivery mechanism affording degrees of individual choice. Organizations create their culture through a framework of collective leadership values and behaviors. While seemingly inconsequential to some, the opportunity that an individual has to access the office supply cabinet is a result of the organization's cultural expression and policy. Culture can be expressed in very simple manners through office supply availability to furniture arrangements and finish quality assignments. For example, the opportunity for an office worker to seek out quiet spaces to accomplish individual work is an example of culture outcome. Often in office planning, the worker may or may not be considered in the decisions made by a design team. Organization culture considerations provide the platform to create environmental congruency for the entire population. While these choices will always affect the individual at varying levels, the choices are not always beneficial and unintended detrimental consequences can occur within an office through a simple misjudgment of the organizational culture. The nature of this research is to improve the precision tools, which form the basis for consideration and subsequent implementation of design decisions.

Schein's (1990) organizational culture model provides the understanding that the culture is comprised of artifacts and behaviors, espoused values, and underlying assumptions. Through the open system's model, organizational culture integrates systems theory within these three levels. To more fully understand these levels, first organizational culture should be considered as the set of explicit and implicit values and norms that guide and shape behavior in an organization (Chatman & Barsade, 1995; Martin, 1992; Trice & Beyer, 1993). The environmental preferences index embraces the research model of culture. An organization has a unique culture that can be understood

through tangible and observable objects. Schein holds that it is in the unobservable actions that bind a group of people in a culture. This intrinsically deep connection of shared experiences from leadership down to an organization's office workers is integrated within the creation of the index survey items (Schein, 1985).

Organizational leaders contribute to organization culture through primary and secondary attribute mechanisms or organizational espoused values (Schein, 1985). Espoused values are those contributory ideals that an organization declares for itself. Seeking to find employee/organization congruency, workers seek symbols of corporate alignment. An example relative to this study is the espoused value that the employee is the organization's greatest asset. If an employee perceives that his/her surrounding work furniture is in poor repair and does not adequately address current work needs, the employee can develop a belief that the organization is not investing in the workplace at a competitive level. The declaration found in the human resource manual that the company is highly competitive in the marketplace is not found in evidence for the employee in his/her immediate surroundings. It is this connection between those things outwardly declared by an organization and the associated underlying assumptions made by the employee that are critical for this study. Schein's (1995) third level of artifacts is understood to encompass any tangible elements within the organizational environment. Organizational analysis often considers information from a wide perspective that might include reviewing an organization's human resources manual, casual observations in the working office, and informal employee interviews. Observations in the office can also involve noting office and furniture type availability as well as the manner that finishes are

applied in the physical space. Integrating a visual inventory of the physical space with the organizational review allows for greater design congruency.

Office spaces will reflect the occupying organization's culture. Even if the group found in residence of the built environment assumes unaltered space to accommodate their specific needs, this is representative with a vast incongruence between how the space supports the work. To provide an exaggerated example, one could consider the construction boom of the 1980's. In a time of investors seeking capital investment properties, many contributed funds into the large shopping malls. As markets collapsed in 1987 during the period known as black Monday, the oversaturated mall sites experience low tenant occupancy and unmet capital payback. With missing retail anchors, investors holding securities began trying to conceive other means of filling space. Marketing efforts geared toward corporate office tenants were pursued to fill these vast empty spaces. While sometimes these efforts have been successful, often this strategy isn't met to meet the tenants work behavior and organizational culture. Tenants have tried to renovate spaces meant for large open spaces to spaces meant to support compartmentalization. Mechanical systems being inadequate to meet these changes have provided confounding situations for the organization and its employees. Often when clients move into these spaces, they are new businesses or businesses attracted by lower grade office rental rates. Much like the hermit crab that seeks a new home when it grows too large for its present shell, the client moves into a space previously conceived for shopping and simply makes do.

Person-Environment (P-E) fit congruence model

Organizations are understood as cooperative systems with system variations due to differing physical and social environment (Barnard, 1938). These systems have common characteristics of being social entities, goal-directed, deliberately structured and coordinated activity systems and are linked to external environments (Daft, 1998, p.11). It is through these cooperative and connecting links that the fit or congruency is of central nature. Person-environment fit, environment, and behavior theories have also incorporated open systems deliberations.

People are affected by their surroundings and, in turn, affect their environment. The interchange between people and their environment borrows heavily from organizational and systems theories. Lewin (1946) based much of the concept of the person-environment fit model upon systems theory. Behaviors stemming from personal contributions in a particular environment, along with the surrounding environment provision for harmony or discord, create the organization's mechanism for learning and growing. Environment and Behavior theories provide guidance for architects and interior designers to shape the way environments better people lives. The environmental preference development index embraces general systems theory, as well as Lewin's person-environment work, and Barker's later refinements. Lewin provided the initial integrated framework still used within organizational and architecture practices, but Barker sought to further understand the full interactive nature between the environment and people (Barker, 1968).

Barker's introduction of the person-environment interaction term allows for further clarity of this contributory system's nature and the contributing differences of

each (Barker, 1978). Lewin holds fundamentally that behavior is a function of people and their environment. By adding the third interaction variable, person-environment interaction, Barker shows that behavior is a function of the person and the environment along with the effect or differences of the person and the environment. Introduction of the interactive term provides full comprehension of the effect between people and their environment to this study.

Central to organizational behavior is the concept of person-environment fit (P-E). Many research models fully embrace this theory that regards an organization's capacity to attract and retain employees. The person-environment fit model assesses an employee's opportunity for maximum contribution while working in a maximized environment (Edwards, 2008). The psychological constraint that this research suggests is that the person-environment fit can be described as the best-fit match between a person and his or her surrounding environment. Congruent environments have the ability to afford to their occupants a positive and growing experience by "addressing the person and his / her interaction and interdependencies with the environment, focusing on the fit between the two" (Lewin, 2008, p. 101). Lewin's model of P-E fit explores that the ecological fit of interpersonal behaviors are the function of the person-environment fit $B=f(p, e)$ and competency models provided by Barker (1987) which take into account not only the person and environment as singular elements, but also the interaction accounts between the two theories. Selecting the interaction levels and affording opportunities within any given environment provide the opportunities for more congruent office space settings for people and enable complex systems to be explored within the competency model. Lewin and Barker's models provide the connective matter enabling

the contributing functionality for environment and social behavior theories.

Organizations and the operating members within an organization have a fundamental connection to the manner in which the person and environment work together and benefit from one another. This systematic approach forces a taxonomic approach. The environmental preference index is a collaboration to understand psychological and physical characteristics by beginning from a fundamental understanding the characteristics and objects that an office worker prefers. This preference is the beginning of the opportunity to create precise environment from a measured perspective.

Research suggests that people are affected by room placement and environmental attributes provided by the organization (Altman, 1975). Organizational development and systems theory research are leading-edge contributors to workplace-environment intervention. Research focusing on the Person-Environment (P-E) relationship in the workplace demonstrates the office worker can be affected by their environment as well as returning their effect back to the environment. Reflection upon this relationship's nature as it is related to employee job satisfaction, employee retention and motivation is a critical link between organizational analysis and the profession of architecture (Ostroff, 1993).

The nature of this relationship, its components, and how they interact systemically are important to understand when space is created or when an organization is studied in an attempt to improve an existing model. Defining a space as work-congruent simply means that the space supports, rather than hinders, any given work task. The nature of environment and social behavior embraces fully the theories of organizational studies and

congruency with the person-environment fit as all are connected through a systems approach understanding.

Environment and human behavior theory

The twentieth century witnessed the emergence of the modern corporation as a primary manner in which business was globally conducted (Duffy, 2013). Corporations evolved from the industrial revolution to the present, influencing the history of workers lives and times. Building on the work of Taylor (1911), Lewin (1946) focused upon the ideal of prioritizing workers' needs and encouraging the worker to become a partner with management regarding the work process and overall organizational achievements and efficiency (Taylor, 1911) (Lewin, 1946). Taylor believed that workers had no comprehension of how to complete work effectively and that only through effective management strategies would products be produced profitably (Rinehart, 1975). Lewin believed that while many workers were laboring in order to provide for their families, there were other contributing factors bringing meaning for the individual.

The perspective provided by systems research contributes profoundly through Environment and Behavior (E&B) studies. These contributions embrace the physiological perspective provided by a built space and share people's mental perception for the same space. Environment and Behavior personal level constructs seek to understand the way a person experiences the built environment. The nature of the privacy constructs considers the studied spaces physical constraints. The physical attributes include the brick and mortar of a building along with any furniture components for an office worker's use. Interactions between the studied people and their physical space through the developed theoretical framework provide a coordinating mechanism

for index development. This synergistic model considers the patterns that people rank constructed and applied physical provisions as well as the provided furniture and opportunities to control their personal spaces.

This research has the opportunity to improve on interior solutions congruency for office workers and to contribute back to the field of organization theory and analysis for further development and integration. In the truest spirit of systems methodology, the study of organizations affects the Environment and Behavior field and in turn, the Environment and Behavior contribution reciprocates to organizational work.

Environment and human behavior construct overview

Common to the traditional and creative are an organization's desire to create settings reflective of their operational mode. Organizations that have hierarchical stratification relative to those flat in operational arrangement have very different end appearance, but remain vigilant to the manner that privacy is created to support central business activities. Both extreme ends however contribute toward privacy through multi-application and multi-level approaches. Multi-application considerations provide settings within the office space for people to complete varied tasks and multi-level applications while also considering the way work is completed by an individual or groups within the office boundaries.

Common to the traditional organization's desire to create settings reflective of their operational mode is a hierarchical stratification relative to those flat in operational arrangement. Stratified and flat organizational outcomes have very different end appearances with regard to the work environment, but regardless of the group type, the designed environment is vigilant in how privacy is used to support central business

activities. The nature of privacy can be expressed through multi-application and multi-level approaches. Multi-application considerations provide settings within the office space for people to complete varied tasks and multi-level applications while also considering the way work is completed by an individual or groups within the office boundaries. Divergent office types as found across the University of Missouri Extension offices provide functional work areas to complete core work tasks, in addition to addressing group processes and the definition of functionality varies between all existing work locations. The typically-observed traditional offices provide areas for their workers in support of heads down focused tasks. Group interaction happens because of work tasks or needing to share information.

Personal space is considered from office entrances as well as moving throughout open and private office boundaries (Hall, 1966). Groups or individuals can set these boundaries and they can be tacit or implied. Commonly, personal space is a relational construct that people communicate to each other. When planning a traditional office space, different groups can be placed densely in large groups, placed in lower populated spaces, or as tangential groups near, or removed from high activity nodes. These functional office layout and furniture provisions help to explicate personal space control. People also can regulate their own distance boundary or degrees of closeness felt between themselves and someone else by the way furniture and equipment is located in their private work area. Artifacts of family photographs and personal objects commonly mark personal space in the conventional office. In effect, if the family vacation photograph conveys to a visitor an affluence level indicating that the worker was able to afford a family vacation to Europe, the worker's personal space can also be an outward display of

organizational hierarchy. The way that an office worker chooses to share his personal status plays into implied degrees of privacy.

The personal space contributions within an office space will often provide toward stimulation, accessibility, and sociability of the overall setting. Office workers in the creative environment of an advertising agency seek ways to demonstrate to others their ability to fit in or stand out among the group.

Privacy is attained through use of personal space provided by the organization to the individual, often through corporate culture policies such as personalization of individual workspaces. Space gradients are established through office size and type and their location relative to service spaces. Operational strategies toward the achievement of desirable personal space can also be supported by a work computer being placed as a work area buffer for the individual or guest chair placement being opposite of the primary work space. The nature of equipment placement these offices are very similar to each other.

In this case, the individual computer creates personal space whether it is located in private office or on a long desk environment meant to seat many interacting people. Workers in traditional and creative offices have this opportunity to create personal space as a direct conveyance of the organizational culture.

Personal space appears to be highly related to the number of hours an office worker spends at the office and by the office's corporate policy and cultural desires. Offices wishing to promote traditional values and stability might be less likely to allow for personalization and off standard furniture and equipment placement within an individual office. Creative offices that encourage its workers to consider work to be their

home are more likely to encourage personalization of work areas. The idea instills in the creative office employee that they have been considered as valuable by the organization and blurs the life/work boundary.

Buildings providing workplace environments have the opportunity to contribute healthy environments for its occupants. In the endless environment attribute assimilations every building, when considered through the lens of environment and human behavior attributes, creates an environment capable of supporting the required unique activities for any office type. The core environmental attributes of privacy, personal space, territoriality, and crowding create the framework of understanding for offices, producing a dichotomy of commonalities and distinctions. With the connection of theoretical constructs to Environment and Behavior attributes, architects and interior designers have the opportunity to create congruent work environments. By understanding the organizational culture and preferred work patterns, these patterns can be studied and contribute to the changing face of design. Moving from a practice that has long been held in the art world and integrating defined understanding provides the practicing professional the opportunity to improve their best guess practice. This practice integration then can serve to further bridge the gap between research and practice. While it is a long road, the people that these office environments serve are worth the investment and will be the primary beneficiaries.

Privacy

Altman (1975) defines the construct of privacy as the glue that binds together the micro-interpersonal orientation, and is the regulatory process by which a person grants and considers their personal space via the integration the attributes of personal space and

territoriality. Ideally, an individual or group is afforded the opportunity to set the degree of known or available information to others through the mechanism of privacy (Westin, 1967) (Pastalan, 1974). Privacy is considered to be this group's central core and the binding agent for the understanding of personal space, territoriality, and crowding (Altman, 1975, p. 3). While privacy is a process by which an individual or group establishes its boundaries, there are several aspects regarding these limit points. Ideally, a person can set about establishing an ideal or desired boundary, but while there is a desired restriction, there isn't always an achieved result. It is easy to consider privacy at the personal level, but the attribute can also be experienced at the group and organizational social units as well. Most commonly, privacy is considered through verbal and auditory cues and feedback. It is the consideration of the Environment and Behavior attribute of control through which an individual experiences desired elements.

University of Missouri Extension offices provides traditional work environments for its faculty, researchers, and administrative personal in which to conduct assigned duties across the state of Missouri. These office spaces most typically feature grouped private office collections each minimally providing individual work areas. As a primary function of preparing research with the intent to educate, there is a high need for heads down, focused type of work. Privacy is afforded for people by utilizing different states of solitude. Solitude is the way by which a person creates a physical separation from others. In the case that a worker's office space is a system's furniture workstation, increasing panel height increases solitude. Increased privacy requires boundary demarcation changes and with these changes, offices become constructed with full-height permanent or moveable walls and door systems. Issues of intimacy can be viewed as the opportunity

for seclusion and can be very useful when the discussion of human resource issues arise. Office spaces can afford gradient work opportunities. Acoustical and visual privacy phenomena are controlled and regulated by means of low-density occupied spaces and by constructed walls with operational doors. As means to gather to share learned knowledge and to discuss distribution methods, conference rooms are provided within spaces. Set in low-key visual settings, extension offices maintain the image of being highly relatable to the public.

Personal space

Sommer's (1972) seminal work surrounding the nature of personal space broadly contributes to the theoretical underpinnings for Environment and Behavior considerations (Sommer, 1972). Personal space sets boundaries of distance for interaction with others. Much in the same way that there are distinct variances in acceptable distance between cultures such as Eastern and Western nationalities, the space concept for an organization is set by the way that spaces are created and the furniture settings that are provided. Stemming through disciplines of sociology, communication, psychology, perception, and architecture, Sommer sought to understand more clearly the methods through which people interact with each other, and personal space is how privacy is achieved. Ranging from social to intimate zones, personal space defines acceptable socio-spatial relationships for office workers. In this construct, the nature of "people as builders, creators, molders, and shapers of the environment" (Sommer, 1975) can be understood and people have the opportunity to effect the environment in which they find themselves. Personal space is relative to the spatial design and setting for any building type. This attribute delves into the office user's perspective of the created spaces around them.

Ultimately, it is the person's relationship with their surrounding environment that constructs their perception and provides the resulting behaviors.

In a traditional and simple office type such as Extension, evidence of personal space adaptations is observable. Personal space is considered from the time that you enter an office and while moving throughout the entire space. This can be a personal boundary or set for a group of people, since personal space is a relational construct. The distance boundary that people set relates to the degree of closeness perceived between themselves and someone else: those people considered connected are allowed in. Functional office layout and furniture provisions help to explicate personal space control.

The central essence of Extension service is founded upon the idea of bringing valued research information to America's public. This idea naturally extends to the manner that offices are established for those working for Extension. Extension offices are often defined by the sense of relating with the public through a hierarchical structured in tradition and value. Privacy is attained through use of personal space provided by the organization to the individual, often through corporate culture policies such as personalization of individual workspaces. Space gradients are established through office size and type and their location relative to service spaces. Operational strategies toward the achievement of desirable personal space can also be supported by a work computer being placed as a work area buffer for the individual or guest chair placement being opposite of the primary work space. Personal space seems to be highly related to the number of hours an office worker spends at the office and by the office's corporate policy and cultural desires. Offices wishing to promote traditional values and stability might be

less likely to allow for personalization and off standard furniture and equipment placement within an individual office.

Territoriality

As organizations sought to consider that forces within and forces outside their physical boundary effect their operation, the open systems organizational model provided the opportunity to study the setting as a holistic system (Bastedo, 2006). Designated office area boundaries formed by constructed vertical objects and furniture components provide literal and philosophical components through which to study territoriality (Ashcroft & Scheflen, 1976). These boundaries are created for and by individuals or groups and are used toward creating privacy congruency in a particular setting.

Territoriality explained through the theoretical framework of environmental preferences is used to understand and study the interactions of people within any particular behavior setting. Since people are the central actors within the constructed space, interactional opportunities are going to occur. While the interactions are often positive and contributory to an organization's core belief and mission, it is also as likely to result in negative interactions. Complicating this construct further is that the concept of territoriality is not absolutely defined by a visual periphery. The concept of territoriality can be held differently by people and is typified by physical boundaries, symbolic gestures, or personal perceptions. These ideologies tell a story and are highly necessary for the design professional to understand when creating harmonic environments for office inhabitants (Lattimore, 1940). The nature that people seek to personalize, demonstrate ownership, and defend their space allows the discussion of the organization's outward demonstration of territoriality (Altman, 1975, p. p. 5).

Territorial outcomes are the “self/other boundary-regulation mechanisms that involves personalization of or marking of a place or object seen as ‘owned’ by the person or group” (Altman, 1975, pg. 107). While the nature of territory is equally prevalent among all living creatures, the outward human territorial behaviors will form this analysis. Lately, much has been carrying large media weight in how people maintain, control, and take over territory in communities (Newman, 1996). Territories carry with them the nature of ownership whether temporary or long term, and as primary or secondary in nature for the individual or group.

The gradient nature of public to personal territories can be attributed to any behavior setting as well. The inability of an individual or group to clearly understand where public space ends and private space begins is a primary contributing feature territory space failure (Newman, 1972). Central to this construct is creating opportunity for graduated boundary changes into the constructed office environment. The creation of transitions among office groups -- with elements of neighborhoods and front-porch boundaries along with architectural elements, furniture, or lighting can help to enhance office behaviors and outcomes.

Territorial demonstrations within the traditional office behavior setting are easily recognized as the prevalent constructed office typology. With primarily constructed wall with entry door structures serving as individual workspace boundaries, organizational hierarchy is maximized. In order to maintain this hierarchy and to provide other workers an opportunity for heads-down focus environments, moveable wall workstations are provided to mid-level workers. While perceived differently, these workstations have the capacity to serve as privacy and for creation of individual territories. Much in the same

way that multi-tenant dwelling structures such as apartments and zero-lot line homes serve to buffer single owner residential neighborhoods from commercial high-traffic settings, so can systems furniture groupings aid boundary settings with the traditional office space. The placement of systems furniture offices between common area spaces such as meeting rooms, lounge spaces, and break rooms and management's private offices reinforces the visual type. While the workstation provision is not always desirable for many office workers, they can tolerate the allocation because of the workday period and that most of the people are in similar work spaces. As long as people understand that everyone is treated fairly and that workspace assignment is directly related to organizational title, all is well. When there is a perceived workspace distribution imbalance, workers tend to act out inappropriately. The negative effects in the traditional office are sometimes offset by introducing a variety of public or shared spaces such as break rooms with views leading to the outside, and private offices being held to interior, windowless rooms.

Crowding

Kaplan and Kaplan (1982) set about to understand the outcome that follows when privacy is not afforded within a behavior setting. The previously discussed constructs of privacy, personal space, and territoriality are psychological aspects that people seek as regulatory mechanisms within any environment that they find themselves a member. When the perceived person-environment fit is not in alignment for any particular individual, the resulting outcome is the construct of crowding (Kaplan & Kaplan, 1982). Previous Environment and Behavior research has integrated the considerations of privacy, territoriality, and personal space into systematic understanding. Through

breakdown of the system, the person's perception of misalignment within his or her environment results in the experience of crowding. While it is important to understand the negative effects that can result from crowding in an organizational office, it is equally important to consider that crowding, on some occasions, is desirable. Further clarification is the understanding that crowding is a psychological constraint.

Crowding is sometimes referred to as density or the number of people in a given space (Stokols, 1995). If a person enjoys live music or sporting performances, it is highly likely he or she will be part of a crowd since crowds are evident at these types of events. It is highly probable that the person in this situation is not going to experience a breakdown in enjoyment due to high crowd numbers because a high crowd count is expected. For this response, the individual's concern to maximize privacy and personal space constraints will be discussed.

Understanding the difference between crowding and density helps to frame the problematic nature of traditional offices experiencing the effects of crowding. It isn't the effect of being too close to another office worker's space that begins to contribute to an organization's problems, but rather, the problem of not being able to establish a clear territorial self-boundary for an individual (Altman, 1975). Traditional offices wishing to economize and streamline office furniture purchases might begin reducing varied panel sizes. Panel heights that do not minimally establish visual boundaries do not always contribute highly to worker moral. Crowding can begin to occur when environmental conditions preclude the privacy regulation mechanisms of personal space and territoriality to occur. This effect is also in evidence when, instead of providing a boundary wall to be constructed at least in part by gypsum board, people inhabiting office

spaces can experience the effects of crowding. This might be the best example because while the person has a full height constructed office environment with a door enclosure, the feeling is that of crowding (Altman, 1975). The opposite effect of crowding can also exist within a traditional office environment and this is considered social isolation. When any individual in an office experiences the mechanical effect of less contact with others, the individual will suffer. Ideal for any office setting is seeking the provision of the organization's desired privacy levels.

Altman (1975, pg. 156) postulated that it was the combined factors of physical setting attributes, furniture, décor, and space layout that created the opportunity for people to achieve a desired privacy level. While density itself does not always contribute to the construct of crowding, it can be a touchstone leading an individual toward the effect of crowding. In the case of access to a service or building function is routinely blocked by other groups or management, the experience of crowding can set in. Blocking resources held in common belief to be accessible to everyone in high-energy environments can be expressed in high-energy disputes. The final component of crowding considers the influence of time or duration. As the need to adapt to high levels of stress within any given environment rise, so does the effect of crowding. In an environment developed for long periods of working without separation or rest can uniquely contribute to the effects of crowding if a balance of alternative settings are not provided within the overall setting. No one sets out to create the effect of crowding. People love to support professional, collegiate, and high school sporting events. It is not unheard of to be among 70,000 fans and ignore physical threat from crowding. The nature of the behavior setting plays an active role in this situation. People do not spend

40 hours a week in a sporting venue. Behaviors such as screaming, stomping, drinking, and attention grabbing actions are highly encouraged in a sporting arena with seating placement, ancillary service, areas, and the Jumbotron. These same actions simply would be squashed promptly in a traditional office

Environmental Preference Index (EPI)

Organizational and Environment and Behavior theories helped to form the basis of the Environmental Preference Index (EPI). The index, previously tested in a pilot study, yielded five major theoretical constructs: physical facility furniture and equipment, control, culture, and amenities. These five constructs will be examined in conjunction with organization system types using the OSAS (Organizational System Assessment Scale) to identify the relationships between the two.

Physical Facility construct

Physical Facility issues affect building owners and tenants alike. While there are many things to which the word “facility” can refer, this research considers only the building and office spaces that provide a secured office setting for an organization’s employees. Buildings are frequently built on speculation and leased to organizations seeking office spaces, where the building’s size, materials, and rental rates can attract or deter future tenants. Whether a lessor or the organization itself owns the building, many important components can affect employee satisfaction, retention, and productivity. The manner in which a facility is constructed and maintained, the availability of natural daylight and or ventilation, and mechanical systems that work well and support individual needs may seem like imperceptible issues. The investigation seeks to determine whether office workers value these ideas, and if so, to what degree. Interior

plan issues such as lighting, acoustics, and the absence of physical barriers can heighten the degree of employee effectiveness and are theorized as valued. Other considerations worthy of study are the location of workstations and offices near common areas such as kitchens or break areas, rest rooms, and vending spaces. People often prefer to be near these areas but not directly connected, as the common areas can be a distraction. The survey index should provide insight to these considerations. Other facility considerations include storage space availability outside the workspace, work area lighting control, wireless Internet availability and control, as well as adequate space for all occupants within the facility.

Furniture and Equipment construct

The second construct regards Furniture and Equipment and addresses the functional components people use daily to write on, sit upon, and store items as they work. Most people do not stop to consider the effect poorly conceived furniture design and placement has upon their everyday productivity (Hameed & Amjad, 2009). The furniture construct takes into consideration all the types of furnishings available in common and private spaces. Included in the furniture construct are the components that seek to provide appropriate task supporting equipment resources, mobile furniture for group and personal activities, and the availability of ergonomic furniture in task-related areas.

Control construct

Control construct issues considered the manner in which an individual may make choices within his or her immediate work area. For example, if a person wanted to control his/her immediate area personal task lighting, office lights would have switching

available to the worker rather than being powered from a central pre-programmed location. Likewise, instead of furniture being installed without casters, the furniture would be mobile and would provide personal freedom choices. The construct of control regards the manner under which people have the opportunity to gain or share knowledge. Another understanding of control within the office setting is the opportunity that a worker can limit or embrace the office noise. The control construct considers issues the organizational management focuses upon, as well the issues people face in the general office population.

Control dimensions would allow personal manipulation of the office worker's direct area with regard to furniture type and arrangement, and the display of personal effects in the work area. Issues centering upon the use and validity of an open office plan (which uses systems furniture components) or of private offices continue to drive discussions by design professionals and clients. Each office strategy has advantages as well as disadvantages. While connected to the furniture construct, issues explored in the control construct seek to determine: the connections between facility arrangement and office type availability; the functionality of shared spaces, such as conference rooms, copy centers, and break rooms; and the limiting functionality of controlled or available space in the office's overall population. The opportunity for individuals to control their own space allows for increased autonomy, and ultimately, a heightened sense of organizational contribution. A sense of individual autonomy includes the opportunities with which workers are provided to engage with each other collaboratively or to pull back and work alone. The means by which a workspace can be adapted to fit workspace location and work needs; opportunities to change lighting or air temperature for their

personal needs; and the way people are encouraged to make alterations to their interactions with the office as a whole or within their personal workspace are discussed under this consideration.

Culture construct

Culture issues were constructed to measure the degree of preference in organizational culture and sought to understand the manner by which interior office space reflects the organization's central identify belief. For example, if a company believes that all workers, regardless of title, should have direct access to one another, one would not expect to find private offices to be considered very important or to have them set apart from people working in modular workstations.

A building's structure alone cannot adequately link an organization's culture to individuals (Kornberger & Clegg, 2004). Organizational culture is revealed to the observer in many ways, including finish selection and designation for the constructed building. For example, finish palettes can vary widely from the very inexpensive to those which use highly detailed and refined materials. Different finish level materials for walls and floors might include simple wall paint, highly detailed wood paneling, vinyl tile flooring or plush carpeting. The interactive combination of these finish types create the total perceived environment and contribute to the overall cultural understanding by employees and visitors alike.

When an officer worker perceives that the office setting is congruent with his or her idealized version of the setting, then the office worker is positioned to operate with full effectiveness (Hamheed & Amjad, 2005; Becker & Steele, 1995; Brill, Margulis, & Kohar, 1984). Research studies suggest that while people have the ability to compensate

for less than desirable circumstances and as a result, develop personal alternative strategies, one can only speculate to what degree an ideal setting might have in improving the end work product at a personal scale for a particular individual, or to a larger degree, for an entire organization.

Amenities construct

The Amenities construct was derived from the Environmental Pilot Index pilot-testing as an element uniquely blending all of the previously regarded constructs into a category that embraces areas not always offered to employees by organizations. Functional needs of the office worker are often addressed only when space allocation runs short in the design assembly. In order to provide the necessary work tasks, space for the worker's desk and basic rooms such as lobbies, conference rooms, and offices are provided. The nature of amenities includes spaces that go beyond these functional elements and seeks to understand newly considered alternative spaces and their contribution to the overall office effectiveness. Informal employee lounges and recreational spaces are two examples of space types that might not be needed by functional space needs but are highly prized as new ways of engaging fellow workers. The way that these spaces are available to the overall organization's population contributes highly to cultural values. Other building attributes, such as operable windows, can also contribute to overall worker satisfaction.

The two major groups of organizational theory and Environment and Behavior serve as a broad knowledge base for the research's theoretical framework. Theories from these two realms provide a rich perspective from which to explore, understand, clarify, and solidify the process of understanding a unique organization and its associated needs.

Concepts from organizational theory, systems and person-environment fit provide an interconnected communicator for theoretical and practical relational understandings between built environments and people. The two formative theories of organizational and Environment and Behavior studies share knowledge commonalities between each other and are activated by the general systems theory domain. The shared knowledge base of the three major theory categories allows information to be understood and to shape organizations culturally, and contributes to the organization's learning process. When an organization is made sensitive of its environment, changes can occur through evaluation of environment and human behavior constructs of territoriality, privacy, personal space, crowding, and the macro understanding of behavior settings.

Organization System Assessment Scale (OSAS)

The Organization System Assessment Scale (OSAS) derived from family and organizational studies serves as a means to measure the individual worker's existing and preferred work style or typology. Measurement of an individual's environmental preference and work style gives insight into the link between environment preference and organization system type. Kantor and Lehr (1975) contributed the initial theoretical framework and Imig and Phillips (1989) set about developing the Family Regime Assessment Scale (FRAS) refinements. Imig and Phillips' took Kantor and Lehr's previous work that identified the manner by which a family or organization can be studied, and made additions that organizations could be assessed and categorized. Through a systematical identification process, Phillips found a new connection through the OSAS application to study organizations. The OSAS measures an employee's preferred organization system type under the worker's perceived actual and ideal work

conditions through major categories by access and target behavioral dimensions (Kantor & Lehr, 1975 & 2003; Constantine, 1986). The eight dimensions of human interaction are divided into physical (space, time, matter, and energy) and informational dimensions (content, meaning, control, and affect) and account for the manner by which organizational members seek tacit and conceptual experiences within the organization. The physical dimensions of time, space, energy, and material are the resources used to gain access to the information dimensions of content, meaning, control/power, and affect.

The access and target dimensions are the means by which organizational members actualize their need for safety, participation, and life goals (Kantor & Lehr, 2003, p. 36). Dimensions, as defined by Kantor and Lehr, are the “physical and conceptual fields of activity” are the manner which the organization can regulate the “activities of people, objects, and events”. Through Constantine’s additive work, the informational dimensions of affect, power, and meaning were expanded with the addition of the dimension of control. Organizational interactions involve individual member’s needs of “gaining or losing access to a particular target of people, objects, or events” (Kantor & Lehr, p. 37) through these dimensions. By linking the information dimensions to the typologies of closed, open, random, and synchronous, individuals can be assessed and categorized by their preferred operational modes. The individual categorization can provide the means to study any particular organization and to understand its sum aggregate. Measurement results can then be applied to the desired environmental preference constructs to create links to the individual’s environmental preference constructs.

The four regimes of closed, random, open, and synchronous for Imig and Phillips resulted from the theoretical interpretation of Barker’s person-environment fit and

Constantine's family systems theory that was developed from earlier Kantor and Lehr research. Ultimately, the informational dimension insights gained contribute toward a richer theoretical understanding for researchers and for the design practice disciplines of design and organizational analysis. It is through understanding the organization's world-view, that plans, strategies, and goals can be tailored made for maximum organizational congruency.

Because this research seeks to create a system to understand an organization in order to create the most congruent environment possible for any given organization, it is natural to consider using a tested process to diagnose member identities and overall composition. This is based upon the Ockham's Razor principle that "two otherwise equivalent explanations for a phenomenon": thus, considerations granted to a family can be extended to an organization (Constantine, 1986, p. 13). The OSAS framework is guided by the original assumptions made by Constantine's study in family analysis. Groups of people can be considered in terms of their contributing members whether the group is a "family, business organization, social club, or nation as all define and maintain boundaries, deal with dualities between the individual and the group at large" (Constantine, 1986, p. 101). As families are a focus subset within the global construct of organizations, the concepts are analogous and useful for the research held in this work. The restated assumptions are as follows:

1. Groups or organizations can differ from each other in basic formation and by the images that identify their group. As such there is no one formulation for an organizational identify and through this understanding there are many different successful organizational combinations.

2. Organizations, like other human systems, function as if they were guided by overarching images or types, which can be understood through organizational analysis of the organizational structure and subsequent typology.

3. Organizations vary widely in the types by which they are organized and the types by which they are guided, but within this variability distinct primary types can be identified.

4. Organizations that are guided by different typologies and organized by differing types will tend to have different strengths and weaknesses as organizations.

Table 1

Behavior type by primary key dimension target identification summary (Constantine, 1986)

Type	Benefit	Dimension	Functional Target
Closed	Security, belonging, stability through tradition, nurturance	Affect	Affirmative intimacy, closeness, nurturance, convention, global benefice
Open	Practical, effectiveness, constructive adaptability, adaptability through negotiation	Control/ Power	Constructive efficacy, mastery, discussion leading to consensus
Random	Identity, differentiation, self-discovery, variety through innovation	Meaning	Purposeful identity, self-awareness, found in following the individual's own path
Synchronous	Harmony through universal identification, group constancy, problem-solving, teaching, learning	Content	Complete knowledge, wisdom, requires the least personal time investment, detached

Closed typology construct (Affect)

People continuously seek both the material and the intangible whether the sought constraint is access to the office supply cabinet, a business-provided electronic device, the opportunity to introduce new operational procedures, or the corner office with new furniture. The informational dimension of affect describes the ideals of intimacy and nurturance (Kantor & Lehr, 2003, p. 37). While in the case of a family organizational understanding, these descriptors hold the idea of being loved and loving others, the affect dimensions takes into consideration the nature of loyalty, public validation, stability, and tradition. In the construct of closed with the dimension of affect, intimacy is understood to be “mutual emotional closeness and closeness among peers” (Kantor & Lehr, 2003, p. 47). Nurturance takes into count the manner by which organizational members receive emotional support from one another. Congruently, in the same manner that organizations take care of one another, they also can regulate the manner of care by regulating actions. Environment and Behavior constructs of privacy, personal space, territoriality, and crowding consider these regulatory acts when creating desired behavior settings. The degree to which an organization allows, instigates, or condones is wrapped up within the unique organizational culture. Indicative of the closed typology is that individual needs are met through the organization. The organization will be the main focus and if the time comes to question whether the organization or the individual is to win out in a given conflict, the individual defers to the organization. The major benefit of the individual’s deference is to maintain global stability, and in turn, the individual is served by this stability.

Open typology construct (Control/Power)

When presented with the challenge of problem solving, the open construct relies upon its central focus of group discourse and consensus. Control is the process mode that an organization or an organization unit uses to achieve its desired target (Constantine, 1986) and it is reliant upon the control/power mechanism that seeks to regulate consent. Originally, Kantor & Lehr designated the construct of control as the informational dimension of power and is used to frame the manner that people gain something of desire whether the desired focus is knowledge, a relationship, or a tangible object. The original concept of “power” as a primary theoretical connection lies in the social science research field (Constantine, 1986, p. 156) and will be used as such in this research to minimize confusion with the environment and human behavior construct of control. Individual and organizational interests are merged through dialogue and discussion (Constantine, 1986, p. 27). The open typology develops strategies that create collaboration opportunities and seek to balance group and individual resource needs. If the open construct could be identified by a word, it would most likely be authenticity, as the need for authenticity is high for group processes focusing upon the idea of interdependence between the group and the individual. As the closed construct focuses upon the idea of a strong organization and the dependent individual, the open construct seeks to create an environment that produces dependent and independent action flexibility. Those operating with the open construct as a central resource embody the ideas of investment and stewardship through the need to understand the past historical happenings as a source of knowledge, and by valuing the present for its capability to bridge the past and future to ensure long-term adaptation,.

Actions that typify individuals or organizations with strong open tendencies include: discussions that lead to overall consensus, physical and psychological attributes that respond quickly to present needs, and attributes that build in a constructionist or building manner. The surrounding environment or atmosphere would contribute to the balance of the group and the individual, employing practical spaces that support group and individual needs and elements that seek to minimize conflict and are highly adaptive.

Random typology construct (Meaning)

In the movie, "Pirates of the Caribbean," a character notes that the pirate "code is more what you'd call 'guidelines' than actual rules," a statement that perfectly illustrates the random construct as it guides the individual. The antithesis to the closed construct is the central nature of the enabled behavior typology. As the closed typology is grounded in the qualities of continuity and stability, the random construct typology holds that the organization exists for the individual and that it is the individual efforts that evolve the organization (Constantine, 1986, p. 26). The construct postulates that change is accomplished by typical pattern deviation, and that the random typology relies upon innovative strategies with the capability of expending resources for individual freedoms. Conflict resolution for the random individual considers that "individuality reigns supreme and that anything that limits or restricts the individual must give way to the individual" (Constantine, 1986, p.105). Change, spontaneity, and following one's own individually created path are the attributes to which the random typology contributes to the organization.

Key contributions to the organization are the ability to seek new information and welcome outside perspectives although new discoveries are not always shared well with

others. Truth is always relative and subjective and “difficult discussions are terminated without reaching a conclusion” (Constantine, 1986, p. 107). With little boundary for the individual, the organization is considered flat and without hierarchy. Organizational roles are established through one’s own cleverness and creativity.

The primary informational dimension linked to the random construct is that of meaning through symbols, metaphors, and images for the connection with personal and/or organization identity. The random construct makes strong contributions in finding new ideas and during periods of change when managed by the global organization.

Synchronous typology construct (Content)

While the random construct’s need for individuality through creative adaptation can produce unintentional conflict, group conflict is minimized through the group member’s natural symmetry within the synchronous typology. The construct that is most profoundly linked with the informational dimension is “best at offering tranquility and harmony” (Constantine, 1986, p. 119). The synchronous typology is much like that of the random construct, as both have a low investment in closure as coping and problem solving activities, but different in that the synchronous construct individual can end up with erratic closure conclusions.

Perfectionism is a strong motivational driver and the employee would be considered as an extension of the leadership team. Leadership is often indirect in its control over employees, leading to confusion. Much like the open construct, the synchronous typology seeks unilateral agreement among group members but does so through closely coordinated activities. Individuals are bound by strategies that ground family constancy, maintain resources, and that connect the organization with timeless life

universals. The connection of truth comes through its universal understanding that truth is implicit and that while there is only one truth, there are many ways to obtain truth.

Truth for the synchronous typology is based on direct knowing and objective realities.

It is important to consider all four typologies as being equally valid and contributing to the organization. Knowing the organizational aggregate can enable the designer to create an environment to fit in congruent patterns that enhance the organization. As with any diagnosis, patterns can be observed, tested, and applied through systematical processes and like any other constructed understanding, balance is key to healthy ongoing organizational relationships and tactical strategies. Organizations that find themselves responding in all directions or nowhere, find that they begin to enter down the road of the closed loop feedback system. When organizations employ closed system tactics, the organization will begin to suffer and decay (Katz & Kahn, 1978). Closed system approaches do consider external feedback, but for the most part, external feedback is considered irrelevant (Amagoh, 2008, p. 2; Shafritz & Russell, 2005; Wang, 2004). It is the unique combinations that are important to understand since an organization is rarely based on a closed, open, random, or synchronous system. Closed typology can operate along well as it highly values traditional strategies and loyalty. As an organization begins hiring younger associates, ideas are subject to change, and the ideas that youth brings to an organization are the characteristics held in high regard to those from the random construct. As the two typologies are in opposition of one another, there needs to be methods in place for when and what to bring into developmental strategies. The open construct has great capacity to seek the best operational direction, but discussion takes time and can create great burden to an organization's nimbleness.

As the profession of design and construction increasingly are being thrust into understanding the economics of design, understanding the organizational composition quickly is seen as highly valuable.

Investigation relevance

An office's aggregate image can be understood through its individual components such as its provided office spaces, the rational of size and finishes as displayed, and specialty occupant provisions. Constructed and moveable offices provide the needs defined by individual and group activities. Privacy is achieved through constructed office components as well as granted organizational policy. The degree to which the individual feels that they can achieve their own work style will predict their happiness and tenure. Image is an essential ingredient for Extension as it strives to maintain its responsible, public persona of thrift and traditional values.

Buildings providing workplace environments have the opportunity to contribute healthy environments for its occupants. In the endless environment attribute assimilations every building, when considered through the lens of environment and human behavior attributes, creates an environment capable of supporting the required unique activities for any office type. The core environmental attributes of privacy, personal space, territoriality, and crowding create the framework of understanding for offices, producing a dichotomy of commonalities and distinctions.

Chapter 3. Method

The descriptive study's primary purpose was to investigate the relationships between environmental worker's office setting preference by organizational typology. The nature of inductive based studies provides the process by which to discover links and begin to understand attribute patterns found commonly in modern workplaces. By gathering information for an organization that most commonly uses an office to accomplish work, patterns and regularities between the measured constructs of the EPI and OSAS can be formed and future theory can be developed (Creswell, 2003).

Research design

The survey asked University of Missouri Extension employees to respond to difference interior environmental preferences in terms of currently experienced conditions and those that would be ideally desired. Ellis, 2013 explored the central environmental constructs of physical facility, furniture and equipment, control, culture, and amenities as a means to extract worker preferences. The constructs were measured with the Environmental Preference Index (EPI) to determine interior elements that are preferred by an office worker. The survey respondents were also asked to consider their current perceived work process type in the Organization System Assessment Scale (OSAS) and then again as with the EPI portion of the survey to express their preferred or ideal manner to accomplish work thus identifying their ideal work typology.

A descriptive quantitative study was designed using the two-scaled indices to examine the relationship between office worker's interior environmental preferences and office worker typology. The respondent outcomes formed the basis for the descriptive

study interpretation. The choice of each index for this study was predicated upon their developed theoretical connection.

Restated research questions

Restating the earlier presented research questions, the research study at hand seeks to understand the following:

First question: What are the created patterns among the environmental preference constructs and the study sample's demographic characteristics regarding gender, age, tenure, location, organizational program group, employment title, length of term in current office place, and the number of inter-office relocations?

Second question: What are the highest environmental preference construct pattern associations for the office workers' by organization system typology?

Participants

Provided by the University of Missouri Extension's survey lead investigator, there are 1068 statewide employees who formed the population group for this descriptive study. Primary for the research is to study the created patterns between the EPI the demographic categories as well as the occurring patterns between the EPI and the OSAS indices. Six regional area, four campus centers, and two urban core groups comprise Extension's organizational reach. The organization is spread across the state into 114 counties. The University of Missouri Extension organization was chosen for its easy access and the opportunity to acquire information that otherwise would not be available in a typical office setting. Typical office settings find the organization being framed by one or a few buildings and the buildings are commonly congruent in their building similarities. As Extension is located in over 225 buildings and 130 city areas statewide,

the work environment is highly diverse, allowing for a rich worker input with their preferred work environment. As the study sought to understand worker environmental preferences and work typology and to begin to create construct pattern connections, a convenience sample allowed for new exploration.

Instrumentation

While there were five scaled indices used in the complete University of Missouri Extension survey, only two of the five were used for this study's research purpose. The first index used to establish worker environmental preference was the Environmental Preference Index (EPI). Previously developed from a 56 question pilot study, the EPI measures five environmental preference constructs of physical facility, furniture, and equipment, control, culture, and amenities, Appendix A. To measure worker preference for each construct, a Likert-type scale was used where zero was 'not preferred at all to a 10 being 'most preferred'. Derived from a pilot tested instrument, the five construct dimensions of Physical Facility, Furniture and Equipment, Control, Culture, and Amenities were used to represent the relevant issues, needs, and preferences for an office worker.

Respondents were asked to provide an actual and ideal rating for all five-construct preferences. In addition to requested construct responses, respondents were also asked to provide demographic information including gender, age, location, program, title, in-residence, and relocations that the worker had made while in the employ of Extension. The demographic variable information is included to fully explore differences and similarities between worker typology and environmental preferences. The survey

analysis of the survey results will be useful to explore presupposed ideal connection and to identify directions for future research.

The Organization System Assessment Scale (OSAS) had four major construct categories measuring an individual's actual and ideal perceptions of their work environment. In order to categorize the individual's organization type, there were four target questions and one question to provide the target weight. Each of the five survey questions had four sub-questions used to gain a systems' understanding of the individual's preferred organizational alignment. The target questions consider the manner in which the organization accomplishes its goals, the way it cares for each organizational member, the organization's essential identity, how the organization attempts to understand the objective events it encounters, and an item that compares the above dimensions – the weight of the previous dimensions.

Extension personnel were asked to assign a number to indicate a primary preferred sub-question for each question block. Each survey item was to have one of its responses assigned a value of 10 (the most important attribute among the four selections) where the value range anchors of zero for most disliked to 10 being most liked. The other three sub-statements were to be rated on a range value of zero to nine. Each of the five targets measured an individual's perception of the organization based on actual perceptions and ideal perceptions. The final question block acted as a weighted value question to determine alignment strength of an individual most congruent work type.

In order to study this organization, different units of analysis were taken into consideration. To understand the group's composition, a descriptive analysis was conducted on each of the eight demographic, the actual and ideal EPI responses, and the

ideal OSAS responses. Reviewing the demographic variables allows understanding of the effect of the sample's underlying composition to be considered when relating back to the nature of the organization's overall population. While this study is a convenience sample, the opportunity to relate newly discovered information back to the known population could provide insights for future research exploration and testing.

Procedure

Extension's organizational leadership team launched the eIRB approved, on-line survey via email, with an invitation for each Extension member to participate. The email described the study's nature, provided the informed consent understanding, and provided a survey site link embedded in the body of the text that could be used over a secure internet server. All personnel received the same invitation for the same survey and were asked to participate in the anonymous, voluntary basis. The survey required no more than seven to 10 minutes of each respondent's time and could be completed at the employee's convenience. Over a two-week period, multiple follow-up emails were sent to ensure full participation of the University of Missouri Extension personnel. The design was cross sectional as it was a study completed at a single point of time during a specified two-week period.

Descriptive statistics were used to describe the sample data summaries and the data measures. The objective was to be able to reach conclusions beyond the raw data and contribute toward the manageability of considered patterns to be made. In a univariate analysis of this type, each demographic variable considered the variable results distribution, central tendency, and the dispersion. After the data were collected, they

were cleaned to harmonize data labels, remove survey software anomalies and to standardize values for descriptive statistical evaluation.

When studying large people groups, there are many units of understanding. The importance of specifying the unit of analysis is to stipulate which particular part or aggregate of the larger group is being studied (Babbie, 2008). Knowing the aggregate level allows the finding in most cases to be generalized back to the population. The entire organization was considered to be the aggregate to analyze the eight demographic variables as well as the construct variables of the Environmental Preference Index and the Organization System Assessment Scale. The individual's beliefs about any one of the attributes created the each of the unique constructs composite picture. Though simple in its process, the research analysis was systematically sound with all five phases with each allowing complete understanding of the individuals preferred or aligned choices.

Demographic variable development

Strategic descriptive processes were completed with aid of SPSS software on the eight demographic variables to find each construct's distribution, dispersion, and the central tendency. The descriptive data's strength is that measurement error value uncertainty is removed. The distribution was identified to present the construct's contribution to the subject under study although a limitation of descriptive data are that they only allow for the provision of sample summations and that they are not inferential or causal. The central tendency, which provides the mean, median, and mode for the data, contributes the basis to begin comparing values in the study. The provision of all three values will counter the effects of skewed data, as the central tendency value is highly sensitive to exaggerated or outlying values. (Chambers, Cleveland, Kleiner, &

Tukey, 1983). As a result, data will be subjected to a visual inspection via histogram charts. Another means to consider skewed data would be to see if all values for mean, median, and mode are the same or if the median and mode lie on one side or the other of the mean. The construct variables' dispersion was to provide the value's spread around the central tendency. As the dispersion can only be stated with the variables of age, tenure, in-residence, and relocation as they were scale variables. The standard deviation of each of the scale variables were also collected as an accuracy refinement step toward the estimate of dispersion as sometimes an outlier can inflate or inappropriately spread the variable's range. The standard deviation allows the opportunity to understand how all the values center around the mean. As for final development, the continuous demographic variables of age, tenure, in-location, and relocation were further categorized into four groups each. Categorical descriptive analysis allow for a discerning inspection of environmental preference constructs. Rather than anticipating needs for a general populace, the researcher and designer can begin to arrive upon the underlying fine details for both the respondents as aggregate as well individual expressed preferences.

The variables of age, tenure, in-residence, and relocation required no cleaning or manipulation and the raw data was used as collected. The variable of age was then used to create a new age generation categorical variable for later comparison. Construct variables of gender were categorized to reflect a true nominal status with female being equal to one and male being categorized as a zero. The variables of location and program were originally constructed as nominal variables were recoded to provide a categorical analysis for the respondent's region, college center, or urban area assignment as well as the Extension program title. The final of the eight demographic variables, title, had 56

distinct work status designations. These original 56 title classifications were simplified into five primary functional categorical roles by Extension leadership, resulting in a representative new categorical variable.

EPI construct variable development

The study's second phase process considered the EPI's primary constructs of physical facility, furniture and equipment, control, culture, and amenities. As each respondent was prompted to provide their perception of actual importance and ideal choices, the original raw data did not require additional managed information and were used as preference index values. Descriptive statistics were created to present the five actual EPI constructs, the five ideal EPI constructs, and the differing values. If the differing values led to an increase, the difference is considered positive and understood that the respondent's feeling for the particular construct is valued as being a higher value than currently demonstrated within the organizational environment. A negative value would represent that the respondent felt that the construct should be less than currently exhibited. For the final analysis with the OSAS, the ideal values and high ideal values will be considered as the organization was wishing to become more aligned with its personnel.

OSAS construct variable development

Procedural direction for the study's analysis evaluation phase was the OSAS variable constructs. There were five OSAS representative survey questions that the respondents were asked to consider and respond to. The first four questions reflected different ways that an organization can consider as its search or its human interaction target dimensions to better understand its personnel collective (Constantine, 1986).

Understanding the OSAS construct variables will also consider each respondent's rankings and the unit of analysis was the individual. Each of the questions provided a response associated with one of the four work types as defined by Imig and Phillips as closed, open, random, and synchronous. The fifth question provided a weighted response for the final variable construction.

For each category group, the individual was asked to rank only one of the sub-categories with a full 10 points. The 10-point award would reflect the individual's most preferred response or the one item that best describes their opinion. The remaining three choices would have the option of being ranked zero to nine with zero being not in evidence to nine being in evidence. The ranking approach had the opportunity to elicit from the respondent a comparative evaluation to the item rated as the most highly rated option.

By adding each construct's sub-questions, a composite variable representing the work type was constructed. Multiplying the fifth weighted survey question resulted in a true assignment of work type construction. Dividing the achieved score by the total available score provides a standardized variable producing appropriate descriptive statistics for subsequent means comparison with the Environmental Preference Index constructs. The respondents were asked to provide their own association for each of the questions in terms of the current or actual work process and for the ideal or preferred work attitudes. The composite mean values from the individuals provide an ideal opportunity to analyze the organizational composition. "Since no one individual controls an entire <family> organization, the measured alignments selected by each individual are part of the whole" (Constantine, 1986, p. 84). In aligning the sum of the organizational

whole by its typology subgroups, an organization can move closer towards its own unique congruency. When organizations are aligned to their true nature, the group can effectively reach harmony, efficiency, and be capable of expanding overall productive contributions. As Extension's primary survey goal was to begin to understand the personality of its organization and to begin making changes toward the expressed ideal typology, the high ideal values from the OSAS ideal constructs were to be further explored in their relationships with the EPI.

Comparative EPI constructs analysis by sample demographics

The ideal and high ideal EPI construct values were analyzed with the sample demographics with the individuals as the unit of study during the fourth analysis phase. As the organization's overall goal was to seek improvement over the present organizational influence, the ideal values were of significant importance. In order to provide conclusive direction back to the organization, the high ideal EPI values were to also be studied. The high values within the ideal construct represented the highest percentile of preference choice and were achieved through limiting the recognized data values to those being ranked with eight and above to the possible preference ranking of 10 to be compared with the high ideal values from the OSAS.

Comparative ideal EPI constructs analysis by high ideal OSAS constructs

The high ideal EPI construct values were analyzed by the high ideal OSAS constructs as the unit of study during the final analysis phase. The analysis units are those individual's ranking the EPI constructs as high in the ideal category along with the individuals high ideal OSAS constructs. As the organization's overall goal was to seek improvement over the present organizational influence, the ideal values were again of

significant importance. Only the top 25 percent of the rankings were considered for both the EPI and the OSAS to determine which if any of the EPI constructs would be held in high regard for the OSAS typologies. An inspection will also be made to understand the percentage values placed below the top 25 percent of the scores or the rank value of seven. Patterns can be considered also between the two scales to begin developing a theoretical reference point connecting work typologies with the environmental constructs. Removing the lower 75 percent of the rankings allows the research to describe if a value is highly preferred with a 10, strong preference of a nine, or merely ideally preferred with an eight as the lower values have been removed. Creating this process allows a percentage capture to be made within the high ideal category. The high values for each of the survey indices' ideal constructs represented the most preferred choices and are the first purpose of research study. From these conclusions, patterns can be considered for association between individuals in an organizational workplace and the environmental preferences that they share. These studied associations should have great impact upon the way that new studies are developed and studied.

Fundamental to understanding the measure of the effects of the Environmental Preference Index (EPI) constructs in association with the OSAS typologies is to consider that three of the constructs are actual objects a person might touch, move, and interactively engage with, while the other two constructs of culture and control are perceived construct ideas and are in the mind of each worker. Constructs of privacy, personal space, territory, and crowding link powerfully with theory. The physical facility can be evaluated on a sliding scale between the end points of static and set in place to the ideal of mobility as in the case of demountable or moveable interior partitions. Materials

can range from centuries ago such as brick and stone to new and innovative materials that are only now being introduced into the marketplace and are not found in many past applications. A third area to consider as the EPI constructs interacts with the OSAS are spaces that are compartmentalized and rigidly grouped and create definitive boundaries relative to those spaces that can be rapidly changed or modified by the people using the space and as experienced through large open and flowing spaces. While similar to the first consideration about a person being able to change any given space, the third idea seeks to apply how the spaces are grouped together and the degree upon which obvious boundaries are assured.

Furniture and equipment can be seen through a very similar lens to the first construct, but with the idea of considering if the furniture is on wheels and moveable relative to fixed and in-place. Materials and aesthetic application of materials to the furniture object ranges from very traditional woods and dark stains to those of metals and glass or acrylic. Because furniture can be used to create space such as with systems furniture, the idea of furniture creating visual boundaries relative to conventional constructed gypsum board partition walls will be discussed. The final EPI construct of tangible perception is the idea of amenity space. Amenity spaces would be considered to be expressed in corporate settings as communal business centers where employees can interact and engage with one another and technology to accomplish any particular task, concierge elements borrowing from hotel service and useful for employees and guest alike, to different food services from inside housed or out sourced by food vendors, communal meeting spaces, laundry, dry cleaning, and postal services. As some of the Extension locations are on college campuses, many of these services are in place and

experienced by Extension personnel. For others in remote county locations, this idea may seem foreign as they may have not had amenity spaces in their present work career or office site.

The final two EPI constructs include the ideals of control and culture. Ideally, the workplace occupants have some control over their environment as research indicates the opportunity to choose different functional settings with regard to one's lighting, thermal conditions, and power strategies are linked with improved worker moral, job satisfaction and productivity (Bechtal, 1997) (Hameed & Amjad, 2009). As most organizational change is accomplished through organizational culture, the mode of the environmental culture as perceived by the worker is critical, as the culture is seen as being congruent and aligned with the organizational mission or dissonant. A second idea is the degree to which the building, furniture, materials and their message found in the interior environment are perceived overtly or explicitly.

Limitations

With any convenience sample, the results cannot be generalized back to the population that the original data was extracted. Due to the non-probability sampling, the research is difficult to replicate and can resulting in confounding explanations. Construct validity is compromised in samples such as the Extension sample represents, but with the use of theoretical developed framework indices, interior validity will likely not be relevant.

The use of a survey instrument can make available previously misunderstood or unknown associations and patterns: however, causality cannot be determined. But by

understanding all the downsides, the research can investigate a phenomenon to determine the worthiness of further investigation.

Summary

The benefit of examining workplaces in this manner is its potential for contributing to a more precisely assessment of the workers thereby aligning the environment requirements with the appropriate workplace preferences. The study is the first step in determining constructs categorization for future experimentation and determining relationships between a series of environmental attributes that prior studies and practice have heretofore only hypothesized.

Chapter 4. Analysis

Descriptive demographic variable analysis

When considering interior design options for people working in an office, the client will provide the professional with many design objectives and outcome goals in the new planning. In addition to the number of square feet an organization will need, architects and interior designers seek to understand the work needs of the clients, their aesthetic preferences, the type of furniture needed, and a supportive office layout. Most commonly in preliminary discussions, there are kick-off meetings attended by the client, contractors, and design team. The process of understanding a particular group, known as programming, is often started in kick-off meetings attended by the client, contractors and design team. During early programming sessions, the designers pose in-depth questions to comprehend the client's full personality spectrum. Employee organizational charts are one example by which a client or group will share basic demographic information with the design team that is beginning on a particular project. An organizational chart can assist design planners since the charts carry information regarding organizational structure in terms of personnel counts, business units, and sizes of units, and job titles. While not always a direct communication, the organizational composition of women to men can be revealed by the individual names. As this study seeks to understand the pattern connection between work types and environmental preferences, it is important to understand the University of Missouri Extension's aggregate composition. The variables of gender, age, tenure, location, program, title, in-residence, and office relocation occurrences were considered to understand what other factors would affect or explain the relational pattern formed between the variable constructs held within the Environmental

Preference Index and the Organization System Assessment Scale. The demographic variables are detailed as follows:

Variable	Variable interpretation
Gender	respondent's gender (1=female and 0=male)
Age	respondents age in years of birth, years ranging 19 to 79
Tenure	respondent's employment tenure measured by years
Location	respondent's state-wide region or campus location (12 location designations)
Program	respondent's Extension program area assignment (eight program areas)
Title	respondent's job title category (five categories)
In-residence Relocation	respondent's current place of work tenure, measured in years (number of moves) = number of times that respondent has moved over employment tenure with Extension

Table 2

Descriptive sample demographic statistics

	Gender	Age	Tenure	Location	Program	Title	In-residence	Relocation
Mean	.66	50	13.53	5.53	4.85	3.34	8.5	1.5
Median	1	53	11.0	6.0	5.0	3.0	5	1
Mode	1	57	1	6	7	3	1	0
Std. Dev.	.47	12	11	3	2.5	.9	8	1.8
Minimum	0	19	0	1	1	1	0	0
Maximum	1	79	49	12	8	5	45	8
N								
Valid	328	283	286	324	319	326	266	297
Missing	83	128	125	87	92	85	145	114

Essential to the study's focus is the demographic predictor variables that contribute toward understanding the differences that people hold for various environmental attributes as provided in Table 2. A simple descriptive analysis was completed for the organizational demographics to provide a full understanding of the study group for consideration.

Gender

Gender is important for workplace research as men and women fill various organizational roles composition studies have considered that workplace diversity is linked with the economic bottom line (Dizikes, 2014). Extension is no different, as females comprise the largest percentage for the University of Missouri Extension aggregate with 33.5 percent of the respondents being men and 66.5 percent of the sample being women. The survey was completed by 411 people with average valid respondents in most demographic and index measures centering upon 320 for a response rate of 33.9 percent as presented in Table 3. There were 110 male respondents relative to 218 female respondents with 26.8 and 53 percent respectively for a valid sample count of 328 people.

Table 3

Gender detail descriptive statistics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	110	26.8	33.5	33.5
	Female	218	53.0	66.5	100.0
	Total	328	79.8	100.0	
Missing	System	83	20.2		
Total		411	100.0		

With 411 respondents out of a population of 1068, the participation rate of the survey is 38.5 percent. While the rate of 38.5 percent is lower than what would typically be expected of an internal employee survey of between 40 and 60 percent by standards held by employment survey online organizations such as Fluid Surveys, Survey Monkey, and the Nielson group, power calculations hold that for a population of 1068 people, 293 respondents would be needed to achieve a 95 percent confidence level at five percent margin of error. The survey reached measurement significance with valid numbers

typically reaching around 320 people with every variable's measure. Understanding the contributions and the preferences held by men and women across the state will inform Extension leadership's decisions for future organizational changes.

Women are the primary sample participants and the gender variable within the data set previously coded as one and two, remains a dummy or binary variable but is recoded as the female gender equaling one and the male gender equaling zero. While a mean value is not commonly used in dummy variables, a value of .66 would indicate that there were more participating women than men and the mode and median value of one confirms this idea.

Age

Age provides the preferential determinant for each generation provided in Table 4 responding differently to the way that ideas are shared, learned, and considered. The study considers age as a continuous or ratio measurement level with the discovered average or mean respondent age to be 50 years old. As with all continuous variables, the central tendency can be understood through the mean, median, and mode understandings providing useful interpretation. With a median age of 53 and a mode value of 57, the data can be understood as being negatively skewed. The organization's ages range in value from 19 to 79 years of age.

Table 4 demonstrates the distribution of respondents among the four generational age distributions and the mean sample age for respondents is 50 years of age and is within the bounds of those in the category of 49 to 67 years of age and representing 56.9 percent of the sample group. The younger two groups comprise 39.6 of the sample with the oldest group, those 68 years and older contributing three and a half percent.

Table 4

Age by generation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	30 years and younger	27	6.6	9.5	9.5
	31-48 years	85	20.7	30.0	39.6
	49-67 years	161	39.2	56.9	96.5
	68 years and older	10	2.4	3.5	100.
	Total	283	68.9	100.0	
Missing	System	128	31.1		
Total		411	100.0		

The Extension sample presented a mean age of 53 years and spanned ages from 19 to 79 years of age. The 60-year range provides a few opportunities to explore environmental preferences for those in the workplace based on percentile distribution and generational age categories. The percentile distribution almost perfectly aligns with the age spans found for the Millennial or Generation Y (30 years and younger), Generation X (31-48 years), Baby Boomers (49-67 years), and the Silent Generation (68 years and older) and does not include Generation Z which are those individuals born from 2003 to the present (Pew Research Center, 2015). This research will touch only briefly upon the effects of generational effects and will provide future research opportunities.

Tenure

People who have been working 13.5 years share the mean tenure value for the representative sample with employment tenure spanning from one to 79 years. As a continuous variable, tenure has the opportunity to understand if length of employment is a factor when considering the importance of each of the study's considered environmental preferences. In order to consider the contribution of the variable tenure

more fully, the variable was split into four groups through completing a percentile analysis. Table 5 provides insight into the sample group's composition with those in the first group of zero to five years of employment history. Eighty-eight people represented 30.8 percent of the respondents with the second highest tenure group being those employees with 21 years and more of service to the University of Missouri Extension.

Table 5

Tenure categorization details

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 to five years	88	21.4	30.8	31.5
	Six to 11 years	58	14.1	20.3	51.7
	12 to 20 years	67	16.3	23.4	75.2
	21 years and over	71	17.3	24.8	100.0
	Total	286	69.6	100.0	
Missing	System	125	30.4		
Total		411		100.0	

Organizational tenure by years

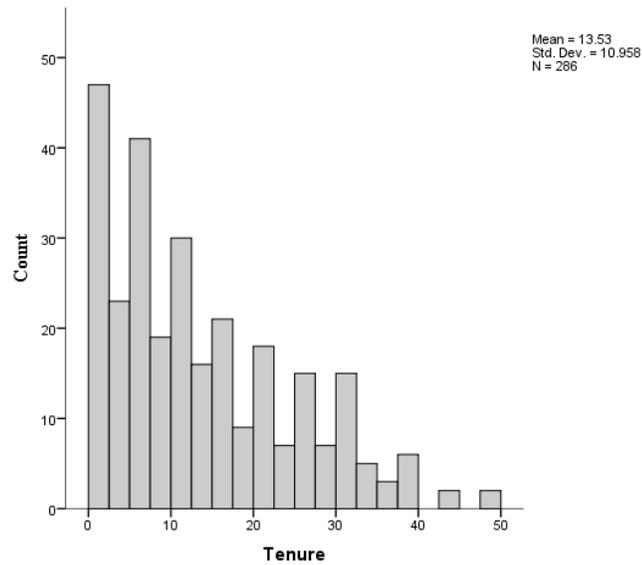


Figure 4. The frequency counts for University of Missouri Extension's tenure by years with negative skew, which would indicate that workers are more likely to migrate away from Extension and take other jobs in other fields for other organizations.

As a way to describe the nature of tenure distribution, Figure 4 demonstrates a positively skewed structure. The overall picture provides a common scenario seen in many organizational outcomes, as many changes in employment will occur within the first five years as people begin to accelerate their employment focus. People make career changes and either rise to new opportunities within their employers offerings or take other positions working for another employer. In the case of University of Missouri, there are a few people who have been employed for more than 40 years and no doubt these few would represent outliers and create longer tails for the skewed offering. It is important to understand that while research seeks to minimize research error, outliers can also exist out of many factors. While outliers are extreme scores away from the study's normal distribution sampling results, outliers can be sources for previously unconsidered

but new understandings. As this work is explorative in nature, the outliers were not removed as they are quite worthy of being studied and represented in the sample.

The first three variables consider sample respondent factors and the next three consider the underlying role characteristics that Extension presents to its faculty and staff statewide. As the University of Missouri Extension is a state association, the location for the individual, the program under which they serve and their job title provide great opportunity to delve into several questions. Do an individual's location, affiliation, and responsibility contribute differently for each of the environmental preferences? The categorical variables of location, program, and title provide the opportunity to capture information regarding similarities and differences of those located in rural, urban, or academic settings, for those in different programs centers, and for the five different categorized position titles.

Location

As the central operational construct for the national governmental organization was founded in 1914, with the central mission of communicating highly researched information to the greatest American population, Extension's organizational units are located by in each state by county and urban city center regions. Missouri is no exception with this organizational practice and has representatives in each county, along with locations on each of the University of Missouri college campuses and in the two urban regions of Kansas City and Saint Louis. The descriptive results for location show that the most prominent responding location to be for those operating from the Columbia campus location. The mean is typically not used to understand a categorical variable, but

as both the median and mode are the value attached to the Columbia campus, the data points create a normal distribution.

As the primary operational hub for the organization, it is not surprising that the Columbia university campus carries the largest representative weight, with 129 people or 40 percent of the complete sample. During the survey completion period, the Columbia campus population represents 36 percent of Extension in its totality, making the demographic for this survey representative of the organization. All regions contributed participation spanning between four and a half to almost ten percent of the final sample, with the Southwest Region having the highest participation rate of 10 percent. Regarding participation relative to known population demographics, it was interesting to note that the West Central Region had the lowest participation with only 25 of its 94 employees providing survey feedback. The combined urban centers of Kansas City and Saint Louis provided 11 percent feedback with the Business Development group weighing in as heavy participators (see below). Of the remaining three college campus groups, Kansas City, Saint Louis, and Rolla, participation accounts for less than one percent for each group, but it is important to understand that the population for all three campuses is only 17 people, so a total of four participants places the three campuses with a combined 24 percent participation, outdistancing three out of six regions (Northwest, 24 percent, Southeast 22 percent, and West Central, 20 percent) as presented in Table 6 and Figure 5.

Location issues also beckon to consider going forward natures of rural relative to urban location, the type, age, and condition of building that the inhabitants occupy, as well as organizational leadership connection to their staff. These considerations will be fully discussed in the final chapter.

Table 6

Location frequency categorization details

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Urban Region (KC & St. Louis)	36	8.8	11.1	11.1
	Northeast Region	27	6.6	8.3	19.4
	Northwest Region	20	4.9	6.2	25.6
	Southeast Region	21	5.1	6.5	32.1
	Southwest Region	32	7.8	10	42.0
	Columbia Campus	129	31.4	39.8	81.8
	Kansas City Campus	1	.2	.3	82.1
	Rolla Campus	1	.2	.3	82.4
	Saint Louis Campus	2	.5	.6	83.0
	East Central Region	25	6.1	7.7	90.7
	West Central Region	19	4.6	5.9	96.6
	Not Assigned to a Region or Campus	11	2.7	3.4	100.0
	Total	324	78.8	100.0	
Missing	System	87	21.2		
Total		411	100.0		

Participation by location

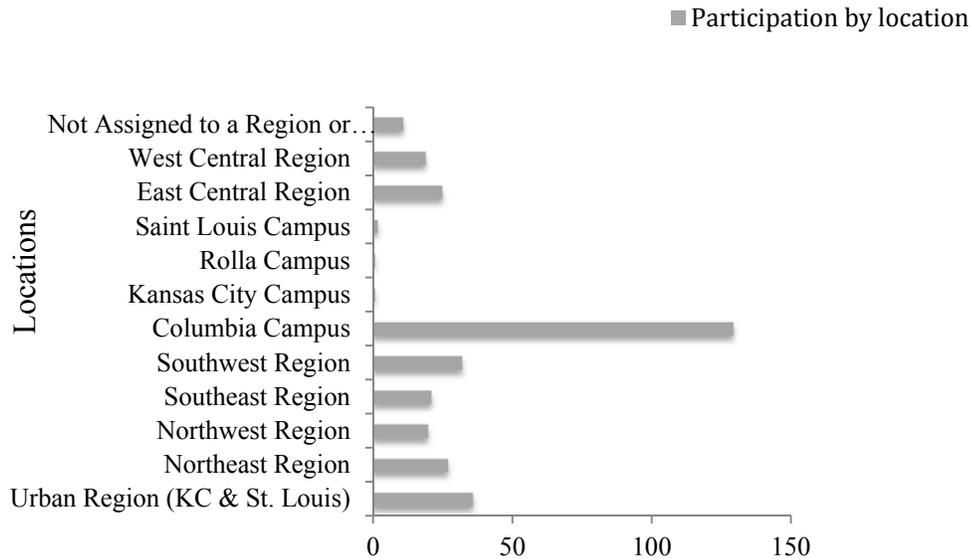


Figure 5. Sample participation by regional location for University of Missouri Extension that indicates those remotely located workers being connected to colleges on the central campus of Columbia as being more to participate in the survey. While the Saint Louis, Rolla, and Kansas City campuses reflect low participation, their overall participation percentage was comparable to two different regional sites.

Program

The program variable considers the offerings fundamental to the organization's founding mission. As time has progressed, the research contributions have changed due to population shift from the state rural areas to its urban regions. When a population shifts geographically, its needs in variably shift as well and this holds true for Extension program offerings with offerings considering agricultural, business development, community development, continuing education, youth and family services. As a vehicle to deliver high caliber educational opportunities for the citizens of Missouri, Extension does so through people connected directly to the University Center that they serve as well as those operating through each division's operational county. University of Missouri's Extension program service categories include the six major program areas in addition to the operational leadership and staff. Those responsible for day-to-day organizational

leadership and Extension oversight are included within the group designate Administration/Management and those in support of Administrative care are categorized as Clerical/Staff. Agriculture research and teaching programs are highly connected with a land-grant university's fundamental interests and are connected with the College of Agriculture, Food, and Natural Resources Extension (CAFNR). Focusing upon "economic development, crop and livestock production and marketing systems, and increased income from forages, while balancing the consequences for Missouri's natural resources and environment is the group's central operational function (Agriculture and Natural Resources Extension, 2015). Outbound educational services include Business Development, which provides a vital service directly to people that are working toward creating a new business, maintaining an existing business, or revitalizing a stalled venture and is operationalized through Missouri Small Business & Technology Development Centers (MO SBTDC). The Business Development unit works alongside of the U.S. Small Business Administration (SBA) and Economic Development Administration (EDA) in partnership and funding creating opportunities for economic development and entrepreneurialism (Extension Business Development, 2015). Community development engages with local communities with revitalization, citizen engagement and community leadership programs (Extension Community Development, 2015). As additional training is required in the state's workplaces, Continuing Education generates citizen vocational training curriculum and educational opportunities with medical, fire and rescue, labor, law enforcement, Missouri Training Institute, Nursing Outreach, and Veterinary Medical (Extension Continuing Education, 2015).

Youth and family services include two programs which are actively engaged in providing Missouri family's assistance in health, business, and human development. The first program is Human Environmental Sciences (HES) and engages the community through Housing and the Built Environment; Personal Financial Management; Strengthening Families; Nutrition, Health and Physical Activity; and Food Safety with a particular endeavor towards vulnerable populations (Human Environmental Sciences Extension, 2015). The final group of 4H/Youth provides educational program opportunities for state youth ages eight through 18 along with community and family involvement (Missouri 4H, 2015).

Table 7

Program categorization details

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-Administration/Management	39	9.5	12.2	12.2
	2-Agriculture & Natural Resources	53	12.9	16.6	28.8
	3-Business Development	26	6.3	8.2	37.0
	4-Clerical/Support Staff	18	4.4	5.6	42.6
	5-Community Development	27	6.6	8.5	51.1
	6-Continuing Education	21	5.1	6.6	57.7
	7-Human Environmental Sciences	89	21.7	27.9	85.6
	8-4-H/Youth Development	46	11.2	14.4	100.0
Total	319	77.6	100.0		
Missing	System	92	22.4		
Total		411	100.0		

Table 7 provides the six categorical program offerings of Agriculture and Natural Resources, Business Development, Community Development, Continuing Education, Human Environmental Sciences, and 4-H/Youth for University of Missouri Extension as

well as the leadership and staff operational groups of Administration/Management and Clerical/Support Staff. The largest survey response outcome is within the Human Environmental Science (HES) group that encompasses services dealing with Housing and the Built Environment, Personal Financial Management, Strengthening Families, Nutrition, Health, and Physical Activity, and Food Safety. Also those groups with affiliated colleges such as the College of Agriculture, Food, and Natural Resources, College of Engineering, and College of Human Environmental Sciences could be seen as being highly participatory within the study. As stated earlier, mean values are not typically useful when describing a data variable's central tendency and the median and mode would indicate that the central data value being a five and the most common response coming from HES, the data will be negatively skewed and pulls from the mean value of 9. The high participation rate within such a large group such as HES would account for this skewed condition. If HES had been left out of the analysis, it can be understood that the Administration/Management contributing at 12.2 percent, Agriculture and Natural Resources with 16.6 percent, and 4-H contributing 14.4 percent, there was equal support across many service agencies. The groups of Business Development, Community Development, and Continuing Education provided half again of the previous groups and the group representative of the clerical/support staff provided the lowest participation with six percent. The low participation rate of those filling the functions of clerical roles is surprising as this is the group that research and design studies present as being most restrictive in terms of their office movement and will be discussed in greater detail.

Participation by Extension program

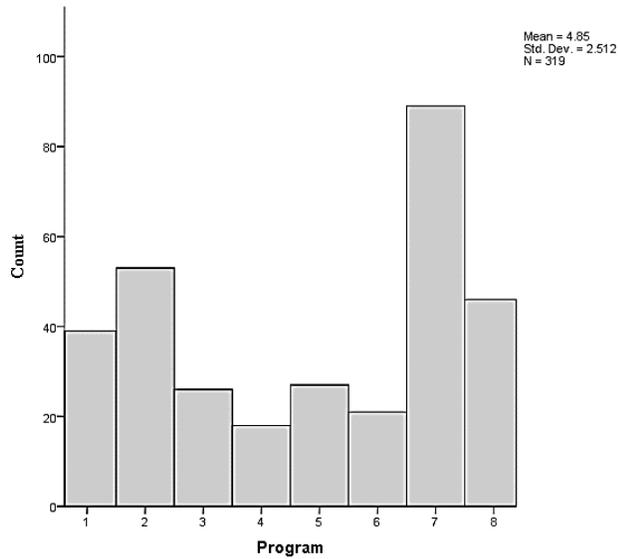


Figure 6. Participation sample by program contribution; a bi-model representation demonstrates the strength of two programs, 2-Agriculture, Food, and Natural Resources, and 7-Human Environmental Sciences with HES demonstrating 27.9 percent participation.

Job title

Title is another categorical variable and as it is does not rely upon the mean for clear information, it is reliant upon the median and mode to provide clear understanding.

Table 8

Title categorization details

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-Administrators	12	2.9	3.7	3.7
	2-Directors	31	7.5	9.5	13.2
	3-Specialists	145	35.3	44.5	57.7
	4-Associates	110	26.8	33.7	91.4
	5-Support	28	6.8	8.6	100.0
	Total	326	79.3	100.0	
Missing	System	85	20.7		
Total		411	100.0		

While Appendix B provides insight into 94 different positions, Extension's leadership team took the essential job characteristics for the array and created a small categorized group of five which included administrators, directors, specialist, associates, and support personnel. Administrators are those that are responsible for the operations for Extension services in Missouri and primarily located on the Columbia campus. Those in the roles of the other four categories can be found across the state. The job title variable mean is 3.34 and its median and mode are both three and as such the distribution is fairly perceived as a normal. With a mode and median of three, the variable contributes that those with the title of specialist were the most highly contributive of the five groups

Job title representation details

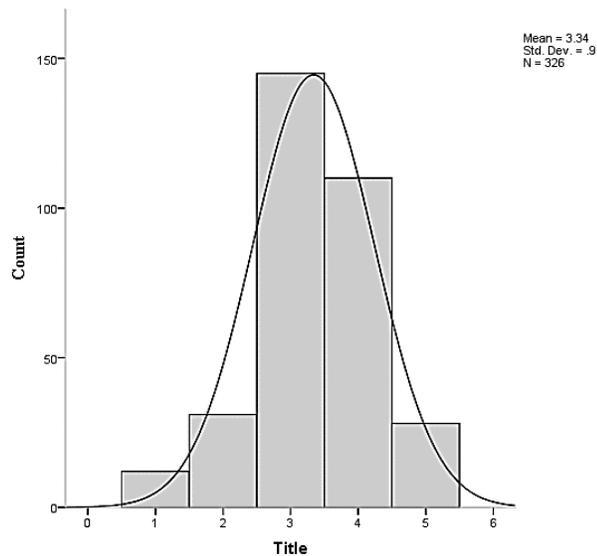


Figure 7. Participation count for Extension staff, faculty, and administration by categorical title. The third group, Specialist, forms the mean ($M=3.34$, $SD=.9$) and while positively skewed due to the high participation of those sharing the title of Associate, the remaining three categories are similar.

Inspection of the variable's histogram speaks toward a fairly normative distribution. Those performing functions under the Associates title category contributed 26.8 percent of the survey's findings and those in administration and support were represented with three and seven percent respectively. The importance that categorizing job functions provides valuable information to understand the importance of different environmental preferences for individuals and common questions might be considered as relevant. Does a person who has moved up the ranks of service contributions feel differently about the physical facility in which they work or do they shift in perspectives to being issues that are more tacit such as control or culture? How valuable are surrounding amenities to those that find themselves in the office more than working in the field for those in support functions. These questions can be seen in the intersection of findings of the study and used to develop the knowledge base for both research and the design field.

The remaining two demographic variables consider the length of time that a particular individual has been working in the location when considering their survey responses and is title In-Residence. The final variable of relocation asks the respondent to declare the number of office moves that have occur during their tenure. These two questions are important to office research as environment and human behavior research is central upon the experience of the environment upon people. As research begins documenting the effects of place and environment settings, this research seeks to understand an individual's preference choices based upon the number of years and moves that individual has accumulated. In-residence and relocation are both coded as continuous and categorical variables and as such, the mean, median, and mode are useful.

In-residence

The survey results relay that on average, the respondents had been in their respective office for eight and a half years with five years being the central or median value and the most common in-residence being one year. The central tendency values of median and mode provide insight into the distribution curve being negatively skewed demonstrating that the longer the person has worked for Extension, the less frequent their moves will be.

Survey participation by in-residence construct.

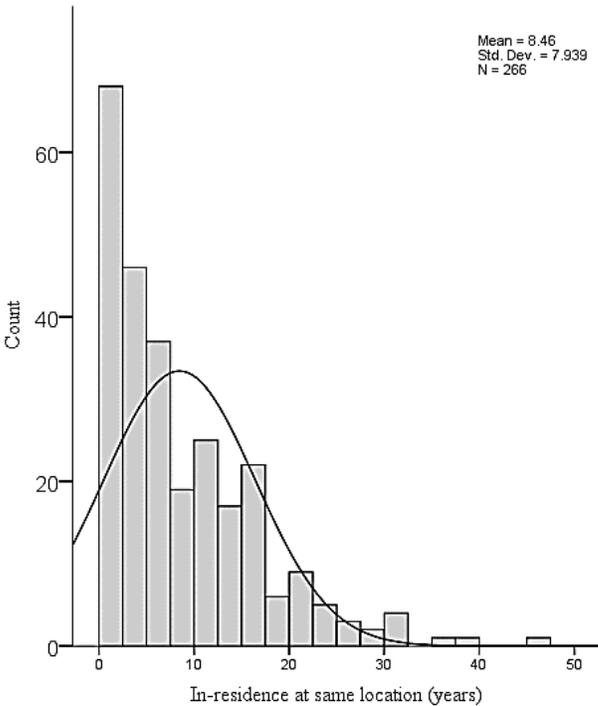


Figure 8. The negatively skewed data demonstrating those participants number of years at their current in-residence office location. Most of the staff for Extension have been in the same office that they began working in.

In aid of useful understanding, the continuous variable of tenure was further categorized by percentiles into four groups for those working for University of Missouri Extension: under two years, two to four years, five to 12, and those working in service thirteen years and above. With this distribution, it can be understood that there are far more people less invested in the organization than are those working for longer time periods. As noted in the January 2014 Bureau of Labor Statistics, the United States Department of Labor, the “median employee tenure (the point at which half of all workers had more tenure and half had less tenure) for men was five years, and unchanged from January of 2012” (Bureau of Labor Statistics, 2014). Median tenure was higher for those in older generations than those beginning their careers and holds true correspondence with the Extension survey.

Table 9

Current office categorization details

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under two years	46	11.2	17.3	17.3
	Two to four years	68	16.5	25.6	42.9
	Five to 12 years	71	17.3	26.7	69.5
	13 years and above	81	19.7	30.5	100.0
	Total	266	64.7	100.0	
Missing	System	145	35.3		
Total		411	100.0		

As categorized, the distribution of tenure and its contribution to the survey results lend a different story, since those in Extension’s service of less than two years participated with less frequency of 46 people relative to those in service 13.5 year or

more with 81. Sixty-nine point five percent of the distribution representing tenure was provided by those working five years and longer. The study's compositional nature will be further explored and analyzed by the formed environmental preference patterns.

Relocation

On average, the individual working for Extension has moved up to two times during their tenure. The relocation variable considers a positive skewed distribution as the central value was one move and the most common occurring response was that the individual have never moved. Moves within most organizations can happen for many reasons such as new assignments, roles, and internal reconstruction efforts occur. Regarding that the mean represents just a move or two, it could be regarded that Extension workers have fairly stable locations in contrast with other organizations that might be newer or in start-up operations. Extension was created in the early 1900s, and the organization has a clear understanding of what is needed to function efficiently and smoothly and this idea is useful for understanding the low move rate. Figure 9 demonstrates that little or few relocations are prominent relative to those moving two to eight times during the tenure course.

Relocation during employment tenure (years)

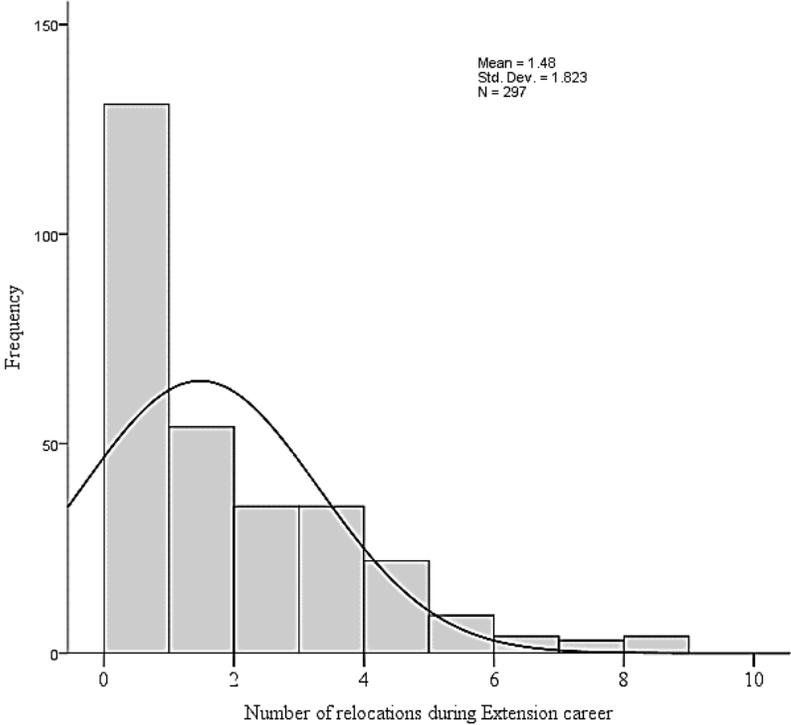


Figure 9. The negatively skewed data demonstrating those quantity of moves completed over the participants employment with Extension. Most of the staff for Extension either move once or not at all, and there are others in diminishing quantities that have moved more frequently.

With use of the percentile distribution, four categories of never having moved, being relocated once, moving three to four time, or moving five to eight times were created. The first two groups top out near 75 percent of those participating in the survey, with the final two groups comprising 77 people that have moved their office a minimum of three times and at the top end of eight moves. While those moving frequently are few, they contribute much to the study, as it seeks to understand the possible association with those who could potentially lack a sense of place.

Table 10

Number of moves during tenure categorization details

	Frequency	Valid Percent
Never has relocated office	131	44.1
Has been relocated once	89	30.0
Has been relocated three to four times	57	19.2
Has been relocated five to eight times	20	6.7
Total	297	100.0
Missing System	114	
Total	411	

Sample profile summary

When considering the eight demographic variables, the results create a sample profile – the typical individual would be a 50 year old female who has worked for the University of Missouri Extension for 13.5 years on the Columbia campus in the same office for the past eight and a half years, working through Human Environmental Sciences under the current title of Specialist and has either moved only once and more commonly never has moved. While this information is particularly important and will be used going forward, it is the interaction that will be most telling and potentially valuable as the knowledge begins to weave new patterns of understanding for the associated fields of research and design. Holding to the sample profile presentation lends fine-tuning with the Environmental Preference Index pattern understanding as a basis toward answering the first research question.

Descriptive analysis for Actual and Ideal Environmental Preference Index (EPI) construct variables and differences

Central to the index measurement tool development is understanding the dual understanding nature that both the Environmental Preference Index (EPI) and the Organizational System Assessment Scale (OSAS) provide. In measuring a person's interpretation of any organizational system and its associated environment and then measuring the same person's preferred way of being, research can be generated to allow for understanding of congruency and environmental dissonance. Often organizational leadership can be over-insulated or egocentric to the point of perpetuating and environment that is a behavioral nightmare for those in the workforce (Kets de Vries, 2006). The process enables organizational leadership to contribute an effective course to maintain well-aligned environments to changing struggling workplaces.

Dealing specifically with the operationalized index constructs of physical facility, furniture and equipment, control, culture, and amenities, the index asked the individual to provide which was the most important by placing a singular value of 10 for the Actual EPI constructs and then for the group measuring Ideal. For the remaining constructs in the Actual and Ideal categories, individuals were to place values ranging from zero to nine. Providing the method to the EPI portion of the survey that has been the primary measurement method for the OSAS allows action congruency between the two portions. As the mean provides indication of individual preference, the difference in the mean between Actual and Ideal can represent organizational congruence or dissonance upon a particular created pattern and provides insight into the organization's preference

composition for research and the design profession. The descriptions of each variable are as follows:

Physical Facility_Actual = measurement of the respondent's perception of their current surrounding environment including the office layout, technology, equipment, that is constructed and maintained, along with adequate privacy, and appropriate workspace (s); scale values spanning possible **values of zero to 10.**

Physical Facility_Ideal = measurement of the respondent's aspiration for their surrounding environment including the office layout, technology, equipment, that is constructed and maintained, along with adequate privacy, and appropriate workspace (s); scale values spanning possible values of zero to 10.

Furniture and Equipment_Actual = measurement of the respondent's perception of their current surrounding environment including ergonomic congruency and comfort, up-to-date equipment and furniture that is compatible to accomplish assigned or understood work activities, adequate storage; scale values spanning possible values of zero to 10.

Furniture and Equipment_Ideal = measurement of the respondent's aspiration for their surrounding environment including ergonomic congruency and comfort, up-to-date equipment and furniture that is compatible to accomplish assigned or understood work activities, adequate storage; scale values spanning possible values of zero to 10.

Control_Actual = measurement of the respondent's perception of their current surrounding environment including choice of workplace location & optional configuration types, collaboration space (s) or opportunities to collaborate, accessibility /regulations to stimulation input, operable lighting & ventilation, privacy, personalization, adjacency to activity centers; scale values spanning possible values of zero to 10.

Control_Ideal = measurement of the respondent's aspiration for their surrounding environment including choice of workplace location and optional configuration types, collaboration space (s) or opportunities to collaborate, accessibility /regulations to stimulation input, operable lighting and ventilation, privacy, personalization, adjacency to activity centers; scale values spanning possible values of zero to 10.

Culture_Actual = measurement of the respondent's perception of their current surrounding environment is congruent with the organizational image /brand, adaptable space (s), aesthetically pleasing, privacy fit for organizational culture, finishes and materials congruent with image / brand, workspace fit; scale values spanning possible values of zero to 10.

Culture_Ideal = measurement of the respondent's aspiration for their surrounding environment is congruent with the organizational image /brand, adaptable space (s), aesthetically pleasing, privacy fit for organizational culture, finishes & materials congruent with image / brand, workspace fit; scale values spanning possible values of zero to 10.

Amenities_Actual = measurement of the respondent's perception of their current surrounding environment's amenities space that might include but not be limited to adequate lounge space, vending areas and food service space(s), soothing space(s), activity spaces; scale values spanning possible values of zero to 10.

Amenities_Ideal = measurement of the respondent's aspiration for their surrounding environment's amenities space that might include but not be limited to adequate lounge space, vending areas and food service space(s), soothing space(s), activity spaces; scale values spanning possible values of zero to 10.

Each individual construct (both Actual and Ideal) exceed the 320 valid participants for the Environmental preferences construct overall and all constructs received all ranking values that were possible of zero to 10. As provided in Table 11, the highest mean Actual value was found for Physical Facilities with 6.83 and the lowest mean value of 4.22. Interpreting the findings would show that on average, University of Missouri Extension workers did not feel that importance was seen in evidence for any of the environmental preference construction that would merit a perfect 10. The standard deviation for all the construct values are widely held and would indicate that the scoring for each construct was fairly widely dispersed around the mean. To consider how Extension workers consider the preference constructs if they could implement their ideal work environment, the data results hold that the construct of Physical Facilities is most important to be incorporated into their preferred work environment with a mean value of 8.75. The least preferred of the Ideal constructs was again held for the Amenities construct (M=6.71, SD=2.53). The standard deviation for the Amenities construct is

higher than the second lowest ranked construct of 1.885 for Furniture and Equipment. Idealizing what this difference could mean might reflect that people had a better understanding of the meaning of furniture and equipment than their perception of Amenities. Given that many of Extension’s personnel are located in government buildings such as court houses or multi-agency spaces, amenities services might not be as common place as would be provided in new construction structures. Simply stated is that people do not always seek or miss conveniences that are not part of their current environment.

Table 11

Environmental preference construct descriptive statistics

	N	Min.	Max.	Mean	Std. Dev.
Physical Facility_Actual	327	0	10	6.83	3.307
Physical Facility_Ideal	334	0	10	8.75	1.723
Physical Facility_Difference				+1.92	
Furniture and Equipment_Actual	325	0	10	5.05	2.943
Furniture and Equipment_Ideal	333	0	10	7.79	1.885
Furn. and Equip., Difference				+2.74	
Control_Actual	326	0	10	5.99	3.241
Control_Ideal	333	0	10	8.13	1.916
Control_Difference				+2.14	
Culture_Actual	327	0	10	5.98	3.455
Culture_Ideal	334	0	10	8.06	2.098
Culture_Difference				+2.08	
Amenities_Actual	327	0	10	4.22	3.254
Amenities_Ideal	333	0	10	6.71	2.530
Amenities_Difference				+2.49	
Valid N (listwise)	320				

While it is found that workers would prefer to work in well maintained and operated spaces, the mean differences also inform the research another piece to consider. With the smallest mean value difference of 1.92 being found between Physical Facility,

Actual and Ideal, logic would lead to understand that while a functional and/or beautiful building is important to the people inhabiting Extension offices, they feel that what they experience daily and what they would like to have are fairly congruent relative to the gap created between the Actual and Ideal mean values for Amenities with a mean difference of 2.49 and for Furniture and Equipment of 2.74. With wider gaps between Actual and Ideal in these two cases and shown in Figure 10, it can be understood that what people are experiencing and what they feel is needed to create a better work environment are not aligned for the studied organization.

EPI construct variable mean difference

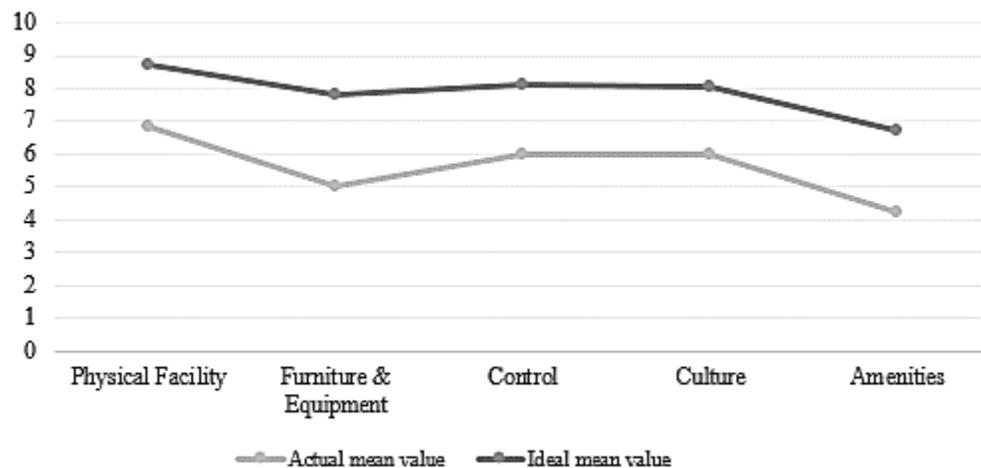


Figure 10. Perceived Actual EPI values place by the Extension survey remain lower across all construct variables than the employee preferred or Ideal construct presence and greatest for the constructs of Furniture, Equipment and Amenities.

Descriptive analysis for Ideal Organization System Assessment Scale (OSAS) construct variables

The Organization System Analysis Scale holds the function for this study that the employees, staff, and faculty are categorized into four different groups. These groups of closed, open, random, and synchronous as discussed earlier represent the manner that people can be sorted into the most pure representative typology. The four types provide insight into how different types of people seek experiences of control, affect, meaning, and content from their organizational environment. Behaviorally, the four typologies form a quadrant grid when considering two ideas: first, which regards the manner that people desire closure and second, the comfort or discomfort when handling ambiguity as viewed in Figure 11. Zero frames the reference point for all of the OSAS considerations upon the natures of vertical axis of closure and for the horizontal axis of ambiguity. While the Open construct type and that for the Random share the same perspectives as considering the unknown a great opportunity for growth, those within the closed and synchronous types view ambiguity as something to be avoided.

Organizational System Analysis Scale behavior quadrant grid

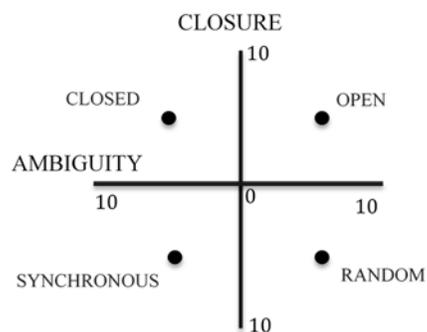


Figure 11. Visual diagram to provide reference for the operational commonalities and differences for Organization System Analysis Scale (OSAS) construct typologies with regard to Closure and Ambiguity.

Because all people in every organization can be found within the created quadrant grid, associated patterns can be created for the value placed upon different interior environmental constructs. The process of scale testing created by Imig and Phillips contributed to the testing manner for the EPI index as well. As individuals were asked to rank one category in each question with a 10 to represent the most preferred way of knowing and to give the remaining three categories a value between zero and nine, those values with 10 are understood as the most valued and then the others portray categorical rankings. Individuals were again asked to evaluate the present manner that is perceived as being present for the Actual operation mode and then to provide an Ideal operational preference and rankings. As the study seeks to uncover ideal environmental conditions, only the ideal OSAS constructs are provided in Table 12 and described below:

Ideal Closed OSAS typology construct = measurement of the respondent's aspiration for their ideal manner of operating within and experiencing their organizational environment through traditional stability and little tolerance for ambiguity and a high need for closure, conservative approaches that maintain the organization and benefit the individual; scale values spanning possible values of zero to 10.

Ideal Open OSAS typology construct= measurement of the respondent's aspiration for their ideal manner of operating within and experiencing their organizational environment through seeking to minimize conflict between organizational and individual interests by authentic problem solving strategies, a high tolerance for ambiguity and a high need for closure; scale values spanning possible values of zero to 10.

Ideal Random OSAS typology construct= measurement of the respondent's aspiration for their ideal manner of operating within and experiencing their organizational environment through the promotion of the individual over the benefit of the organizational stability and when resources are plentiful, information that is not controlled but also is not shared, has low value for closure and great tolerance for ambiguity; scale values spanning possible values of zero to 10.

Ideal Synchronous OSAS typology construct= measurement of the respondent's aspiration for their ideal manner of operating within and

experiencing their organizational environment through tranquility and harmony, member unity and placing the individual above all without authority or striving, places low value on closure and does not tolerate ambiguity; scale values spanning possible values of zero to 10.

Table 12

OSAS construct descriptive statistics

	Ideal Closed	Ideal Open	Ideal Random	Ideal Synchronous
N	310	318	319	311
Minimum	0	0	0	0
Maximum	9	10	10	9
Mean	4.56	8.05	6.52	3.41
Median	4.5	8.55	6.98	3.25
Mode	7	10	7	0
Standard. Deviation	1.993	1.776	1.924	2.018
Valid N (listwise)	301			

While both the constructs of Open and Random are expressed with all values from zero to 10, Ideal Closed and Synchronous had minimum values of zero and maximum values of nine. Organizationally, the majority of Extension regards the Open construct to be the most preferred operational manner (M=8.05, SD=1.76) and is the only group with a mode value of 10. The central value of median remains constant with the mean values for all four groups. The most common value expression or mode for both Ideal Closed and Random is seven. Large government and higher education, require great stability and have long courses of history in developing, growing, and maintaining processes that allow continual existence. The Open construct borrows from traditional values and processes that are hallmark to those operating from a pure Closed typology, but also creating an opportunity to explore the creative and innovative path so valued by the Random persona. There is a price to pay for the methods held by those in the Open type and great energy is required to research, share, and accumulate information.

Simply as all construct variables are represented as continuous, using the mean value to understand the importance that Extension workers place upon their idealized environment is a sound practice. As the survey was set up as a value priority protocol, inspection of the median and mode has practical application as well. Constantine urges the researcher to remember that a purely stereotypical person does not typically exist and that people have blended modes. The open typology borrows from both the closed typology's value upon tradition and a strong organization supporting the individual as well as ideas that seek creativity and problem-solving innovative strategies of the random. University of Missouri Extension's sample regards the importance placed upon open typology and as such presents itself as embracing ambiguity extremes yet requiring that all possible opportunities are considered

Bivariate analysis of Ideal and High Ideal EPI constructs by demographic characteristics

The highest Ideal EPI respondents are the unit of analysis for consideration and most commonly the means will be the central tendency for the pattern construction with the demographic variables characteristics. As the index method used in the survey asked the respondents to place a 10 for the most prominent or the most preferred in an Ideal setting, the central tendencies of median and mode help to enrich the analysis. Selecting the ideal EPI constructs of Facility, Furniture, Control, Culture, and Amenities, the highest preference values of eight, nine, and 10 were selected and a frequency count and means were completed on all demographic and OSAS variable constructs. While table category definitions and complete tables are found in Appendix D, Tables 17-24, a summary description of the pattern construct variables is as follows:

Ideal and High Ideal EPI by gender = Ideal & High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by Gender (1=female and 0=male)

Ideal and High Ideal EPI by age = Ideal & High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by respondents age in years of birth, years ranging 19 to 79 and generational categories

Ideal and High Ideal EPI by tenure = Ideal & High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by respondent's employment tenure measured by years

Ideal and High Ideal EPI by location = Ideal & High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by respondent's state-wide region or campus location (12 location categories)

Ideal and High Ideal EPI by program = Ideal & High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by respondent's Extension program area assignment (eight program areas)

Ideal and High Ideal EPI by title = Ideal & High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by respondent's job title category (five categories)

Ideal and High Ideal EPI by in-residence = Ideal & High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by respondent's current place of work tenure, measured in years

Ideal and High Ideal EPI by relocation (number of moves) = Ideal & High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by number of times that respondent has moved over employment tenure with Extension

Ideal and High Ideal EPI by gender

Demographic variables are used in research to understand differences found commonly among people. Gender is a common way to understand an individual and perceptions in the workplace. By separating choices made by women and men, the probability of describing what is known and what is unexplainable for men or women.

Women were the highest sample respondents overall and had the highest regard for the EPI Ideal Physical Facility construct (M=8.9, SD=1.68) and the lowest value for the Ideal Amenities construct (M=7, SD=2.4). The standard deviations for the Ideal Amenities construct demonstrates a wide dispersion around the central mean that that for the Ideal Physical Facility result leading understanding toward a wide variety of personal preference for the Amenity construct. The research method ideally uses the other two central tendency descriptors to confirm ultimate construct preference. While the median value for the two highest valued Ideal constructs are nine for Physical Facilities and eight for amenities, the mode of Ideal Physical Facilities is 10 and Amenities is nine. Ideal Physical Facilities captured 42.5 percent of rank values with the value of 10 while Ideal Amenities only held 28.2 participant preference for the most common ranking of eight. Complete details are included in Appendix D, Table 17.

With the removal of the lower 75 percent of the rankings, the high Ideal value can be understood for both constructs of Physical Facility and Amenities. The rank value of 10 for the women's preference of Physical Facility represents 48.4 percent of the three high values (eight, nine, and 10) and all other score rankings of seven or less hold only six and a half percent of the total scores relative to High Ideal Amenities rankings only capturing a little more than 50 percent of the idealized preference considerations. The difference of a half of a point between the Ideal and High Ideal Physical Facility construct represents little change in highest score rank and clearly communicates that the construct of Ideal Physical Facility is the highest preference for women within Extension. The value change between Ideal and High Ideal however for the Amenities construct tells a different story with the mean of seven for Ideal and almost nine for the High Ideal

variable. With a change of 1.75, the participants that highly valued the Amenities construct demonstrate a clear preference toward its contributions in their work environment.

Ideal construct preferences for the men not only included Physical Facility, but included the addition of Culture. With both variables indicating the high score or mode of 10, a pattern link is created between the gender of male and the constructs of Ideal and High Ideal Physical Facility (M=8.52/9.3, SD=.78/.785) and Culture (M=8.01/9.32, S.=2.23/.776). Similar to the women's survey responses, the Amenity construct shows a high ideal mean preference increase of almost two and a half points.

As it will continue to play out, the pattern preference for the Physical Facility construct remains high throughout the evaluative process. However, when considering the mean value and the differing value changes, the value change spread remains the most common under the Amenity construct. It is important to acknowledge now that the Amenity construct pattern received not one 10 throughout the study, but for the Ideal and the High Ideal values, the Amenity construct always carried an eight or nine preference ranking and always demonstrated the most significant increase between actual participant perceptions and the idealized environmental preferences. The Physical Facility or the constructed building that houses the workplace is the most highly experienced environmental construct along with the Furniture and Equipment construct for those working for Extension. The constructs of Control and Culture are variables that can be perceived but remain tacit. Common among the corporate campus design offerings are the elements of Amenity spaces. Business centers that allow for concierge type experiential offerings to print or browse the Internet, different food services for lunch or

dinner pick-up, recreational activity areas with gaming tables, alternative communal meeting spaces with soft lounge seating, laundry/dry cleaning/ and postal services are common employee offerings in an attempt to create behavior settings that attract and retain employees. As many of the University of Missouri Extension offices are on campus locations, these amenity opportunities are provided on campus while not being considered as directly linked to Extension. Remote regional office locations are found within available space in isolated buildings throughout Missouri or commonly in County Courthouses. The lengthy explanation provides the opportunity to acknowledge the construct preference predominance for Physical Facility is easy to understand, but the argument will be made that both men and women consider Amenities a construct that would be considered as a value added environmental attribute.

Ideal and High Ideal EPI by age | generations

Rather than understanding age as a continuous singular variable, it is useful to be categorized. Research contributes the great worker preference differences among the generations of the Silent Generation, the Baby Boomers, Generation X and Y, and even the developing New Silent or Generation Z group with their values, interests, and learning styles. Categorizing age along these generational closely represents the percentile ranges for Extension and allows for theory integration as relating to the EPI constructs and the study's theoretical framework.

Detailed in Appendix D, Table 18, the following presents a high level analysis for the EPI constructs for the categorical variable of age. Physical Facility continues to hold high preference for those in three of the four age categories. With the category exception for those age 30 or younger, the age categories of 31 to 48 (M=8.9, SD=1.38), 49 to 67

(M=8.7, SD=1.93), and 68 years and older (M=9, SD=1.33) all remain with mode rank values of 10. The Ideal Physical Facility construct garners 40 percent of respondents scores overall for those in the 31 to 48 year category and 47.1 percent of the High Ideal values.

Of the highest participant age category or 54.8 percent, the Extension workers of 49 to 67 years old or the Baby Boomers ranked the constructs of Physical Facility (M=8.7/9.3, SD=1.93/ .75), and Culture (M=8.9/7.75, SD=1.38/ 2.4), with 10's in the Ideal and High Ideal constructs. The lowest participant category was found among those being employed by Extension and being 68 years and older. The Silent Generation displayed a preference for the Ideal and Ideal Physical Facility (M=9/9.6, SD=1.32/ .8) and for Culture (M=8.22/9.14, SD=2.22 / .9). With mean values exceeding nine, the Physical Facilities is held as the highest EPI construct for those in the fourth category of those 68 years and older and jumping a category to those within Generation X. All three generational groups held approximately the same mean value difference between Ideal and High Ideal with a value change of .80, .60, and .50 for the top three groups respectfully.

Interesting to note was the high preference Culture construct for the youngest or first categorical age group of Generation Y. Valued singularly (M=8.4/9.3, SD=2.19/.66) with a high mode value of 10, the preference presents that Extension worker of 30 years hold the constructs for Ideal and High Ideal Culture as the highest participation percentage and with the lowest standard deviation for all age categories. Those in this same age group as valuing the Furniture and Equipment construct as the lowest of the five EPI constructs (M=7.5/8.7, SD=2/.6). Generational studies often describe the

Generation Y or Millennials with the attributes of being multi-tasking and active or engaged learners, money motivated, and goal-driven, but being altruistic in their value of others and consider among the top in acceptance of cultural diversity. Relative to previous generations, the millennial generation has the highest value placed upon one of the two most tacit EPI constructs of Culture.

The Ideal and High Ideal Amenity construct had the lowest mean value difference of 1.1 relative to the other three categories of 31 to 48 ($M\Delta=1.5$), 49 to 67 ($M\Delta=2.23$), and 68 years and older ($M\Delta=3.56$). Understanding of the value placed upon interior constructs will place higher future demands upon the professional designer when creating the built environment as there are many age groups working together in workplaces and other types of organizational facilities.

Ideal and High Ideal EPI by tenure

On average, the typical University of Missouri Extension employee has contributed 13.5 years to the organization. Categorization of the construct variable, Ideal and High Ideal Tenure contributes directly to issues of the effect environmental attributes implemented with the ideas of employee attraction and retention. What attracts new employees (such as those in the first group of being newly employed with Extension up to five years of employment) can be seen, as well as the environmental preferences useful for retaining workers. By creating environments that are congruent for organizational structures, organizations go direct to the financial bottom line and contribute to high performance and greater worker satisfaction (Hameed & Amjad, 2009) (Brill, Margulis, & Konar, 1984). The constructs of Ideal and High Ideal Physical facility were ranked with values of 10 for three of the four tenure categories, six to 11 years, 12 to 20 years,

and for those employed 21 years and longer. Those in the category of zero to five years only held the Ideal and High Ideal Culture construct to be ranked with a 10 value ranking ($M=8/9.1$, $SD=2.16 / .82$). While the zero to five year tenure group places 10 for the high mode rank value to Ideal and High Ideal Culture, it should be noted that the same group of those employed five years and less ($M=9.3$, $SD=.68$) reports that on average their value for High Ideal Physical Facility is relatively the same as those in the 21 years and longer tenure group ($M=9.28$, $SD=.72$). The Ideal and High Ideal Culture constructs are ranked with 10s by two other age groups, those in the groups of 12 to 20 years ($M=8/9.18$, $SD=2.08/.81$) and those employed for 21 years and over ($M=8.01/9.33$, $SD=2.43/.75$). The mean value changes are smaller under the Physical Facility construct relative to the Culture construct with common standard deviations between both constructs across all tenure categories. Complete detail information found in Appendix D, Table 19.

Remaining as the only unselected group among the EPI constructs, the variables for Ideal and High Ideal Amenities also continue to demonstrate that while rankings of 10 were not assigned by Extension sample participants, the construct contributes ranking values of eight and nine toward the High Ideal Amenity preference for all four tenure categories. The greatest mean value difference from the Ideal and the High Ideal Amenity preference is found within the group of Extension workers being employed for 21 years and longer ($\Delta M=2.7$) and a mode rank of nine. The High Ideal mean values were found lowest in three of the four tenure categories with those employed between 12 and 20 years not included.

Two things are readily discernable for the demographic tenure construct with the EPI constructs preferences and the first being that the results formed a similar pattern with those found under the age construct. While not causal, the implication might be interesting for further testing and consideration and will be discussed in the study's discussion chapter. The second conclusion summarizes that the Physical Facility construct is found to be most important for those being employed with University of Extension for 12 to 20 years and those who have been employed 21 years and longer value the construct of Ideal and High Ideal Culture the most among the four environmental preferences.

Ideal and High Ideal EPI by location

University of Missouri's Extension organization is represented statewide by college campus, urban centers, and regionally by a broad array of locale settings both rural and urban, leased and shared with other state agencies, and in aged or newly constructed or renovated structures. While all Extension program activities eventually report back to University of Missouri's flagship campus location in Columbia, Missouri, the Extension organization also has direct ties with the Agriculture and Natural Resource, Human Environmental Sciences, and Engineering Colleges upon the campus in Columbia. The organization's leadership team is centralized in Columbia but also found within the urban, campus, and regional locations. Organizational analysis, learning, and culture theories contribute to the manner that organizations are studied, learn, and evolve through its own representative culture. Participation does not always correlate in this study with high means or mode rank scores, but can be considered in future research for

further analysis and evolvement. In summary, Table 13 provides a quick snapshot to the EPI categorical constructs in terms of participation by location.

Table 13

Sample participation by location

	Location	Percentage
Physical Facility, Ideal		
Low participation	Northwest and West Central Regions	6.3
High participation	Southwest Region	11.2
Physical Facility, High Ideal		
Low participation	West Central Region	4.9
High participation	Urban and Southwest Regions	9.4
Furniture and Equipment, Ideal		
Low participation	Northwest and West Central Regions	6.3
High participation	Urban	11.5
Furniture and Equipment, High Ideal		
Low participation	West Central Region	2.86
High participation	Urban	11.5
Control, Ideal		
Low participation	Northwest and West Central Regions	6.3
High participation	Urban and Southwest Regions	11
Control, High Ideal		
Low participation	West Central and Northwest Regions	4.2/4.5
High participation	Urban	9.1
Culture, Ideal		
Low participation	Northwest and West Central Regions	6.3
High participation	Urban	11.5
Culture, High Ideal		
Low participation	Northwest Region	4.2
High participation	Southwest	9.1
Amenities, Ideal		
Low participation	Northwest and West Central Regions	6.3
High participation	Urban	11.5
Amenities, High Ideal		
Low participation	West Central Region	3.1
High participation	Urban	6.6

The highest participating location was the Columbia campus, with a response rate of 44.4 percent for all of the Ideal EPI constructs and 37.1 percent for the High Ideal constructs. In the initial data review and to understand the widest swath of survey responses, high and low values were set aside temporarily. As the survey was implemented and directed by Columbia campus leadership, high participation would be expected as workers experience more interactions with campus leadership on a given day, relative to the frequency of these interactions in more remote offices (Baruch & Holtom, 2008).

The study's urban locations represent Missouri's largest two cities, Kansas City and Saint Louis. Tangent to the urban regions are also two of the remaining three college campus locations within Kansas and Saint Louis. As the survey responses considered both the campus and the urban locations and also because of the interesting outcomes of the very small campus results, all will remain as part of the overall analysis. The final campus center located in Rolla, Missouri has a small response group, but as the population is also very small, the representative responses carry a relatively high participation rate. The highest participatory values of 11.5 percent regarding both Ideal and High Ideal Furniture and Equipment, Ideal Culture, and Ideal Amenities all came from the urban location participants. The lowest participation percentage of 2.86 percent was for the EPI Furniture and Equipment construct and found within the West Central location

Of the six regional locations, the Southwest Region contributed with equal participation to that of the urban areas, varying between nine and 11 percent participatory rates. Low participatory contributions were found most commonly within the two

regions of the Northwest and West Central with varying percentages from spanning values between three percent to five.

When considering the Extension survey outcomes, the presented research is looking for developing patterns. The Columbia campus region for University of Missouri has the highest participation percentages and the high participation could be understood in a couple of ways. One hypothetical idea for high participation might be the survey participant's desire to placate nearby organizational leader's wishes for a high response rate, but the high participation rate might also be an outcome of a staff using an anonymous vehicle to communicate safely with leadership. For example, if people have lost faith in leadership's desire to listen and have an open dialogue with their employees, they might complete a survey in order to press agenda points. By sending out veiled or anonymous information, individuals might feel that they can express their thoughts without fear of being released from their occupational position. While there is no certainty of knowing what was driving high participation, certainly leadership's proximity to organizational respondents is a high factor (Baruch & Holtom, 2008; Stark, 2012). High reporting for both the Ideal and High Ideal Furniture and Equipment construct is possibly also a regional appeal from a particular location, and further consideration could be considered. High and low participation are central concerns and provide the organization's leadership the opportunity to connect and reach out to regional areas in the central desire to bring about environmental congruency for Extension.

All of the regions provided their highest mode value of 10 and in every case, the highest mean value was held for the construct's mode value. The exception to the rule occurred for the East Central region with the construct values of Ideal and High Ideal

Culture with a high mode value of 10 relative to the Physical Facility construct mode value of nine. The Physical Facility construct mean value ($M=8.8/9.4$, $SD=2.26/.583$) was greater than that of the Ideal and High Ideal Culture mean ($M=7/9.3$, $SD=3.1/.825$). This example points to the scale's survey method and further illustrates understanding of the mode's importance to the results.

Previously discussed were the low participation rates for the West Central Extension region. With 18 out of a population of 83 representing this region's sample group, the 18 respondents weighed in with the highest ranking mode rank of 10, the highest mean value ($M=8.78/9.27$, $SD=1.44/.884$) with only 16.7 percent of the responses being below a rank value of eight. Both with the Ideal and High Ideal Culture rankings in this position, the underlying message would be ideal further exploration for the organization. The Ideal and High Ideal Culture construct demonstrate equal construct important with those of the Physical Facility construct for two additional regions including the Southwest region and the Columbia campus. The pairing of Physical Facility and Culture appears together as high-ranking mode values frequently enough to consider future research and the pattern linking between the two constructs. Culture remains a tacit construct in general, but remains central to the manner that organizations learn and are changed. Constructed buildings can be assigned and built with materials and designs that are readily apparent to most entering or using a building and the repeating pattern is simply pointing toward the connection. The final group repeating the importance of Culture within their workspace was the group found in the East Central region ($M=7/9.3$, $SD=3.1/.825$) and outrank the Columbia campus preference with 50

percent of the High Ideal rank value being contributed with 10 relative to Columbia's 39.8 capture percentage.

Overall the Ideal and High Ideal Physical Facility construct received mode values of 10 from eight of the 12 regional locations. Included in this outcome are the regions of Urban (Kansas City and Saint Louis), the Northeast, Northwest, Southeast, Southwest, and West Central regions, as well as the campus locations in Columbia and Saint Louis, Missouri. Of all the region locations, the Northwest region had the highest Ideal and High Ideal means ($M=9.67/9.67$, $SD=.594/.595$). The low standard deviation would indicate that all the responses were fairly close to the construct mean.

Ideal and High Ideal Furniture and Equipment high mode construct rankings of 10 were only found present within three regions, but remarkably all three were on the campus locations for Kansas City, Saint Louis, and Rolla, Missouri and exclusive of the Columbia campus. While the participation percentage was negligible relative to all the other region locations, the population counts by region give insight toward the knowledge that the small populations participated in greater numbers, as in the cases of Saint Louis and Rolla than the West Central region. Regions with active participation warrant further examination and can lead toward beta site changes when conducting organizational analysis. With a highly divergent organization such as Extension, the small area groups would also make good study groups for designers when considering different design strategies and actions.

For the group of those without an assigned region, the EPI Ideal and High Ideal constructs representing Control ($M=8.67/9.14$, $SD=1.23/.9$) and Culture ($M=7.56/9.17$, $SD=2.83/.894$) contributed with high-ranking mode values of 10. Curiously, the two EPI

construct are both only observable and not directly of a solid form such as provided with Physical Facilities, Furniture and Equipment, and Amenities. Long considered as important but not provided in prior research results, designers have commonly considered the importance of connecting the remote worker to enhance their experience resulting in greater employee retention. Central Environment and Behavior constructs of choice and control contribute understanding for an individual's need and preferences within the organizational understanding. The EPI index constructs of control and culture embrace in their central nature the E&B constructs of choice and control. The EPI Amenities constructs provides a means to understand and observe patterns between built space components and their ability to attract new employees and protect the investment made for current employees. The Ideal and High Ideal Amenities constructs were found spanning mode values for the East Central region of 8 with a mean value of five to a high mode value of nine in the Southeast region and a mean of 7.58. Only twice in all of the survey results was the Amenity construct mode value found to be outside of the High Ideal percentile group. One occurrence was provided on the Rolla campus, but the second and the strongest voice was that of the Southwest region.

Ideal and High Ideal EPI by program

There were two primary EPI construct preferences indicated by the Program demographic variable. From these two constructs of Ideal and High Ideal Physical Facilities and Ideal and High Ideal Culture, the two were ranked as equal with regard to their value 10 mode rankings and these were indicated as being most preferred by Agriculture, Food, Clerical | Support (Physical Facility, $M=8.19/9.18$, $SD=1.76/.873$ and Culture, $M=8.19 /9.18$, $SD=1.76/.874$) , and Natural Resources (Physical Facility,

M=8.8/9.3, SD=1.72/.734 and Culture, M=8 /9.4, SD=2.01/.719) and Community Development (Physical Facility, M=7.96/9.25, SD=2.32/.775 and Culture, (Physical Facility, M=8.44 /9.55, SD=2.53/.605). The Clerical/Support group placed equal value upon both constructs. EPI's Culture construct was held as the singular high mode rank for those in leadership or the Extension group of Administration. Their assigned mode rank captured 28.2 percent of the organization's participants for Ideal Culture and the value of 10 held 46.4 percent of the upper percentile rankings of eight, nine, and 10. Physical Facility again was expressed as being most preferred throughout the program demographic, with a total of six of the eight programs. Three of the programs have already been discussed, but three additional programs held the construct as the most important and those were Continuing Education (M=9.43/9.43, SD=.746/.746), Human Environmental Sciences (M=8.99/9.35, SD=1.54/.695), and 4H (M=9/9.51, SD=1.89/.644). Of the three groups, Continuing Education expressed the highest mean value for Physical Facility and the 10 rank mode garnered 57.1 percent participation for Ideal Physical Facility and the lowest three rank categories had 19 percent to account for any other preference perceptions.

The highest-ranking EPI Ideal and High Ideal variable in the case of Extension Programs was for the Physical Facility Construct and with the Program group of Continuing Education. As with all other previous evaluations, the importance of Physical Facility considering four key outcomes of the value of 10 for the mode rank, percent participation, mean, and the low standard deviation. The Amenity construct continues to find itself unselected but maintains its findings by demonstrating High Ideal mode rankings of eight and nine and high MΔ for almost every program category and warrant

further discussion. Continuing dialogue is also useful to understand the connective pattern nature for those involved with Continuing Education and the high-ranking construct pattern formed with the Physical Facility and for that created between Business Development and Culture. As programs connect with the public and attempt a variety of education programs, the physically built environment is likely to contribute programs that innovative, engaging, and inviting. Culture contributes highly in informing, shaping, and creating successful business endeavors and its pattern link with Business Development would indicate future study and research.

Ideal and High Ideal EPI by title

When creating new office buildings, architects and interior designers consider the varying needs of those performing different work tasks. Often the analysis is conducted through inspection of the organizational chart as the chart provides title, individual names, and reporting structure. Rarely are those in administrative assistance roles provided the 400-square foot office commonly provided for corporate Chief Executive Officers. Using this analogous example, the Environmental Preference Index scale contributes toward forming patterns between its constructs and for the five title categories of Administration, Director, Specialist, Associates, and Support and found in complete detail in Appendix B, Table 22. As with all the other demographics, Title provides a broad statewide brushstroke capture as most of the job description categories of Title are found across campuses, regions, and urban centers.

The Title categories of Administration and Support were the two out of the five categories that expressed mode values of 10 for Ideal and High Ideal Physical Facilities and Culture EPI constructs. Two additional groups, including Directors and Associates,

indicated their only Ideal and High Ideal construct to be that of the Physical Facility. The final Specialist group's pattern alignment was found to be regarding Ideal and High Ideal Culture. As the Specialist category was the highest survey response group, it might be tempting to consider that it would also carry the highest mean and High Ideal percentage association, but this isn't the case, as the Associate category demonstrated not only the mode value of 10 for both Ideal and High ideal Physical Facility. The Associate category had a mean value of 8.83, SD=1.71 for Ideal Physical Facility and mean value of 9.41, SD=.683. Identifying first the mode and maximum value for any EPI category presents the respondent's primary construct preference. Further consideration of the construct's mean, standard deviation, and its participant participation association provides final evaluation when determining a primary construct for a particular category or the demographic category at large.

Ideal and High Ideal Amenities provide the largest mean difference for the Title categories of Specialist, Associates, and Support. For the Support category, the Ideal Amenities mean value 6.96, S.D. =2.29 and the High Ideal Amenities mean value 8.33, S.D.=1.78 represents $M\Delta = 1.37$ and the smallest mean change among all five categories. The highest mean change is found within the Administration category with 2.92 change between the Ideal and High Ideal categories meaning that while the Ideal mean value was less than eight, when the lowest three percentile categories of seven or less were removed, 60 percent of the reported preference of nine.

Ideal and High Ideal EPI by in-residence

The final two demographic analyses are positioned to capture the perspective of those employees who have either been in their original office over the length of their

tenure or have moved frequently. Hypothetically, the longer that an individual spends in any certain area, the deeper their roots or connection will be for that particular place relative to someone that moves frequently will have a diminished sense of place. So for the two final constructs of In-Residence and Relocation, the survey results can arrive at valued environmental attributes for those people who have remained in the same office over their employment tenure or have moved many times and what the differences are for the Extension employees. The In-Residence categorical groups of two to four years, five to 12 years, and 13 years and above placed high rank mode value 10 to both Ideal and High Ideal to two environmental preference constructs. The constructs Ideal and High Ideal Physical Facility and Ideal and High Ideal Culture were equally preferred for these three upper categories.

Those having been in their Extension office for less than two years placed the rank value of 10 to the Ideal and High Ideal Culture construct only. Another point of interest would be that those having occupied their present office for less than two years had the greatest preference for Ideal and High Ideal Culture of the four categories (M=8.49/9.27, SD=1.75/.719).

The In-Location demographic construct shows uniqueness relative to the other constructs in that all four categories provide a high rank mode value of 10 for Ideal and High Ideal Culture. In addition to considering the important connection of a person's immediate workspace and the organization's culture expression in the built environment is the presence of three developing patterns. The first is the continued high value placed upon the Physical Facility for the employees of Extension, with the second being the pattern link being created between the Physical Facility of the employee work

environment and the Culture construct expression. The third point that the demographic outcome that In-Residence leads this study to consider is the effect and connection of generational age upon the workplace environment. While there are many reasons why a person would only be at their office's location for less than two years, a common consideration is that the respondent is newly hired by the organization. Considering those typical employees that has been employed for less than two years is part of the age group 30 years and younger this group would be considered to be part of the Generation Y. Defined as placing high regard upon their community and neighbors over money, an organization's cultural ambiance would be equally preferred. The millennial generation seeks ways to normalize equity among people and to champion human and environmental global causes (Soloman, 2015).

Further inspection regards the mean, the high percent modes capture and the preferences that fall below the upper In-Location category. Appendix D, Table 23 provides a complete overview of the In-residence Those people in the In-Location of 13 years and more valued the Ideal and High Ideal Physical Facility ($M=8.88/9.36$, $SD=1.5/.743$) constructs above any of the other categories as well as the second rank 10 Culture construct ($M=7.8/9.29$, $SD=2.46/.71$). The $M\Delta=1.49$ was greater for the Culture construct relative to the Physical Facility ($M\Delta=.48$) and would indicate that the High Ideal Construct for Physical Facility had a lesser degree of sensitivity to the low rank values.

Low mean values continued to be present for Ideal and High Ideal Amenities with the lowest found for those being located in their present office for 13 years or more ($M=6.26$, $SD=2.6$), but highest in the High Ideal Amenities construct for those

respondents being located in their present office two years or less ($M=8.9$, $SD=.662$) and two to four years ($M=8.93$, $SD=.651$). The respondents who have been located in their present office for two to five years demonstrate the highest degree mean change ($M\Delta=2.43$).

Ideal and High Ideal EPI by relocation

The central consideration point for the Relocation construct is the question “Does it matter if people are moved around to support organizational assignments and activities?” There is a cost that is paid by the organization in moving staff that goes beyond a monetary number. Large organizations frequently move staff on a monthly basis and consider the cost to be a workplace expense. One benefit for organizations is that the hiring and firing cycle can be minimized and by doing so, the practice can demonstrate to employees and stockholders alike that the business is stable and this stability can produce an air of confidence for everyone involved. Frequent relocations can have an opposite effect, as people perceive the moves as merely fitting cogs and widgets into place. The sense of one’s perceived value can decline and promote diminishing perceptions of organizational attachment. The diminished attachment creates a sense of place dissonance for individuals and groups and has possible connections to leaving the organization for other opportunities or making the difference if future employees are attracted to the expressed work environment.

As research continues to understand the pattern connectedness between people and environment around them, it would also be helpful to reflect upon staff relocation and what environment preferences are held for those moving little within the organization or for those moving frequently. The largest survey participant group revealed that 41.8

percent of Extension personnel have never moved during their employment tenure and only 28.3 percent had moved one time. The remaining two categorical Relocation groups revealed that 18.9 percent have moved three to four times and six percent have moved between different workspaces up to eight times. While the numbers of the higher two categories are not large, their combined effect represents 25 percent of the Extension personnel moving frequently and creates the importance to study the relationship pattern between environmental preferences and office workers.

Pattern preferences for all Relocation groups held the Ideal and High Ideal Physical Facility highest with rank mode values of 10. For those never having moved, only 15.3 percent of rank values were below seven and 21.1 percent for those moving once. The low percentage below seven indicates that the Physical Facility construct was critical for most people in the organization moving once or less felt. The group of people never having moved held the Physical Facility construct as the singular rank 10 value relative to the other three categories indicating rank values of 10 for both Ideal and High Ideal Physical Facility and Ideal and High Ideal Culture constructs. As detailed in Appendix D, Tables 23 and 24, the established patterns for relocation and in-residence are very common to one another with one exception and that is the prevailing pattern preference for those that have been in their office for less than two years favoring the Culture construct and those that have never moved expressing higher value for the Physical Facility. The reason for the variance is unknown, as this pattern was not operationalized in this study, but would merit future study investigation. Understanding this pattern would enrich designer knowledge to better advise clients when making budgetary design decisions on new construction or renovation projects.

Within the three categories of people who have moved at least once and up to eight times, the rank placement of 10 were applied to Physical Facility and Culture, but the group have moved only once valued Physical Facility the most high with only eight percent of expressed mode rankings falling below seven. Mean values of those moving three to four times articulated Ideal and High Ideal value upon Physical Facility (M=8.59/9.48, SD=2.06/.731) and Culture (M=7.96/9.5, SD=2.29/.564) as did those moving five to eight time expressing values for Physical Facility (M=8.37/9.33, SD=2.43/.817) and Culture (M=7.74/9.08, SD=2.23/.9). All things being similar between these two categories with the exception of the mode rank capture being higher for those experiencing three or four office relocations and the category provides the second highest preference value upon the Physical Facility and Culture pattern. It is important to note that the group moving five to eight time represents the highest mean change between Ideal and High Ideal in the Amenities construct ($M\Delta=2.98$) and this connection might be seen as the more a person moves that their perceived need or value of the supporting environment increases.

Bivariate analysis of Ideal and High Ideal EPI constructs by demographic characteristics summary and findings

In summary of the reported EPI and Demographic findings data, Table 14 presents the fundamental findings that answer the first research question of what are the created patterns among the environmental preference constructs and the study sample's demographic characteristics regarding gender, age, tenure, location, organizational program group, employment title, length of term in current office place, and the number of inter-office relocations.

Table 14

Research question one summary for Ideal and High Ideal EPI constructs by demographic variable outcomes

	Physical Facility			Culture			Amenities		
	Ideal	High Ideal	Δ	Ideal	High Ideal	Δ	Ideal	High Ideal	Δ
Gender, Women (N=207)	8.9	9.4	0.5	n/a	n/a	n/a	n/a	n/a	n/a
Gender, Men (N=86)	8.5	n/a	n/a	n/a	9.3	0.8	n/a	n/a	n/a
Age, 49-67yrs (M=50)	8.7	9.3	0.6	n/a	n/a	n/a	n/a	n/a	n/a
Age, 68 years +	n/a	n/a	n/a	n/a	n/a	n/a	n/a	9.0	n/a
Tenure, (M=13.5)	8.8	9.5	0.7	n/a	n/a	n/a	n/a	n/a	n/a
Location, Columbia	8.7	9.3	0.6	8.0	9.2	1.2	n/a	n/a	n/a
Program, Human Environmental Sciences (N=87)	9.0	9.4	0.4	n/a	n/a	n/a	n/a	n/a	n/a
Title, Administration (N=12)	7.7	9.4	1.8	8.8	9.4	0.6	6.9	9.0	2.1
Title, Specialists (N=138)	n/a	n/a	n/a	8.4	9.3	0.9	n/a	n/a	n/a
In-residence (N=13.5)	8.3	9.3	1.0	n/a	n/a	n/a	n/a	n/a	n/a
Relocation (N=1)	8.9	9.2	0.4	n/a	n/a	n/a	n/a	n/a	n/a
Demographic Maximum value	9.4	9.5	1.8	8.8	9.4	1.2	6.9	9.0	
Demographic Minimum value	7.7	9.2	0.0	8.0	9.2	0.6	6.9	8.8	
Demographic Variable Mean	8.7	9.3	0.6	8.4	9.3	0.9	6.9	9.0	

In the end, the data shows that while the sample's identifying mean gender of women have a high preference for the Environmental Preference construct of Physical Facility for both their ideal and the study's high ideal declarations, men have a preferred

construct for the EPI's Culture variable. The study results also create a strong pattern connection for those in the baby boomer generation, average age of 50 and being employed with the University of Missouri Extension on average of 13.5 years with the Physical Facility. The Physical Facility held a strong connective pattern for those working on the Columbia, MO location, in the Human Environmental Sciences unit and being employed as a Specialist. The Physical Facility had an increased value for those workers that have relocated at least once over those that had not been asked to change office spaces on campus.

As stated earlier, men demonstrated a higher degree of preference for the EPI construct of Culture over the Physical Facility. To emphasize this point, when all preference were available for diagnostic interpretation, men had a preference for the Physical Facility, but when only the higher preference rankings of eight, nine, and 10 were considered, the male preference switched to the Culture construct. Other demographics connected with the EPI Culture construct were those located on the Columbia, Missouri campus, those in administration (leadership) and Specialist work responsibilities. For workers being employed 13 or more years or for those that have had to relocated, the Culture construct held no preference. While the Amenity construct garnered only one high rank preference for those workers 68 years and above, those in Administration also expressed a high preference for Amenity spaces. The change difference between Ideal and High Ideal for Administration personnel for the Amenity construct produced the largest value change of 2.1 points.

Bivariate analysis of High Ideal EPI constructs by High Ideal OSAS Constructs

The highest Ideal EPI respondents are the analysis unit for consideration and most commonly the mean scores will be the central tendency considered for the pattern construction with the High Ideal OSAS construct typologies. As the index method used in the survey asked the respondents to place a 10 for the most prominent or the most preferred in an Ideal setting, the central tendencies of median and mode help to enrich the analysis. Being able to consider the manner that two variable relate to one another provides understanding of the variable's relationship with one another and to determine where the created patterns are located and how they might be useful for future research and design. Further strategy of OSAS categorization allows this study to further consider the effect of someone who might hold a particular typology as most pure, represented within the upper level or as being blended, .with the other three categories. All the OSAS development theory indicates the reality that people are rarely a pure typology and the survey results confirm the underlying understanding.

Identifying these differences has the effect of seeking patterns for the importance toward the EPI construct variables for physical facility, furniture and equipment, control, culture, and amenities. When patterns can be observed, research can begin to develop connective theoretical contributions and inform future research and professional design practice. Categorical differences between preference values within the OSAS and the EPI construct outcomes can be viewed through levels of no value to highest value for each participant. As the nature of a descriptive study will dictate, there is an opportunity to extrapolate upon the data, building upon connective research, and moving past practice guessing. Descriptions of the pattern construct variables are as follows:

High Ideal EPI by Ideal OSAS Closed Construct = High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by Ideal OSAS construct categorical variable Closed (four categorical levels)

High Ideal EPI by Ideal OSAS Open Construct = High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by Ideal OSAS construct categorical variable Open (four categorical levels)

High Ideal EPI by Ideal OSAS Random Construct = High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by Ideal OSAS construct categorical variable Random (four categorical levels)

High Ideal EPI by Ideal OSAS Synchronous Construct = High Ideal categorical variables of Physical Facilities, Furniture & Equipment, Control, Culture, and Amenities by Ideal OSAS construct categorical variable Synchronous (four categorical levels)

Table 15 presents the High Ideal EPI construct preference summary through the stratified OSAS typologies ranging from a pure typology (mostly the dominant typology) to three levels of blended organizational types for University of Missouri's Extension organization as provided by Appendix D, Tables 25-28. The most pure typology line provides insight toward the associated pattern for each OSAS typology with its most preferred Environmental Preference construct.

Table 15

High rank mode values summary for High Ideal EPI constructs by High Ideal OSAS typology language

	Closed	Open	Random	Synchronous
Most pure Dominant typology (Highest level)	Physical Facility	Physical Facility and Culture	Culture	No selection
Dominant typology & Secondary Typology (Third level)	Culture	Physical Facility and Culture	Culture	Physical Facility and Culture
Secondary typology is dominant & Primary typology is supportive (Second level)	Physical Facility	Culture and Physical Facility	Physical Facility	Physical Facility
Secondary typology dominant & Primary support (Lowest level)	Physical Facility and Culture	Physical Facility	Physical Facility and Culture	Physical Facility and Culture

The two most preferred Environmental Preference constructs are Physical Facility and Culture and are frequently found in tandem for all OSAS typologies at some level. As the OSAS typology is expressed in its most pure form, the common high mode rank for a given EPI preference is found to be Physical Facility for those in the Closed typology, Physical Facility and Culture for Open, Culture for the Random typology, and there was no high mode 10 value for those among the Synchronous typology. The detailed descriptions and data disclosure for each of the Environmental Preference constructs for each of the Organizational System Assessment Scale typology constructs is provided as follows to begin to understand the associated preferences and are useful to begin recognizing the out coming patterns that will be used in further studies.

High Ideal EPI by High Ideal OSAS Closed Construct

The High Ideal EPI construct that has a high mode 10 ranking for the High Ideal Closed typology in its most pure form is Physical Facility (M=9.39, SD=.665). Those

included in this group are those that responded in the top 25 percent and provided rank values of six to 10 with the mode value of 10 capturing 41 percent of the responses.

The group described as being a blended typology with Closed as the primary typology construct with another supportive OSAS type represented those scores of 4.51 to 6.08 demonstrated a EPI construct preference for Culture (M=9.31, SD=.706) with the rank value of 10 holding 44.8 percent of the categorical responses. All other EPI constructs of Physical Facility, Furniture and Equipment, Control, and Amenities state mode values of nine and mean values between 8.57 (Amenities) and 9.21 (Physical Facility).

Physical Facilities is considered the dominant EPI construct for those responding from the third category and providing mode or high response values between 3.26 and 4.5. The group, which was the group with the highest respondent level, would be considered a blended typology with Closed as being a supportive typology along with the leadership of the Open, Random, or Synchronous category. With 48.5 percent of the responses providing a mode value of 10 for Physical Facilities (M=9.31, SD=.758) and only 12.8 percent of the values being at or below seven, it is a clear indication of strength.

The lowest category within the High Ideal Closed typology construct represented rank values between zero and 3.25. Within this blended category, there were two EPI constructs that received the rank response of 10 and were found for Physical Facility (M=9.42, SD=.706) and Culture (M=9.32, SD=.74) with Physical Facility having a slightly higher mean and lower standard deviation. With this slightly more favored construct difference, Physical Facility would be connected for those in this category.

High Ideal EPI by High Ideal OSAS Open Construct

There were two High Ideal EPI constructs providing a high mode 10 ranking for the High Ideal Open typology. While Physical Facility (M=9.47, SD=.681) and Culture (M=9.2, SD=.775) both had rankings of 10, Physical Facility lead by .27 mean difference. Those included in this group are those that responded in the top 25 percent and provided rank values of 9.6 to 10 with the mode value of 10 capturing 46.9 percent of the responses.

The group described as being a blended typology with Open as the primary typology construct and provided the largest responder group with scores between 8.55 to 9.25 demonstrated EPI construct preference for Culture (M=9.28, SD=.718) with the rank value of 10 holding 43.1 percent of the categorical responses. With 72 participants within the second level Open category providing a mode value of nine for the Physical Facility construct, it is the second highest preference even though the mean value is equal to that of Culture.

Physical Facilities and Culture are the two equally considered dominant EPI constructs for those responding from the third category and providing mode or high response values between 7.22 and 8.54. With 50 percent of the responses providing a mode value of 10 for Culture (M=9.37, SD=.708) and 43 percent stipulating Physical Facility as the high rank construct, the Culture construct would be considered the primary EPI construct for the category.

The lowest category within the High Ideal Open typology construct represented rank values between zero and 7.20. Within this blended category, there was only one EPI

construct receiving the rank response of 10 and was found for Physical Facility (M=9.3, SD=.828).

High Ideal EPI by High Ideal OSAS Random Construct

High Ideal Random typology at the level expressed with rank values of 7.89 and 10 provide high mode 10 ranking value to High Ideal EPI construct of Culture (M=9.22, SD=.761). The preference for the most pure Random was shared for 41 percent of the survey respondents leaving 23.1 percent for the values of seven and below.

The second highest Random blended with scores of 6.99 to 7.88 demonstrated an EPI construct preference for Culture (M=9.27, SD=.773) with the rank value of 10 holding 44.8 percent of the categorical responses. All other EPI constructs of Physical Facility, Furniture and Equipment, Control, and Amenities state mode values of nine and mean values between 8.57 (Amenities) and 9.21 (Physical Facility).

Physical Facilities is considered the dominant EPI construct for those responding from the third category and providing mode or high response values between 3.26 and 4.5. With 48.5 percent of the responses providing a mode value of 10 for Physical Facilities (M=9.31, SD=.758) and only 12.8 percent of the values being at or below seven, it is a clear indication of strength.

The lowest category within the High Ideal Random typology construct represented rank values between zero and 3.25. Within this blended category, there were two EPI constructs that received the rank response of 10 and were found for Physical Facility (M=9.42, SD=.706) and Culture (M=9.32, SD=.74) with Physical Facility having a slightly higher mean and lower standard deviation. With this slightly more favored construct difference, Physical Facility would be connected for those in this category.

High Ideal EPI by High Ideal OSAS Synchronous Construct

The High Ideal Synchronous typology at the level expressed between rank values of 4.76 and 10 only provided a high median and mode value of nine across all EPI constructs of Physical Facility, Furniture and Equipment, Control, Culture, and Amenities. The highest ranked EPI constructs were for Physical Facility, Furniture and Equipment, and Culture are were all bound by group mean scores of $M=9.19$, $SD=.712$, $M=9.16$, $SD=.702$, $M=9.18$, $SD=.720$, respectively. As the constructs mean value increases marginally, the distribution of participant rank scores spreads out as well. The EPI Control construct had the most scores of 49.1 percent above the nine rank value where there were 46.6 and 46 percent of scores above the nine rank value for Physical Facility and Culture respectively. Furniture and Equipment and the EPI construct of Amenities had the two lowest mean values of 8.79 and 8.77 with standard deviation values of .667 each. While the mean values for these last two EPI constructs were the lowest for the OSAS Synchronous typology construct, the ranked participant scores were held in a tighter boundary around the mean for Culture and Amenities.

The second highest Synchronous value group of 3.26 and 4.75 demonstrated an EPI construct preference for Physical Facility ($M=9.37$, $SD=.735$) with median and mode values of 10 holding 52.2 percent of the categorical responses. The EPI construct of Culture held the most common score value of 10 and a central rank value of 9 with 42.9 percent of the scores being ranked with the rank value of 10. All other EPI constructs of Furniture and Equipment, Control, and Amenities provide median and mode values of nine and mean values between 8.68 (Amenities) and 8.83 (Control).

Physical Facilities is considered the dominant EPI construct for those responding from the third Synchronous categorical level and providing mode or high response values between 2.11 and 3.25. The Physical Facility construct had a median value of nine and a mode value of 10 with 47.6 percent of the scores being associated with the high rank score of 10. The third tier for the OSAS Synchronous typology provided a Physical Facility mean value of 9.32, SD=.737. The lowest value in the third category was held by the Amenities construct (M=8.74, SD=.710).

The lowest category within the High Ideal Synchronous typology construct represented rank values between zero and 2.10. Within this blended category, there was only one EPI construct that received the rank median and mode response of 10 and this rank was for the Physical Facility construct (M=9.42, SD=.705). The lowest mean value among the last category was held by the Amenities EPI construct (M=8.67, SD=.646). 52.8 percent of the rank score values were at the 10 level for the Physical Facility construct and 58.8 percent of the Amenity rankings were below the rank value of eight.

Understanding the baseline information provided by High Ideal EPI constructs and their associated connections to the Ideal OSAS typology constructs is the primary study focus. The knowledge can provide future research contribution for researchers, educators, and practicing design professional as the knowledge base is built up for creating, researching and understanding the built environment and its contributions for the office worker. The resultant knowledge contributes to the second research question of the highest environmental preference construct pattern associations for the office workers by organization system typology.

**Bivariate analysis of High Ideal EPI constructs by High Ideal OSAS constructs
summary and findings.**

Table 16 demonstrates consideration that three of the four OSAS typology constructs are held in high preference with two of the five EPI constructs. The provided high ideal values represent the purest and most preferred associations for the University of Missouri Extension workers. The process of selection was based on the participant rankings in the highest category with a mode value of 10. The provided data answers research question two of what are the highest environmental preference construct pattern associations for the office workers by organization system typology.

Table 16

High Ideal EPI by High Ideal OSAS mean summary

	High Ideal Closed	High Ideal Open	High Ideal Random	High Ideal Synchronous
High Ideal Physical Facility	M=9.4/SD=.67	M=9.5/SD=.68	9.2	9.2
High Ideal Furniture and Equipment	8.9	9.20	8.9	8.8
High Ideal Control	9.0	8.9	9.1	9.2
High Ideal Culture	9.1	M=9.2/SD=.78	M=9.2/SD=.76	9.2
High Ideal Amenities	8.8	8.8	8.9	8.8
Valid N for highest level (listwise)	310	318	319	311

Note: Bold text indicates a mode value of 10 and greyed text represents mode values of nine.

All data results provided in Table 16 are within the highest categorical level with values ranging from eight to 10, but those found in greyed text only had mode values of nine rather than the highest rank of 10. High Ideal EPI Physical Facility construct has an associated pattern preference for those considering themselves to have work preference typologies associated with the High Ideal Closed and Open constructs. The High Ideal EPI Culture construct has a strong pattern evidence with both the OSAS High Ideal Open and the High Ideal Random typology constructs. Of the four OSAS typologies, the

connection for those under the High Ideal Open OSAS construct expressed a preference for the EPI Physical Facilities and for Culture. Those in the group of the OSAS Open typology had the highest mean of any of the typology groups for the University of Missouri Extension and with this understanding, the constructs of High Ideal Physical Facility and Culture would be the organization's most preferred Environmental Preference constructs.

Chapter 5. Discussion

Study strengths and weaknesses

Survey data collection considers different data collection and analysis methods to extract and explore information for any particular condition or setting of research interest. Descriptive research evaluations attempt to answer questions regarding the what, when, where, and how questions, but not the why questions, which is directly connected with experimental research practices. The why questions are causal and as this study about developing a process and seeking associated patterns that would lead to future studies, descriptive research understandings contributes ideally. Explorative studies are beneficial toward understanding an organization with greater clarity since the questions or expectations can be applied to future research practices. Satisfaction for these information gathering questions in the obtained data set allows for contributing patterns between workers and their associated environment to be uncovered and discussed in a descriptive study. Described within the study are the associated patterns for people in the University of Missouri Extension with regard to worker type, preferred interior attribute constructs of physical facilities, furniture and equipment, control, culture, and amenities with demographic variables of gender, age, position title, region location, number of

years at current location, and the number of times that the worker had been asked to relocate.

The survey's primary limitation lies in the nature of a convenience sample. While convenience samples cannot be generalized back to the reference population, they are useful when there are no studied patterns to be studied. One of the downsides of a convenience sample is that since the sample frame is not known, the sampling bias increases. Sampling bias regards that potential results might not accurately represent an entire population which is often immeasurable anyway and yield potentially imprecise study outcomes. Systematic bias will also occur, as there is the possibility of varying results from the sample, which can produce skewed results. Limitations with generalization and inference back to the aggregate organization's population also result in low external validity for the study. Low external validity occurs when a population is either over or under represented in the sample conclusions.

Voluntary samples contribute to data being skewed by personal bias and worker self-assessment. Other things that don't involve personal preferences but can be influenced by organizational policies and the fear of reporting accurately may also influence data collected as self-reported. Workers can view an anonymous survey as an opportunity to express grievances against the organization and the resulting data can be inaccurately held.

On an optimistic note, the study's large sample size of 411 respondents can contribute to further exploring and testing the developing Environmental Preference Index scale and its relationship to a theoretically proven Organizational Systems Assessment Survey index. While the research's sampling error cannot be eliminated,

with a sample size of this magnitude would be considered significant and could contribute toward sampling error reduction, as the sample size percentage of the total population helps minimize sampling bias.

The previously untested associative patterns for worker typology and environmental preference patterns were tested; the resulting descriptive data could be used as instrumental mechanism and collection refinement. While the study used a convenient sample of a particular group to explore organizational personnel's worker typology and associated environmental preferences, the scientific practices strove for an accurate and precise deliberation. As the study was not designed to construct causal relationships among its variables of interest, but rather to consider relationship and future testing considerations, the study variables were neutral (relative to an independent and dependent variable strategy) in the study's contributing conclusions. The sample was not considered as representative of the tested population, the study would be difficult to replicate. Replication may produce very different and confounding results. Studies such as this one have the capability of providing insight for a group's underlying ideas and would contribute toward the verification of understanding a connective theoretical process.

Convenience samples that come from a group known as availability samples are considered particularly favorable in inductive theory building research since information otherwise unavailable could be explored. Field research exploration using valid discoverable application methods can be gathered and used as analogous patterns. Focusing upon the upside of possible future study development for action research and grounded theory application is paramount to the study's essential core mission.

Construct validity is elevated with a connective theoretical research framework integrating organizational studies, organizational assessment and learning, general systems theories, and environment and human behavior theories. The organization will also be understood from a description of the universal population's demographics and with this knowledge, the sample's difference can also be described with how it might have been different if an High Ideal randomized sample had been selected. Individuals that might have been left out during the selection process or even the individuals who were overrepresented in the sample will be considered as each pattern association is described. Describing the representation information will allow readers of this research to fully grasp the intended objectives and be able to estimate the possible differences between the results and the results from the entire population.

As a result, the study's obtained results can be used for future studies with different evaluation techniques. The primary objective for this study is to test out the Environmental Preference patterns for a demographic variable battery. Testing out the association in the development stage of any research provides the opportunity to make certain that what the researcher considered to be important have indeed future merit implications. In the end, the study provides an underlying theoretical connection for its findings. Studying any organizational systematically has the opportunity to develop pattern connections for future research. As both indices used to measure user preferences for their own work style and environmental preferences were developed through the use of past theory from Kantor and Lehr's and Constantine's research base in Family theory, Imig and Phillips evolutions of the Family theory testing into a model used to assess organizational composition. Through the theories of Person-Environment Congruency

and Fit, Environment and Behavior theories, and Organizational Culture, The Environmental Preference index was developed to measure worker built environment environmental preferences. Unified with the knowledge that comes from theory and practice based knowledge of the conducting research, a process has been created for future testing that seeks to understand office design in a holistic, systematic, and precise manner.

Future implications

As there are many office types out across the land, so too are there many combination of worker types working within those built office spaces. This study provides the knowledge that there were three created office type preferences for future development and exploration. In summation, a brief summary of office type creations is offered as an example for future exploration.

Considering the group of people associating themselves with the Closed construct typology, a designer would understand that the people are seeking Physical Facilities that provide a showcase for the public persona. Of high value to those preferring the Closed model, the Physical Facility is meant to support the organization with the ideal that a strong physical presence and a building that works well and is crafted beautifully is a building that will support the individual.

For those people identifying with the High Ideal Open typology construct, their preferred Environmental Preferences were found from both the High Ideal Physical Facility and High Ideal Culture constructs. Given the knowledge that the Open typology seeks to explore all options and weigh in for a final decision, space within the well-constructed and ordered Physical Facility would provide places for discussion both

formally and informally. The organization's culture attributes would want to be expressed throughout the built space and serve as the opportunity to serve the organization and its worker's in like manner. As the mean sample was held for those in the Open typology construct, the Physical Facility and Culture constructs would be the embraced model to pursue and explore.

While those being associated with the Random typology construct hold to the idea that the organization exists to serve the individual, the Random identification allows for easy adaptability. Closely held for those in the Random typology was the EPI construct of Culture. Across all typologies in the group, there is great connection found among those respondents to the Extension sample and opportunities for future development are profound.

Given the opportunity to understand the manner that office workers experience their environments, interior designers or architects would have the opportunity to apply the gathered data from the developing pattern recognition. The greatest opportunity for effect and growth could easily be achieved through evolved Environment and Behavior research contributions. Environment and Behavior's founding leadership focused upon the desire to contribute new and useful research findings, new organizations to disseminate the research, promote published literature, organize the contributors, and contribute to the education of those chasing the ideal of creating healthy and viable environments for people when they envisioned the establishment of Environmental Design Research Association (Bechtal, R.B., 1997, pg. 75).

The most valuable contributions that can be made are the contribution of two critical things toward interior design and its professional practice. The creation, testing,

and evaluation of the Environmental Preference Index and the search for patterns between it and the OSAS index add a valuable link to the chain of compelling research on Environment and Behavior research to date.

Altman acknowledged in the theory of man-environment relations symposia during EDRA04, 1973 that “considerable energy is being directed toward man-environment phenomena by practitioners and academic researchers” resulting in the fields trying to learn how to communicate effectively with one another. As further elaborated, it can be seen that there are camps within each discipline that cannot agree with one another. This statement is true for architects who wish to build structures that respond to people’s needs, instead of creating buildings that declare their monumental contribution to the arts or self. This understanding is true for the researchers that are convinced the physical environment should be studied holistically and interactively with people. In the historical evaluation, Altman described six approaches that seem to contribute to the great gulfs of misunderstanding between research and practice that include approach methods (phenomena orientation vs. place), time constraints (long term vs. immediate), capital (funded vs. limited budgets), thought paradigm toward the central task, method (analysis vs. synthesis), and end-product goals (publication vs. product). These differences contribute toward alienation within each discipline as well as between design research and practice camps (Altman, 1973, pg. 103). This summary provided over 40 years ago remains solidly in place and continues to promote similar discord.

Move forward almost twenty years to 1991 and Rapoport et al. reported at EDRA21 that while building design fees were steadily increasing, the architect’s project role was moving outward toward the project outer influential perimeter (Rapoport, 1991).

Time next moves this discussion ahead almost another 20 years into 2009. Design professionals have been witnessing firsthand the decline of the architect's vital contribution toward the building and construction process and questioning the industry's future. The design industry has long been considered as a neutral client advocate, but in 2009 found itself in the back seat, with the general contractor in the driver's position. Placing the contractor in power, an entity that had everything to gain by cutting costs, was seen as more valued than a discipline trained to create buildings with best practices for each situation and individual clients. A natural consideration would be why clients weren't valuing the design profession as in past days. The central point driving this research focuses upon understanding what professional designers can contribute that would be valued by individuals within the organizations.

Simply because the emphasis placed upon designs responding from tested theory provides something that a contractor cannot provide, the EPI has the opportunity to do two things. Generate a necessary bridge link between practicing professionals and those conducted research in the fields of psychology and environmental psychology would bring a richness to the field as well as life back into those in the trenches of E&B sciences. The Environmental Design Research Association known as EDRA was formed for this purpose. Citing ever increasing behavioral constructs without definition refinement is high on the list of reasons given for lack of research incorporation into practice. It can be seen from the great surge of creating new evidence-based knowledge that practitioners are experiencing frustration over not being able to integrate research and are seeking solutions. While firms are held to greater demands, fees are being cut and people paid less and less in spite of rapidly condensing deadlines. As Altman

explained, a solution is needed now. As the EPI's central contribution is the theory field of Environment and Behavior. The EPI is a tool that has been now been empirically tested and is poised to be that contributing tool for practicing professional's analysis. With a greater than existing degree of precision, the design professional can use a theoretical tool for considering the environmental preferences for today's office worker.

The introduction of an assessment tool and theoretical connections should be understood. At the central core, the EPI seeks to understand the things that people value and depend upon the most in their office environment. When considering this formal evaluation through the lens of systems theory, person-environment congruency model, behavior settings and Environment and Behavior theories, the outcome has the primary goal of contributing to both future research and professional practice. Systems theory, while contributing at a micro theory level, can also make bold contributions to organizations.

When systems theory was first considered, most often people made these considerations as linear and closed. Time had its way upon the nature that closed systems theories excluded the interconnections of systems within a primary system. Singular components have their own unique effect, but they are also affected by other singular components. Much like in the physical sciences, social sciences have acknowledged that this open system effect can be seen within cultures. Person-environment fit and Environment and Behavior theories use and adapt the open systems to the degree that people are affected by their surroundings and environment as well as effecting the space in which they inhabit. The symbiotic process is much like the macro-global ecosystem that all of humankind exists to the internal physiology of human life. We know that

everything has the opportunity to learn, grow, and change the way that something else functions. From this systems perspective, so many things are affected for medical practices, global warming, religious philosophies and theories and found to be profoundly influential.

Organizational theories borrow heavily from the system theory. Karl Lewin based much of the concept of the person-environment fit model upon systems theory. The recognition that behaviors stem from contributions of man and the surrounding environment is recognized in the way that organizations learn and grow. Environment and Behavior theories instruct architectural designers the necessity of studying the implications that man has upon their surroundings as well as the way environments shape the lives of people. The studies of organizations range over many levels ranging from two individuals, to a family, to a group, or to the larger range of a company, state, or country. The interconnecting theory of systems studies provides the opportunity to understand and enrich the lives for people.

Embracing the system theory model allows analysis and understanding of how change occurs from within and outside an organization. The nature of these outside changes contributes highly for Lewin and later Barker's person-environment (P-E) fit theories. While Lewin provides the framework that many organizations and architectural practices still use, it was Barker who asks the question "What is the nature of the interaction between the environment and person attributes?" This interaction term allows for even greater understanding of the nature of this contributory system. Considering higher level variables is the selected strategy toward developing model fit improvement procedures. More simply, is that the relation between these two contributors will be

different depending upon the level of contribution of either. By the consideration of studying what happens when different effects are contributed by either variable, Barker's work provides the rational and the usefulness of understanding further these connections to this study.

These theories contribute heavily to the nature of Environment and Behavior theory and constructs. Long considered a lead contributor toward environment and human behavior research, Rappaport stated, "humans live in systems of settings" (Rapoport, 1990). It is the study of the effect of these complex systems that we are find challenging. The scientific nature of Environment and Behavior ideas is complex and highly interdisciplinary in its nature. It is understood that design involves identifying a problem and then going about and discovering and creating potential solutions. Through the process of most completely understanding the problem can a proper solution and the why of the solution be provided. In the same manner that systems and organizational theories are "self-correcting and cumulative," Environment and Behavior follow suit. Environment and Behavior studies have sought to understand the physiological side to a built space and the perception that people have within a space. These perceptions reside in the mind of the individual. Many constructs within the field seek to understand the way that a person experiences privacy issues within a space for example. Ways that a person experience privacy can be created through the second part of this theory, the actual physical constraints of a space. These physical attributes can be seen through the brick and mortar of a building as well as the furniture components provided in the space for an office workers use. This interaction between the people and the physical space are demonstrating this integration of systems and organizational theories. This dimensional

framework provides the mechanism and formation of this research. It is through creating a synchronous model can people begin to understand what they have been experiencing while all along they couldn't formally describe the feelings in words.

With the alignment of these two fields along with the person-environment fit model, improved environments can be created for people. In turn, the resulting connection can contribute back to the fields of organization theory and analysis. In the truest measure of systems work, the study of organizations effects the Environment and Behavior field and in turn can contribute back to the study of organizations. At an operational level that seeks to understand the contributions that the constructs of privacy, personal space, and territoriality have within the office, theories that consider the systems work, many levels can be understood along with the connective components. These ideas can consider the way that people define their personal space and withdraw from the group in order to bring greater focus in accommodating their tasks to becoming part of the larger group as tasks can vary. The results of a person's experience as being negative can result in the environmental attributing of crowding. Crowding has been studied primarily as the effect of when a person's needs are not met with regard to privacy, personal space, and territoriality.

The concept that people can move back and forth between being involved in a group or working in a singular way also depends upon the provision of personal space definition and the opportunity to express boundaries and are all based upon the individuals opportunity to make these choices. These choices are afforded to an individual through the organizational culture. Long understood as the heart and soul of an organization, culture is the vehicle that delivery of these constructs of Environment

and Behavior are merited at the global organizational level to the level of the individual. Organizations sets the framework of which different individual behaviors will be merited and allowed to be expressed. While seemingly inconsequential, the opportunity that an individual has access to the office supply cabinet is a result of the organization's desired cultural expression. These choices can vary from seemingly inconsequential nature of a supply or work center to the opportunity for quiet spaces to work and areas where people can interact in unplanned opportunity space. While these choices affect the individual, the organizational culture is also affected by the consequences if there is poor alignment. As stated previously, improving the precision which design decisions are implemented is the nature of integrating these theoretical philosophies is the direct practicality for this research.

Organizations handle and operate to the degree of the contributing effects of the individuals and the subsequent stakeholders contributing to the open system. Studying the nature of the physical environment within the study of Environment and Behavior and organizational system model has strong contributory benefits. This blending of the intangible nature of a person's experience along with the physical components of the space is held together by means of the systems framework. Studying the organizational nature of the EPI along with the Organizational System Assessment Tool is an aligned model to study individuals within any given group and correlate findings from environmental attributes held in high esteem. This contribution would fall within research as well as practice and has the opportunity to revitalize the way that interior design and architecture are studied, taught, and practiced. While the idea of monetization

can send cold chills down the spine of researchers, practitioners understand that someone has to pay for the service of evaluating a design's success.

It is through the introduction of theory into the design process and its flexible application to practice; field designers and educators can work toward an improvement model of understanding central client's needs. As design theory is continuously being elaborated from tested and observed conditions, practice is made more relevant. The practitioner takes on the contributing role of theorist. While most commonly thought only to be for those in academics, theory has the opportunity to create rich environments for people in any organization. Many of the practitioners will immediately announce that theory impairs their perception of real life conditions and hinders intuitive judgment opportunities. It can be argued that theory integration into the design practice is exactly the 'what' of the initial question posed. Theory integration into the design process creates an explicit solution by which agreements can be made, discussed, and revised in project teams. As Altman described, theory is not actively used in project solutions because of timelines, but academics are as guilty as those in practice for not consulting those in the field. Much in the same manner that organizations silo information within their own designated boundaries, this index model has the opportunity to contribute positively toward flattening out the gulf between research and practice. With the opportunity for collaboration, learning, and growth can occur.

Fully functioning theoretical fields require three necessary attributes (Proshansky, 1973). These ideas include the understanding of small exploratory knowledge base, an interdisciplinary field, and a wide array of approaches. This three-prong approach includes first that concept definition development is considered that provides the

opportunity to move beyond a previously understand knowledge level. Second, links must be created to further connect Environment and Behavior with other fields, and finally, definition and establishment of unique Environment and Behavior contributions should be made. The creation of an index that seeks to provide preference status to those highly valued objects and settings for an office work contributes at these three levels.

In addition to the central reasoning for the index creation and its subsequent research contribution is that progress in the worlds of design research and practice depends on the conjoining of forces. Barriers and ideals will always exist, as will different styles for researchers and practitioners. While researchers often are variable oriented, practitioners operate in a goal-driven, place-focused strategy. Seeking to synthesize available information, practitioners need quick and valid solutions. For this central reason, there has been resulting miscommunication between the two disciplines. As stated by Rapoport over 40 years ago, a bridge needs to be made. While taking time to invest in the practice of research, there are many opportunities to question present research and design direction. While highly illustrative researchers such as Altman helped stimulate the field of environmental research they may not have seen problems solved or experienced the growing place of relevance: who, then, are present day researchers to move these mountains. The present day's questions seem to have one answer in common and that is the understanding if not the present, then when?

The story of the 99th monkey serves as a metaphorical conclusion and centers upon Japanese macaques monkey research conducted in 1953. Illustrating the point of group behaviors reaching critical mass, young monkeys found that potatoes washed in water tasted better than sandy potatoes given by the researchers. The researchers noted

that the older monkeys only learned this practice from the younger monkeys. The older monkeys on the island did not take on this practice until there were a higher percentage of young monkeys washing potatoes than not using the practice. The monkeys not only on the island, but other monkeys were reported to be using this cleaning technique. The tipping point had been reached and it is from this juncture that research can be further elaborated upon, links be created to form useful organizational assessment tools, and the contribution of design practice tool development.

Appendix A

Electronic survey transcription

The learning organization: University of Missouri Extension

Your participation in this research is voluntary and anonymous. You can stop at any time. You do not have to answer any questions you do not wish to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise. All publications and/or presentations resulting from the research will be reported in aggregate form only; No personally identifiable information will be collected. The University of Missouri's Office of Research, the Institutional Review Board and the Office for Human Research Protections in the Department of Health and Human Services may review records related to this research study.

Your completion of the survey will be deemed as your consent to participate in the study.

The learning organization: University of Missouri Extension

Instructions:

An organization can be defined many ways. It could be you and one other coworker, you and several others who work primarily together, or all of the people working in a department, unit, or district. Because organizational composition can change over the life of an organization, the definition of organization can also change as can one's position in the organization. Over time, one individual could be an entry level employee on one team, a supervisor on another and a chief executive officer on yet another. For the purposes of this survey, we are referring to your opinions as they relate to University of Missouri Extension.

The questions in this survey ask you about organizational issues from two distinct perspectives: (1) The ACTUAL circumstance – the characteristics of your organization as it currently operates; and (2) The IDEAL circumstance – how, if the decision was totally up to you, you would like your organization to be in its most ideal sense. There are no right or wrong organizational characteristics – that is, none of the survey responses below describes organizational characteristics that are better or worse, right or wrong.

THE QUESTIONS IN THIS SURVEY ASK YOU TO DESCRIBE THE CHARACTERISTICS OF WHAT UNIVERSITY OF MISSOURI EXTENSION IS FROM YOUR 'ACTUAL' AND 'IDEAL' PERSPECTIVE

ASSIGN A VALUE OF 10 TO ONLY ONE RESPONSE THAT BEST DESCRIBES YOUR OPINION. THEN, ASSIGN A VALUE FROM 0 TO 9 TO EACH OF THE REMAINING RESPONSES IN THE LIST COMPARING IT WITH THE ONE YOU IDENTIFIED AS BEST DESCRIBING YOUR OPINION (numbers can be used more than once—but only one 10 is permitted for the ACTUAL condition, and one 10 for the IDEAL condition).

The following questions are edited to match the presented research analysis content.

The learning organization: University of Missouri Extension

Instruction Example:

The first questions in this section of the survey ask you to assign a value (a number) to the importance of a list of possible responses. You will be asked to first select the response that you feel best describes your opinion and assign it a value of (10). Then, you are to assign a value from (0) to (9) to each of the remaining responses in the list ranking each answer compared with the one you identified as best describing your opinion the (10).

To illustrate how there are no correct responses and how one might fill in one of these questions, an example is presented. If we were interested in determining people's opinions about automobiles from among a list of five choices:

FORD, CHEVROLET, GM, SATURN, AND DODGE, the survey question would look something like the following:

An Example: The following question asks you to assign values to a list of possible responses. Begin by assigning a value of (10) to only one response the one that best describes your opinion. Then, assign a value from (0) to (9) to each of the remaining responses in the list comparing it with the one you identified as best describing your opinion the (10). There can be only one (10)! The remaining responses could be, for example, all (9s); they could be (3), (7), and (7); or they could all be (0s). As long as there is only one (10), any number between (0) and (9) can be used to describe the remaining responses (ties are okay).

What type of automobile do you consider your favorite automobile?

	Actual Value	Ideal Value
(a) Ford	3	
(b) Chevrolet	10	
(c) GM	0	
(d) Saturn	3	
(e) Dodge	7	

Everyone's opinion about automobiles is different and there is no correct response to this question. If your favorite automobile from those listed above was CHEVROLET, you would choose (10) in the Value column for CHEVROLET. Now using your automobile Value where CHEVROLET is equal to (10), rate the remaining automobiles in comparison to CHEVROLET. If, for illustration, DODGE were also favored but not quite as much as CHEVROLET, it might receive a Value of (7). If both FORD and SATURN were not favored compared with CHEVROLET, they might receive a Value of (3). In addition, if one strongly disliked the GM compared to the CHEVROLET, it might receive a Value of (0).

The learning organization: University of Missouri Extension

Describe the characteristics of what your organization is from your ‘Actual’ and ‘Ideal’ Perspective: OSAS Index Questions

1. What is the approach University of Missouri Extension most typically uses to achieve and accomplish what it wants (Actual)? And, what approach would you prefer it uses to achieve and accomplish what it wants (Ideal)?

	Actual Value	Ideal Value
(a) Unstated agreements and just knowing what to do		
(b) Authority, rules, and discipline		
(c) Personal freedom, individual competence, and choice		
(d) Cooperation, discussion, and mutual agreement		

2. In what manner does University of Missouri Extension express it’s caring and support for each other (Actual)? And, how would you prefer that it expresses its caring and support for each other (Ideal)?

	Actual Value	Ideal Value
(a) Expressive, responsive, and given willingly		
(b) Private, formal, and regulated		
(c) Spontaneous, public, and enthusiastic		
(d) Limited, reserved, and rarely expressed because we know we care deeply for each other		

3. How would you describe the “essence” or identity of University of Missouri Extension (Actual)? And, how would you prefer the “essence” or identity to be described (Ideal)?

	Actual Value	Ideal Value
(a) Impulsive, instructive, and energetic		
(b) Traditional, stable, and consistent		
(c) Precise, exact, controlled, and harmonious		
(d) Practical, tolerant, and relevant		

4. As University of Missouri Extension experiences the objective events and situations in life, how does it seek to understand those events (Actual)? And, how would you prefer that it seek to understand those events (Ideal)?

	Actual Value	Ideal Value
(a) By being flexible, questioning, and challenging		
(b) By relying on individual strengths, unique explanations, and by being explorative		
(c) By being methodical, conservative, and by using time-tested explanations		
(d) By knowing, certain, wise, and assured		

5. What is University of Missouri Extension’s most important characteristic (Actual)?
And, what would you prefer to be its most important characteristic (Ideal)?

	Actual Value	Ideal Value
(a) Our understanding of the objective world around us		
(b) The identity of the organization, who we are, and what we stand for		
(c) The care and support that we give to each other		
(d) That we accomplish, achieve, and do what we want		

6. How important is each of the following environmental preferences to University of Missouri Extension (Actual) and to you (Ideal)?

	Actual Value	Ideal Value
(a) PHYSICAL FACILITY: Layout, technology, equipment, well-constructed, well-maintained, adequate privacy, appropriate workspace (s).		
(b) FURNITURE & EQUIPMENT: Congruent, ergonomic, comfortable, up-to-date equipment and that is compatible to accomplish assigned or understood work activities, adequate storage.		
(c) CONTROL: Choice of workplace location & optional configuration types, collaboration space (s) or opportunities to collaborate, accessibility /regulations to stimulation input, operable lighting & ventilation, privacy, personalization, adjacency to activity centers.		
(d) CULTURE: Facility is congruent with the organizational image /brand, adaptable space (s), aesthetically pleasing, privacy fit for organizational culture, finishes & materials congruent with image / brand, workspace fit.		
(e) AMENITIES: The environment’s amenities spaces that might include but not be limited to adequate lounge space, vending areas and food service space(s), soothing space(s), activity spaces		

FOR EACH OF THE SURVEY ITEMS BELOW, SELECT THE ONE RESPONSE THAT BEST DESCRIBES YOUR SITUATION.

7. Which of the following responses best describes your job title – the area in which most of your work is undertaken? (Select one from below)

PULL DOWN MENU FOR ALPHABETIZED LIST OF 94
JOB TITLES

8. How long have you been employed with University of Missouri Extension?

_____ years (specify)

9. In which Extension Region or Campus are you currently assigned? (Select one from below)

(1) Urban Region (KC or Saint Louis)
(2) Northeast Region
(3) Northwest Region
(4) Southeast Region
(5) Southwest Region
(6) Columbia Campus
(7) Kansas City Campus
(8) Rolla Campus
(9) Saint Louis Campus
(10) East Central Region
(11) West Central Region
(12) Not Assigned to a Region or Campus

10. The majority of your work assignments occur in which of the following university of Missouri Extension categories? (Select one from below).

(1) Administration / Management
(2) Agriculture and Natural Resources
(3) Business Development
(4) Clerical / Support Staff
(5) Community Development
(6) Continuing Education
(7) Human Environmental Sciences
(8) 4-H / Youth

11. Your gender?

(1) Male
(2) Female

12. Your age?

_____ years (specify)

13. How long have you worked in your current office location?

_____ years (specify)

14. During your employment with University of Missouri Extension, how many times have you relocated from one office facility to another?

_____ number of times (specify)

Appendix B

University Extension Job titles

Accounting Associate
Adjunct Assistant Professor
Adjunct Associate Professor
Adjunct Instructor
Adjunct Professor
Administrative Assistant
Administrative Associate
Administrative Support Director
Assistant Director
Assistant Professor-Teaching
Associate Director
Associate Director
Associate Professor-Teaching
Associate State Specialist
Associate Vice Provost for Management Services
Associate Vice Provost for Programs
Business Development
Business Manager
Business Specialist
Business Trainer
Clinical Instructor
Conference Coordinator
Conference Office Director
Consultant
Continuing Education Director
Coordinator Program / Project Support
Council Director / Coordinator
County Office Support Staff
Data Base Programmer / Analyst
Data Entry Operator
Department Chair
Director MU Fire & Rescue Training Institute
Director of Constituent Relations
Director of Development
Editor
Engineer
Executive Staff Assistant
Extension Associate
Extension Professional
Farm Outreach Worker
Film & TV Producer
Fire Rescue Specialist
Geographic Information Systems Specialist
Graduate Assistant
Graphic Designer
Information Specialist
Instructor

Lab Assistant
Law Enforcement Training Institute Director
Lecturer
Lincoln University
Multimedia Specialist
Office Support Staff
Physical Activity
Professor
Program Assistant
Program Associate
Program Director
Program Specialist
Program / Analyst-Specialist
Programmer / Analyst
Project Coordinator / Director
Project Manager
Publication Coordinator
Regional Director
Regional Educator
Regional Specialist
Research Assistant
Research Associate
Research Specialist
Research / Lab Technician
Secretary
Software Support Analyst
State Coordinator
State Specialist
Statewide Administration Support
Storekeeper
Student Assistant
Superintended-Farm Center
Supervisor-Audiovisual
Support Staff
System Administrator
System Support Analyst-Specialist
Temporary Administration-Professional
Temporary Assistant- Professional
Temporary Clerical
Temporary Technical
Trainer
Training Associate
Training / Development Coordinator
User Support Analyst
Vice President of Foundation Relations
Vice Provost / Director
Volunteer

Appendix C

Demographic variable constructs by Environment Preference Index (EPI) and Organizational System Assessment Scale (OSAS) table legend

Legend tables following

Ideal construct value = all respondent's idealized environmental construct value

High Ideal construct value = only the respondents placing rank values above the 3rd percentile (values of eight, nine, or 10)

Frequency = Participants in overall completed survey sample

Respondent Percent = Participant percentage in overall completed survey sample

Minimum/Maximum = Minimum and maximum categorical response values

Median = the central tendency's middle place rank value

Mode = the most common respondent rank response

High Score/Percent = Highest rank value and the percent of total survey sample captured by the ranking; most useful for understanding the sample distribution upon Ideal preferences and when considering the High Ideal upper percentile rank contribution

At/below 3rd Level (7)/% = Those value rankings equaling seven and less and the percentage captured in those values; for the Ideal value, the percentage reflects the sample and for High Ideal, the percentage reflects the most common (mode) variable percentage contribution.

Mean = average respondent score for idealized EPI construct preference

Mean Difference = difference between Ideal and High Ideal EPI construct preferences and meaning contribution clarity

Standard Deviation = response spread around the mean's central tendency for the survey sample and the High Ideal construct focus variables

Appendix D

Table 17
Ideal and High Ideal EPI Constructs by gender

N=411 M: 110 F: 218 33.5% 66.5%		EPI Constructs									
		Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
		Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Female, Frequency		207	182	207	148	207	158	207	145	206	111
Respondent Percent		63.1	55.5	63.1	45.1	63.1	48.2	63.1	44.2	62.8	33.8
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10
Median		9	9	8	9	9	9	9	9	8	9
Mode		10	10	9	9	9	9	9	9	9	9
High Score/Percent		10:	10:	9:	9:	9:	9:	9:	9:	9:	9:
		42.5%	48.4%	39.6%	55.4%	41 %	53.8%	29.0%	41.4%	28.2%	52.3%
At/below 3 rd Level (7) /%		4.8%	6.5%	15.0%	32.1%	11.1%	27.5%	13.0%	33.5%	11.7%	49.1%
Mean		8.9	9.4	7.9	8.8	8.2	9.0	8.1	9.2	7.0	8.75
Mean Difference			+5		+9		+8		+1.1		+1.75
Standard Deviation		1.68	.696	1.85	.629	1.8	.681	2.04	.754	2.4	.643
Male, Frequency		108	86	107	69	107	77	108	72	108	46
Respondent Percent											
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10
Median		9	9	8	9	8	9	9	9.5	7	9
Mode		10	10	9	9	9	9	10	10	9	9
High Score/Percent		10:	10:	9:	9:	9:	9:	10:	10:	9:	9:
		37%	46.5%	35.5%	55.1%	29 %	40.3%	33.3%	50%	20.4%	47.5%
At/below 3 rd Level (7) /%		9.3%	21.8%	13.1%	37.3%	11.1%	30.0%	14.8%	34.5%	13.9%	58.2%
Mean		8.52	9.3	7.56	8.73	7.92	8.95	8.01	9.32	6.28	8.7
Mean Difference			+78		+1.17		+1.03		+1.31		+2.42
Standard Deviation		1.86	.785	1.99	.616	2.1	.776	2.23	.776	2.73	.662
Gender Mean Difference (Female)			+24		+28		+24		+23		+67
Valid N (listwise)		331									

Table 18_Ideal and High Ideal EPI Constructs by age/generation

		EPI Constructs										
		Physical Facility		Furniture & Equip.		Control		Culture		Amenities		
N=283	Mean	49.8	Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High
30 years and younger												
	Frequency		27	21	27	16	27	21	27	20	27	19
	Respondent Percent		9.5	7.4	9.5	5.7	9.5	7.4	9.5	7.1	9.5	6.7
	Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	4/10	8/10	0/10	8/10
	Median		9	9	8	9	8	9	9	9.5	9	9
	Mode		9	9	9	9	8	8	10	10	9	9
	High Score/Percent		9:	9:	9:	9:	8:	8:	10:	10:	9:	9:
			33.3%	42.9%	33.3%	56.3%	29.6%	38.1%	37%	50%	40.7%	57.9%
	At/below 3 rd Level (7) /%		22%	22%	40.7%	40.7%	22%	22%	25.9%	25.9%	29.6%	29.6%
	Mean		8.3	9.1	7.5	8.7	8.1	8.9	8.4	9.3	7.8	8.9
	Mean Difference			+80		+1.2		+80		+90		+1.1
	Standard Dev.		2.1	.77	2.0	.6	2.06	.83	1.65	.85	2.19	.66
31 to 48 years												
	Frequency		80	68	80	55	80	65	80	57	80	45
	Respondent Percent		28.3	2.4	28.3	19.4	28.3	23.0	28.3	20.1	28.3	15.9
	Minimum/Maximum		4/10	8/10	0/10	8/10	1/10	8/10	2/10	8/10	0/10	8/10
	Median		9	9	8	9	9	9	9	9	8	9
	Mode		10	10	9	9	9	9	9	9	9	9
	High Score/Percent		10:	10:	9:	9:	9:	9:	9:	9:	9:	9:
			40%	47.1%	36.3%	52.7%	43.8%	53.8%	37.5%	52.6%	27.5%	25.9%
	At/below 3 rd Level (7) /%		15%	20%	31.3%	35.3%	18.8%	23.5%	28.7%	32.9%	43.8%	47.1%
	Mean		8.9	9.4	7.8	8.9	8.4	9.0	8.2	9.2	7.1	8.6
	Mean Difference			+50		+1.1		+60		+1.0		+1.5
	Standard Dev.		1.38	.67	2.01	.68	1.61	.68	1.9	.66	2.2	.61
49 to 67 years												
	Frequency		155	134	155	106	154	112	155	103	155	71
	Respondent Percent		54.8	47.4	54.8	37.5	54.4	40.0	54.8	36.4	54.8	25.1
	Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	4/10	8/10	0/10	8/10
	Median		9	9	8	9	9	9	8	9	7	9
	Mode		10	10	9	9	9	9	10	10	9	9
	High Score/Percent		10:	10:	9:	9:	9:	9:	10:	10:	9:	9:
			40.6%	47%	38.1%	55.7%	37%	50.9%	26.5%	39.8%	21.9%	47.9%
	At/below 3 rd Level (7) /%		13.5%	16.8%	31.6%	34.2%	27.3%	30.4%	33.5%	36%	54.2%	55.9%
	Mean		8.7	9.3	7.74	8.8	8.05	9.06	7.75	9.15	6.48	8.8
	Mean Difference			.60		+1.06		1.01		+1.4		+2.23
	Standard Dev.		1.93	.75	2.00	.63	2.07	.701	2.4	.80	2.7	.69
68 years and older												
	Frequency		9	7	9	6	9	5	9	7	9	3
	Respondent Percent		3.2	2.5	3.2	2.1	3.2	1.8	3.2	2.5	3.2	1.1
	Minimum/Maximum		7/10	8/10	4/9	8/9	3/9	8/9	3/10	8/10	1/10	8/10
	Median		10	10	8	9	8	8	9	9	6	9
	Mode		10	10	9	9	8	8	10	10	2	8
	High Score/Percent		10:	10:	9:	9:	8:	8:	10:	10:	2,6:	8,9,10:
			55.6%	71.4%	44.4%	66.7%	33.3%	60%	33.3%	42.9%	22.2%	30%
	At/below 3 rd Level (7) /%		22.2%	30%	33.3%	40%	44.4%	50%	22.2%	30%	5/44%	70%
	Mean		9	9.6	7.8	8.7	7.11	8.4	8.22	9.14	5.44	9
	Mean Difference			+60		+90		+1.29		+92		3.56
	Standard Dev.		1.32	.80	1.64	.52	1.90	.55	2.22	.90	3.25	1.00
	Valid N (listwise)		411									

Table 19
Ideal and High Ideal EPI constructs by tenure

N=411		EPI Constructs									
		Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
		Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Mean:	13.5										
Min: 0	Max. 49										
Zero to five years											
Frequency		86	72	86	58	86	68	86	62	86	53
Respondent Percent		30.1	25.2	30.1	20.3	30.1	23.8	30.1	21.7	30.1	18.5
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	2/10	8/10	0/10	8/10
Median		9	9	8	9	9	9	9	9	8	9
Mode		9	9	9	9	9	9	10	10	9	9
High Score/Percent		9:	9:	9:	9:	9:	9:	10:	10:	9:	9:
		39.5%	47.2%	37.2%	55.2%	40.7%	51.5%	29.1%	28.4%	31.8%	52.8%
At/below 3 rd Level (7) /%		16.3%	18.2	32.6%	34.1%	20.9%	22.7%	27.9%	29.5%	38.4%	39.8%
Mean		8.8	9.3	7.8	8.8	8.3	9.04	8	9.1	7.3	8.8
Mean Difference			+50		+1.0		+74		+1.1		+1.5
Standard Dev.		1.53	.68	1.83	.65	1.79	.7	2.16	.82	2.6	.66
Six to 11 years											
Frequency		57	49	57	42	57	47	57	40	57	28
Respondent Percent		19.9	17.1	19.9	14.7	19.9	16.4	19.9	14.0	19.9	9.8
Minimum/Maximum		1/10	8/10	0/10	8/10	1/10	8/10	1/10	8/10	1/10	8/10
Median		9	9	8	9	9	9	9	9	7	9
Mode		9	9	9	9	9	9	9	9	9	9
High Score/Percent		9,10:	9,10:	9:	9:	9:	9:	9:	9:	9:	9:
		33.3%	38.8%	43.9%	59.5%	34.5%	42.6%	32.8%	42.5%	26.3%	53.6%
At/below 3 rd Level (7) /%		14%	15.5%	26.3%	27.6%	17.5%	19%	29.8%	31%	50.9%	51.7%
Mean		8.65	9.16	7.75	8.7	8.56	9.19	8.09	9.08	6.88	9.0
Mean Difference			+51		+95		+63		+99		+2.12
Standard Dev.		1.65	.77	1.98	.56	1.72	.74	1.95	.73	2.52	.69
12 to 20 years											
Frequency		59	50	59	42	58	37	59	40	59	29
Respondent Percent		20.6	17.5	20.6	14.7	20.3	12.9	20.6	14.0	20.6	10.1
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	1/10	8/10	0/9	8/9
Median		10	10	8	9	8	9	9	9	7	8
Mode		10	10	8	9	8	9	10	10	8	8
High Score/Percent		10:	10:	9:	9:	9:	9:	10:	10:	8:	8:
		30%	60%	32%	45.2%	34.5%	54.1%	28.8%	42.5%	27.1%	55.2%
At/below 3 rd Level (7) /%		15.3%	25.4%	28.8%	37.3%	36.2%	44.8%	32.2%	40.3%	30.8%	56.7%
Mean		8.78	9.46	7.8	8.74	7.72	8.87	8.0	9.18	6.64	8.45
Mean Difference			+68		+94		+1.15		+1.18		+1.81
Standard Dev.		1.91	.73	1.84	.70	1.88	.67	2.08	.81	2.26	.51

Table 19, continued
Ideal and High Ideal EPI constructs by tenure

N=411		EPI Constructs									
		Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
Mean:	13.5	Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Min:	0										
	Max. 49										
21 years and over											
Frequency		68	58	67	44	68	45	68	48	68	27
Respondent Percent		23.8	20.3	23.4	15.4	23.8	15.7	23.8	16.8	23.8	9.4
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10
Median		9	9	8	9	8	9	9	9.5	6	9
Mode		10	10	9	9	9	9	10	10	9	9
High Score/Percent		10:	10:	9:	9:	9:	9:	10:	10:	9:	9:
		36.8%	43.1%	38.8%	39.1%	32.4%	48.9%	35.3%	50%	20.6%	51.9%
At/below 3 rd Level (7) /%		14.7%	18.3%	34.3%	38%	33.8%	36.6%	29.4%	32.4%	60.3%	62%
Mean		8.72	9.28	7.72	8.77	7.6	8.98	8.01	9.33	6.12	8.82
Mean Difference			+56		+105		+138		+132		+27
Standard Dev.		1.75	.72	1.9	.61	2.45	.72	2.43	.75	2.78	.68
Valid N (listwise)		286									

Table 20
Ideal and High Ideal EPI constructs by location

N=	411	EPI Constructs									
		Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
		Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Mean:	5.53										
Min: 1	Max: 12										
Urban											
Frequency		33	27	33	24	33	26	33	25	33	19
Respondent Percent		10.2	9.4	11.5	8.4	11.5	9.1	11.5	8.7	11.5	6.6
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10
Median		9	9	8	9	9	9	9	9	8	9
Mode		10	10	9	9	9	9	9	9	9	9
High Score/Percent		10/ 39.4%	10/ 48.1%	9/ 42.4%	9/ 58.3%	9/ 48.5%	9/ 61.5%	9/ 33.3%	9/ 44.4%	9/ 36.4%	9/ 63.2%
At/below 3 rd Level (7) / %		18.2%	25.6%	27.3%	33.3%	21.2%	27.8%	24.2%	30.6%	27.3%	47.2%
Mean		8.3	9.26	7.58	8.75	8.03	9.08	8.21	9.24	7.03	8.84
Mean Difference			+96		+1.17		+1.05		+1.03		+1.81
Standard Dev.		2.54		2.5		2.48		2.32		2.65	
Northeast Region											
Frequency		26	22	26	17	25	19	26	18	26	11
Respondent Percent		9.1	7.7	9.1	5.9	8.7	6.6	9.1	6.3	9.1	3.8
Minimum/Maximum		4/10	8/10	4/9	8/9	3/10	8/10	0/10	8/10	0/10	8/10
Median		9	9.5	8	9	9	9	9	9	7	9
Mode		10	10	9	9	9	9	9	9	9	9
High Score/Percent		10/ 42.3%	10/ 50%	9/ 46.2%	9/ 70.6%	9,10/ 28%	9,10/ 36.8%	9,10/ 26.9%	9,10/ 38.9%	9/ 26.9%	9/ 63.6%
At/below 3 rd Level (7) / %		15.4%	18.5%	34.6%	37%	24%	29.6%	30.8%	33.3%	57.7%	59.3%
Mean		8.85	9.41	7.81	8.71	8.08	9.11	7.92	9.17	6.46	8.82
Mean Difference			+56		+90		+1.03		+1.25		+2.36
Standard Dev.		1.54	.66	1.47	.47	2.1	.81	2.33	.79	2.55	.603
Northwest Region											
Frequency		18	18	18	12	18	13	18	12	18	11
Respondent Percent		6.3	6.3	6.3	4.2	6.3	4.5	6.3	4.2	6.3	3.8
Minimum/Maximum		8/10	8/10	5/9	8/9	8/10	8/10	5/10	8/10	0/9	8/9
Median		10	10	8	8.5	9	9	8	9	8	8
Mode		10	10	8	8	9	9	8	8	8	8
High Score/Percent		10/ 72.2%	10/ 72.2%	8,9/ 33.3%	8,9/ 60%	9/ 44.4%	9/ 61.5%	8/ 27.8%	8/ 41.7%	8/ 44.4%	8/ 72.7%
At/below 3 rd Level (7) / %		>5.6%	10%	>66%	40%	27.8%	35%	33.3%	>40%	>83%	45%
Mean		9.67	9.67	7.44	8.5	8.11	8.92	8	8.92	6.67	8.27
Mean Difference			0		+1.06		+81		+92		+1.6
Standard Dev.		.594	.595	1.62	.522	1.53	.641	1.61	.9	2.43	.467

Table 20_Ideal and High Ideal EPI constructs by location, continued

N=	411	EPI Constructs									
		Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
		Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Mean:	5.53										
Min: 1	Max: 12										
Southeast Region											
Frequency		20	19	20	16	20	16	20	15	19	12
Respondent Percent		7.0	6.6	7.0	5.6	7.0	5.6	7.0	5.2	6.6	4.2
Minimum/Maximum		7/10	8/10	4/10	8/10	0/10	9/10	4/10	8/10	1/10	9/10
Median		9	9	9	9	9	9	9	9	9	9
Mode		9	9	9	9	9	9	9	9	9	9
High Score/Percent		10/	9/	9/	9/	9/	9/	9,10/	9,10/	9/	9/
		80%	52.6%	55%	68.8%	65%	81.3%	35%	46.7%	57.9%	41.7%
At/below 3 rd Level (7) /%		5%	9.5%	20%	23.8%	20%	23.8%	25%	28.6%	36.8%	42.9%
Mean		9.25	9.37	8.3	8.81	8.3	9.19	8.6	9.4	7.58	9.08
Mean Difference			+12		+51		+89		+80		+1.5
Standard Dev.		.79	.597	1.3	.544	2.25	.403	1.64	.633	2.5	.289
Southwest Region											
Frequency		32	27	31	20	32	24	32	26	32	13
Respondent Percent		11.2	9.4	10.8	7.0	11.2	8.4	11.2	9.1	11.2	4.5
Minimum/Maximum		5/10	8/10	4/10	8/10	3/10	8/10	3/10	8/10	1/10	8/10
Median		9	9	8	9	9	9	9	9	7	8
Mode		10	10	9	9	9	9	9	9	7	8
High Score/Percent		9/	10/	9/	9/	9/	9/	9/	9/	8/	9/
		28.1%	44.4%	29%	45%	31.3%	41.7%	37.5%	46.2%	21.9%	38.5%
At/below 3 rd Level (7) /%		15.6%	15.6%	35.5%	37.5%	25%	25%	18.8%	18.8%	59.4%	59.4%
Mean		8.75	9.22	7.9	8.75	8.09	9	8.34	9.15	6.22	8.54
Mean Difference			+47		+85		+91		+81		+2.32
Standard Dev.		1.39	.8	1.4	.716	1.86	.78	1.96	.732	2.57	.66
Columbia Campus											
Frequency		127	106	127	90	127	94	127	83	127	62
Respondent Percent		44.4	37.1	44.4	31.5	44.4	32.9	44.4	29.0	44.4	21.7
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	3/10	1/10	8/10	0/10	8/10
Median		9	9	9	9	9	9	9	9	7	9
Mode		10	10	9	9	9	9	10	10	9	9
High Score/Percent		10/	10/	9/	9/	9/	9/	10/	10/	9/	9/
		38.6%	46.2%	41.7%	58.9%	32.3%	43.6%	26%	39.8%	22.8%	46.8%
At/below 3 rd Level (7) /%		16.5%	17.8%	29.1%	30.2%	26%	27.1%	34.6%	35.7%	51.2%	51.9%
Mean		8.71	9.32	7.84	8.86	8.12	8.93	8.01	9.18	6.92	8.79
Mean Difference			+61		+1.02		+81		+1.17		+1.87
Standard Dev.		1.73	.711	2.05	.628	1.82	.751	1.95	.767	2.35	.705

Table 20_Ideal and High Ideal EPI constructs by location, continued

N=	411	EPI Constructs									
		Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
		Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Mean:	5.53										
Min: 1	Max: 12										
Kansas City Campus											
Frequency		1	1	1	1	1	1	1	1	1	1
Respondent Percent		.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
Minimum/Maximum		-	9/9	-	10/10	-	9/9	-	9/9	-	9/9
Median		9	9	10	10	9	9	9	9	9	9
Mode		9	9	10	10	9	9	9	9	9	9
High Score/Percent		-	9/100%	-	10/100%	-	9/100%	-	9/100%	-	9/100%
At/below 3 rd Level (%)		-	-	-	-	-	-	-	-	-	-
Mean		9	9	10	10	9	9	9	9	9	9
Mean Difference			+/-0		+/-0		+/-0		+/-0		+/-0
Standard Dev.		-	-	-	-	-	-	-	-	-	-
Rolla Campus											
Frequency		1	1	1	1	1	1	1	1	1	1
Respondent Percent		.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
Minimum/Maximum		4/4	-	10/10	10/10	7/7	-	7/7	-	7/7	-
Median		4	4	10	10	7	7	7	7	7	7
Mode		4	4	10	10	7	7	7	7	7	7
High Score/Percent		4/100%	-	10/100%	-	7/100%	-	7/100%	-	7/100%	-
At/below 3 rd Level (%)		%	%	%	%	%	%	%	%	%	%
Mean		4	4	10	10	7	7	7	7	7	7
Mean Difference			+/-0		+/-0		+/-0		+/-0		+/-0
Standard Dev.		-	-	-	-	-	-	-	-	-	-
Saint Louis Campus											
Frequency		2	2	2	2	2	2	2	1	2	2
Respondent Percent		.07	.07	.07	.07	.07	.07	.07	.07	.07	.07
Minimum/Maximum		8/10	8/10	9/10	9/10	7/9	9/9	9/9	9/9	8/9	8/9
Median		9	9	9.5	9.5	9	9	8	9	8.5	8.5
Mode		8	8	9	9	9	9	8	9	8.5	8
High Score/Percent		10/50%	10/50%	10/50%	10/50%	9/100%	9/100%	9/50%	9/50%	9/50%	9/50%
At/below 3 rd Level (%)		0%	0%	0%	0%	0%	0%	50%	50%	0%	0%
Mean		9	9	9.5	9.5	9	9	8	9	8.5	8.5
Mean Difference			+/-0		+/-0		+/-0		+/-0		+/-0
Standard Dev.		1.41	1.41	.71	.707	0.00	0.00	1.41	-	.71	.707

Table 20_Ideal and High Ideal EPI constructs by location, continued

N=	411	EPI Constructs									
		Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
		Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Mean:	5.53										
Min: 1	Max: 12										
East Central Region											
Frequency		25	23	25	14	25	19	25	14	25	10
Respondent Percent		8.7	8.0	8.7	4.9	8.7	6.6	8.7	4.9	8.7	3.5
Minimum/Maximum		1/10	8/10	3/10	8/10	2/10	8/10	1/10	8/10	9/9	8/10
Median		9	9	8	8	9	9	8	9.5	6	8
Mode		9	9	8	8	9	9	10	10	8	8
High Score/Percent		9/	9/	8/	8/	9/	9/	10/	10/	8/	8/
		48%	52.2%	36%	64.3%	32%	42.1%	28%	50%	24%	60%
At/below 3 rd Level (%)	>12%	8%	44%	44%	24%	24%	44%	44%	60%	60%	
Mean		8.8	9.4	7.2	8.4	8.2	9.2	7	9.3	5.3	8.4
Mean Difference			+.60		+1.2		+1		+2.3		+3.1
Standard Dev.		2.26	.583	1.8	.646	2.1	.765	3.1	.825	3.1	.516
West Central Region											
Frequency		18	14	18	8	18	12	18	15	18	9
Respondent Percent		6.3	4.9	6.3	2.8	6.3	4.2	6.3	5.2	6.3	3.1
Minimum/Maximum		6/10	8/10	0/9	8/9	5/10	8/10	5/10	8/10	3/10	8/10
Median		9	9	7	9	9	9	9	10	7.5	9
Mode		10	10	7	9	9	9	10	10	9	9
High Score/Percent		10/	10/	7/	9/	9/	9/	10/	10/	9/	9/
		33.3%	42.9%	33.6%	62.5%	44.4%	66.7%	44.4%	53.3%	22.2%	44.4%
At/below 3 rd Level/%	22.2%	26.3%	55.6%	57.9%	33.3%	36.8%	16.7%	21.1%	50%	52.6%	
Mean		8.61	9.14	7	8.63	8.11	9	8.78	9.27	7.11	8.89
Mean Difference			+.63		+1.19		+.96		+2.29		+3.08
Standard Dev.		1.29	.864	2.22	.518	1.45	.603	1.44	.884	2.14	.782
Not Assigned Region											
Frequency		9	7	9	9	9	7	9	6	9	5
Respondent Percent		3.1	2.4	3.1	3.1	3.1	2.4	3.1	2.1	3.1	1.7
Minimum/Maximum		6/10	8/10	8/10	8/10	7/10	8/10	2/10	8/10	0/10	8/10
Median		8	8	8	8	10	9	10	9.5	8	8
Mode		8	8	8	8	10	10	10	10	8	8
High Score/Percent		8/	8/	8/	8/	10/	10/	10/	10/	8/	8/
		44.4%	57.1%	55.6%	55.6%	33.3%	42.9%	33.3%	50%	44.4%	80%
At/below 3 rd Level/%	22.2%	36.4%	>56%	18.2%	22.2%	36.4%	33.3%	45.5%	44.4%	%	
Mean		8.11	8.57	8.56	8.56	8.67	9.14	7.56	9.17	6.78	8.4
Mean Difference			+.46		+/-0		+.47		+1.61		+1.62
Standard Dev.		1.17	.787	.73	.727	1.23	.9	2.83	.894	2.86	
Valid N (listwise)		324									

Table 21

Ideal and High Ideal EPI constructs by program

N=	411	EPI Constructs									
		Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
		Min: 1	Max: 8	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Administration											
Frequency		39	32	39	33	39	28	39	28	39	18
Respondent Percent		12.2	10.0	12.2	10.3	12.2	8.8	12.2	8.8	12.2	5.6
Minimum/Maximum		9/10	8/10	0/10	8/10	0/10	8/10	2/10	8/10	0/10	8/10
Median		9	9	9	9	9	9	9	9	7	9
Mode		9	9	9	9	9	9	10	10	9	9
High Score/Percent		9/	9/	9/	9/	9/	9/	10/	10/	9/	9/
		33.3%	40.6%	41%	48.5%	46.2%	64.3%	33.3%	46.4%	24.5%	44.4%
At/below 3 rd Level/%		17.9%	17.9%	15.4%	15.4%	28.2%	28.2%	28.2%	28.2%	53.8%	53.8%
Mean		8.46	9.16	8.23	8.85	8.13	9	8.1	9.21	6.51	8.78
Mean Difference			+.70		+.62		+.87		+.11		+.227
Standard Dev.		1.945	.77	1.87	.71	1.87	.61	2.11	.83	2.77	.73
Agriculture Nat. Resources											
Frequency		49	43	48	28	49	30	49	34	49	18
Respondent Percent		15.5	13.5	15.0	8.8	15.4	9.4	15.4	10.7	15.4	5.6
Minimum/Maximum		0/10	8/10	0/10	8/9	0/10	8/10	0/10	8/10	0/10	8/10
Median		9	9	8	9	8	9	9	9	7	8.5
Mode		10	10	9	9	9	9	10	10	8	8
High Score/Percent		10/	10/	9/	9/	9/	9/10/	10/	10/	9/	8/
		40.1%	44.2%	38.7%	57.1%	36.6%	40%	27.8%	44.1%	24.9%	50%
At/below 3 rd Level/%		14.7%	18.9%	30.9%	47.2%	25.8%	43.4%	30.5%	35.8%	50.5%	66%
Mean		8.8	9.3	7.2	8.6	7.6	9.2	8.00	9.4	6.0	8.7
Mean Difference			+.5		+.14		+.16		+.14		1.7
Standard Dev.		1.72	.734	1.9	.504	1.92	.761	2.01	.719	2.53	.767
Business Development											
Frequency		26	19	26	18	26	21	26	22	26	14
Respondent Percent		8.2	6.0	8.2	5.6	8.2	6.6	8.2	6.9	8.2	4.4
Minimum/Maximum		4/10	8/10	6/10	8/10	5/10	8/10	2/10	8/10	1/10	8/10
Median		9	9	8	9	8	9	9.5	10	8	8.5
Mode		9	9	9	9	8	8	10	10	8	8
High Score/Percent		9/	9/	9/	9/ 50%	8,9/	8,9/	10/	10/	8/	9/
		30.8%	42.1%	34.6%		34.6%	42.9%	50%	59.1%	26.9%	42.9%
At/below 3 rd Level/%		26.9%	26.9%	30.8%	30.8%	19.2%	19.2%	15.4%	15.4%	46.2%	46.2%
Mean		8.35	9.16	8.08	8.72	8.27	8.71	8.85	9.41	7.04	8.57
Mean Difference			+.81		+.64		+.44		+.56		+.153
Standard Dev.		1.6	.765	1.16	.67	1.19	.717	1.76	.796	2.05	.646

Table 21_Ideal and High Ideal EPI constructs by program, continued

N=	411	EPI Constructs									
		Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
		Min: 1	Max: 8	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Clerical Support											
Frequency		16	11	16	10	16	10	16	11	16	11
Respondent Percent		5.0	3.4	5.0	3.1	5.0	3.1	5.0	3.4	5.0	3.4
Minimum/Maximum		5/10	8/10	0/10	8/10	5/10	8/10	5/10	8/10	3/10	8/10
Median		8.5	9	8.5	9	9	9	8.5	9	8.5	9
Mode		10	10	9	9	9	9	10	10	9	9
High Score/Percent		10/	10/	9/	9/ 60%	9/	9/	10/	10/	9/	9/
		31.3%	45.5%	37.5%		43.8%	70%	31.3%	45.5%	37.5%	54.5%
At/below 3 rd Level/%		31.3%	38.7%	37.5%	44.4%	37.5%	44.4%	31.3%	38.9%	31.3%	38.9%
Mean		8.19	9.18	7.56	9	7.88	9.1	8.19	9.18	7.88	8.91
Mean Difference			+99		+1.44		+1.22		+99		+1.03
Standard Dev.		1.76	.873	2.5	.667	1.78	.568	1.76	.874	1.9	.701
Community Development											
Frequency		25	16	25	15	24	19	25	20	25	15
Respondent Percent		7.8	5.0	7.8	4.7	7.5	6.0	7.8	6.3	7.8	4.7
Minimum/Maximum		0/10	8/10	0/10	8/10	5/10	8/10	0/10	8/10	0/10	8/10
Median		9	9	8	9	8.5	9	9	10	8	9
Mode		10	10	9	9	9	9	10	10	8	8
High Score/Percent		10/	10/	9/	9/ 60%	9/	9/	10/	10/	8,9/	8,9/
		28%	43.8%	38%		33.3%	42.1%	48%	60%	28%	46.7%
At/below 3 rd Level/%		36%	40.7%	40%	44.4%	20.8%	29.6%	>24%	25.9%	40%	44.4%
Mean		7.96	9.25	7.4	8.73	8.25	8.84	8.44	9.55	7.16	8.6
Mean Difference			+1.29		+1.33		+59		+1.11		+1.44
Standard Dev.		2.32	.775	2.22	.594	1.42	.765	2.53	.605	2.32	.633
Continuing Education											
Frequency		21	21	21	17	21	17	21	11	21	11
Respondent Percent		6.6	6.6	6.6	5.3	6.6	5.3	6.6	3.4	6.6	3.4
Minimum/Maximum		8/10	8/10	5/10	8/10	6/10	8/10	2/10	8/10	2/10	8/10
Median		10	10	9	9	9	9	8	9	8	9
Mode		10	10	9	9	9	9	9	9	9	9
High Score/Percent		10/	10/	9/	9/	9/	9/	9/	9/	9/	9/
		57.1%	57.1%	57.1%	70.6%	38.1%	47.1%	33.3%	63.6%	33.3%	63.6%
At/below 3 rd Level/%		14.3%	19%	19%	19%	19%	19%	47.6%	47.6%	47.6%	47.6%
Mean		9.43	9.43	8.48	8.94	8.62	9.06	7.38	8.82	7	8.82
Mean Difference			+/-0		+46		+44		+1.44		+1.82
Standard Dev.		.746	.746	1.18	.556	1.18	.748	1.99	.603	2.32	.603

Table 21_Ideal and High Ideal EPI constructs by program, continued

N=	411	EPI Constructs									
		Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
		Min: 1	Max: 8	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Human Environmental Science											
Frequency		87	80	87	61	87	72	87	60	86	49
Respondent Percent		27.3	25.1	27.3	19.1	27.3	22.6	27.3	18.8	27.0	15.4
Minimum/Maximum		1/10	8/10	0/10	8/10	1/10	8/10	1/10	8/10	0/10	8/10
Median		9	9	8	9	9	9	9	9	8	9
Mode		10	10	9	9	9	9	9	9	9	9
High Score/Percent		10/	10/	9/	9/	9/	9/	9/	9/	9/	9/
At/below 3 rd Level/%		43.7%	47.5%	34.5%	47.2%	41.4%	50%	31%	45%	30.2%	53.1%
Mean		8.99	9.35	7.76	8.69	8.48	9.08	8.01	9.05	6.94	8.69
Mean Difference			+.36		+.93		+.60		+.104		+.175
Standard Dev.		1.54	.695	1.91	.647	1.65	.707	1.96	.746	2.51	.619
4H											
Frequency		43	39	43	28	43	30	43	27	43	18
Respondent Percent		13.5	12.2	13.5	8.8	13.5	9.4	13.5	8.5	13.5	5.6
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10
Median		10	10	8	9	9	9	8	9	7	9
Mode		19	10	9	9	9	9	9	9	9	9
High Score/Percent		10/	10/	9/	9/	9/	9/	9/	9/	9/	9/
At/below 3 rd Level/%		53.5%	59%	46.5%	71.4%	37.2%	53.3%	25.6%	40.7%	30.2%	72.2%
Mean		9	9.51	7.65	8.79	7.74	9.07	7.81	9.15	6.0	8.94
Mean Difference			+.51		+.114		+.133		+.134		+.294
Standard Dev.		1.89	.644	2.01	.499	2.53	.692	2.23	.77	2.7	.539
Valid N (listwise)		319									

Table 22
Ideal and High Ideal EPI constructs by title

N= Mean: Min: 1 Max: 5	EPI Constructs									
	Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
	Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Administration										
Frequency	12	9	12	9	12	10	12	10	12	5
Respondent Percent	3.7	2.8	3.7	2.8	3.7	3.1	3.7	3.1	3.7	1.5
Minimum/Maximum	0/10	8/10	0/9	8/9	0/10	8/10	6/10	8/10	0/10	8/10
Median	9	10	9	9	8	8.5	9	9.5	6.5	9
Mode	10	10	9	9	8	8	10	10	5	9
High Score/Percent	10/	10/	9/	9/	8/	8/	10/	10/	3,5/	9/
At/below 3 rd Level/%	41.7%	55.6%	58.3%	77.8%	46.7%	50%	41.7%	50%	25%	60%
Mean	7.67	9.44	7.17	8.78	7.17	8.6	8.83	9.4	6.08	9
Mean Difference		+1.77		+1.61		+1.43		+0.57		+2.92
Standard Dev.	3.7	.727	3.41	.441	3.41	.699	1.47	.699	3.34	.707
Director										
Frequency	30	24	30	19	30	18	30	17	30	14
Respondent Percent	9.2	7.4	9.2	5.8	9.2	5.5	9.2	5.2	9.2	4.3
Minimum/Maximum	4/10	8/10	4/10	8/10	4/10	8/10	2/10	8/10	1/10	8/10
Median	9	10	8	9	8	9	8	9	7	9
Mode	10	10	9	9	9	9	7	9	6	8
High Score/Percent	10/	10/	9/	9/	9/	9/	7,9,10	9,10/	10/	8,9/
At/below 3 rd Level/%	43.3%	54.2%	3.3%	52.6%	30%	50%	20%	35.3%	20%	35.7%
Mean	8.73	9.38	7.7	8.84	7.8	8.94	7.6	9.06	6.9	8.93
Mean Difference		+0.65		+1.14		+1.14		+1.46		+2.03
Standard Dev.	1.55	.767	1.75	.689	1.65	.725	2.11	.827	2.38	.829
Specialist										
Frequency	138	120	138	89	138	102	138	97	137	70
Respondent Percent	42.3	36.8	42.3	27.3	42.3	31.3	42.3	29.8	42.0	21.5
Minimum/Maximum	0/10	8/10	0/10	8/10	1/10	8/10	0/10	8/10	0/10	8/10
Median	9	9	8	9	9	9	9	9	8	9
Mode	9	9	9	9	9	9	10	10	9	9
High Score/Percent	9/	9/	9/	9/	9/	9/	10/	10/	9/	9/
At/below 3 rd Level/%	37%	42.5%	33.3%	51.7%	39.1%	52.9%	31.9%	45.4%	25.5%	50%
Mean	8.75	9.42	7.63	8.72	8.21	9.14	8.07	9.29	6.76	8.64
Mean Difference		+0.67		+1.09		+0.93		+1.22		+1.88
Standard Dev.	1.61	.722	1.89	.639	1.87	.675	2.3	.735	2.44	.615

Table 22
Ideal and High Ideal EPI constructs by title, continued

N= Mean: Min: 1 Max: 5	EPI Constructs										
	Physical Facility		Furniture & Equip.		Control		Culture		Amenities		
	Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High	
Associates											
Frequency	107	91	106	79	106	82	107	77	107	56	
Respondent Percent	32.8	27.9	32.5	24.2	32.5	25.2	32.8	23.6	32.8	17.2	
Minimum/Maximum	0/10	8/10	0/10	8/10	0/10	8/10	1/10	8/10	0/10	8/10	
Median	9	10	8.5	9	9	9	9	9	8	9	
Mode	10	10	9	9	9	9	9	9	9	9	
High Score/Percent	10/ 43.9%	10/ 51.6%	9/ 43.4%	9/ 58.2%	9/ 35.8%	9/ 46.3	9/ 30.8%	9/ 42.9%	9/ 29%	9/ 55.4%	
At/below 3 rd Level/%	15%	17.3%	25.5%	28.2%	22.6%	25.5	28%	30%	47.7	49.1%	
Mean	8.83	9.41	7.98	8.76	8.15	9	8.13	9.13	6.72	8.73	
Mean Difference		+.58		+.78		+.85		+1.0		+2.01	
Standard Dev.	1.71	.683	1.73	.604	2.02	.737	1.97	.749	2.613	.618	
Support											
Frequency	26	20	26	17	26	16	26	18	26	12	
Respondent Percent	8.0	6.1	8.0	5.2	8.0	4.9	8.0	5.5	8.0	3.7	
Minimum/Maximum	5/10	8/10	0/10	8/10	5/10	8/10	4/10	8/10	0/10	8/10	
Median	9	10	8.5	9	8	9	9	9	7	9	
Mode	10	10	9	9	9	9	10	10	9	9	
High Score/Percent	10/ 42.3%	10/ 55 %	9/ 34.6%	9/ 52.9%	9/ 38.5%	9/ 62.5	10/ 30.8%	10/ 44.4%	9/ 28.1	9/ 50%	
At/below 3 rd Level/%	23.1%	28.6%	34.6%	39.3%	38.5%	42.9	30.8%	35.7%	53.8	57.1%	
Mean	8.58	9.35	7.77	9	7.77	8.75	8.04	9.22	6.96	8.33	
Mean Difference		+.77		+1.23		+.98		+1.18		+1.37	
Standard Dev.	1.65	.813	2.2	.707	1.45	.578	2.01	.809	2.29	.718	
Valid N (listwise)	411										

Table 23
Ideal and High Ideal EPI constructs by in-residence

N=411		EPI Constructs									
Mean:	2.7	Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
Min.:	1	Max:	4	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Two years and under											
Frequency		43	36	43	29	43	32	43	33	43	30
Respondent Percent		16.2	13.5	16.2	10.9	16.2	12.0	16.2	12.4	16.2	11.3
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	2/10	8/10	0/10	8/10
Median		9	9	9	9	9	9	9	9	9	9
Mode		9	9	9	9	9	9	9	9	9	9
High Score/Percent		9:	9:	9:	9:	9:	9:	9,10:	9,10:	9:	9:
		41.9%	50%	48.8%	72.4%	37.2%	50%	32.6%	42.4%	39.5%	56.7%
At/below 3 rd Level/%		16.3%	21.7%	32.6%	37%	25.6%	30.4%	23.3%	28.3%	30.2%	34.8%
Mean		8.47	9.11	7.74	8.93	8.09	9.13	8.49	9.27	7.44	8.9
Mean Difference			+.64		+1.19		+1.04		+.78		+1.46
Standard Dev.		1.882	.708	2.19	.53	2.33	.707	1.75	.719	2.75	.662
Two to five years											
Frequency		66	55	66	46	65	50	66	46	66	29
Respondent Percent		24.8	20.7	24.8	17.3	24.4	18.8	24.8	17.3	24.8	10.9
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	2/10	8/10	0/10	8/10
Median		9	9	8	9	9	9	9	9	7	9
Mode		10	10	9	9	9	9	10	10	9	9
High Score/Percent		10:	10:	9:	9:	9:	9:	10:	10:	9:	9:
		39.4%	47.3%	36.4%	52.2%	44.6%	58%	31.8%	45.7%	25.8%	58.6%
At/below 3 rd Level/%		16.7%	19.1%	30.3%	32.4%	23.1%	26.5%	30.3%	32.4%	56.1%	57.4%
Mean		8.77	9.33	7.79	8.74	8.15	8.98	8.06	9.24	6.5	8.93
Mean Difference			+.56		+.95		+.83		+1.18		+2.43
Standard Dev.		1.65	.722	1.92	.648	1.83	.65	2.10	.794	2.76	.651
Five to 12 years											
Frequency		70	55	70	46	70	53	70	49	70	32
Respondent Percent		26.3	20.7	26.3	17.3	26.3	19.9	26.9	18.4	26.3	12.0
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10
Median		9	9	8	9	9	9	9	9	7	9
Mode		10	10	9	9	9	9	10	10	8	8
High Score/Percent		10:	10:	9:	9:	9:	9:	10:	10:	8:	8:
		34.3%	43.6%	37.9%	50%	34.3%	45.3%	28.6%	40.8%	20%	43.8%
At/below 3 rd Level/%		21.4%	22.5%	34.3%	35.2%	24.3%	25.4%	30%	31%	54.3%	54.9%
Mean		8.34	9.29	7.39	8.67	8.31	9.09	7.87	9.18	6.81	8.72
Mean Difference			+.95		+1.28		+.78		+1.31		+1.91
Standard Dev.		2.245	.712	2.34	.634	1.74	.741	2.42	.781	2.37	.729

Table 23
Ideal and High Ideal EPI constructs by in-residence, continued

N=411		EPI Constructs									
Mean:	2.7	Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
Min.:	1	Max:	4	Ideal	High	Ideal	High	Ideal	High	Ideal	High
13 to years and above											
Frequency	74	64	73	48	74	51	74	48	74	34	
Respondent Percent	27.8	24.1	27.4	18.0	27.8	19.2	27.8	18.0	27.8	12.8	
Minimum/Maximum	2/10	8/10	2/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10	
Median	9	10	8	9	8	9	9	9	9	7	9
Mode	10	10	9	9	9	9	10	10	9	9	
High Score/Percent	10:	10:	9:	9:	9:	9:	10:	10:	9:	9:	
	44.6%	51.6%	34.2%	52.1%	33.8%	49%	31.1%	47.9%	23%	50%	
At/below 3 rd Level/%	13.5%	21%	34.2%	40.7%	31.1%	37%	35.1%	40.7%	54.1%	58%	
Mean	8.88	9.36	7.78	8.77	7.74	8.92	7.8	9.29	6.26	8.56	
Mean Difference		+48		+99		+1.18		+1.49		+2.3	
Standard Dev.	1.5	.743	1.7	.66	2.21	.72	2.46	.771	2.6	.56	
Valid N (listwise)	266										

Table 24
Ideal and High Ideal EPI constructs by relocation

N=411		EPI Constructs									
Mean:	1.95	Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
Min: 1	Max.: 4	Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Never has relocated											
Frequency		124	105	123	89	124	95	124	87	123	69
Respondent Percent		41.8	35.4	41.4	30.0	41.8	32.0	41.8	29.3	41.4	23.2
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10
Median		9	9	8	9	9	9	9	9	8	9
Mode		10	10	9	9	9	9	9	9	9	9
High Score/Percent		10:	10:	9:	9:	9:	9:	9:	9:	9:	9:
		40.3%	47.6%	39.8%	55.1%	40.3%	52.6%	28.2%	40.2%	36.8%	47.8%
At/below 3 rd Level/%		15.3%	19.8%	27.6%	32.1%	23.4%	27.5%	29.8%	33.6%	43.9%	47.3%
Mean		8.8	9.34	8.0	8.8	8.23	9.0	8.0	9.2	7.0	8.7
Mean Difference			+.54		+.80		+.77		+1.2		+1.7
Standard Dev.		1.66	.71	1.76	.65	1.75	.692	2.15	.761	2.44	.653
One relocation											
Frequency		84	77	84	56	84	60	84	61	84	43
Respondent Percent		28.3	25.9	28.3	18.9	28.3	20.2	28.3	20.5	28.3	14.5
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	1/10	8/10	0/10	8/10
Median		9	9	8	9	9	9	9	9	8	9
Mode		10	10	9	9	9	9	9	9	9	9
High Score/Percent		10:	10:	9:	9:	9:	9:	9,10:	9,10:	9:	9:
		38.1%	41.6%	34.5%	51.8%	34.5%	48.3%	27.4%	37.7%	28.6%	55.8%
At/below 3 rd Level/%		8.3%	13.5%	33.3%	37.1%	28.6%	32.6%	27.4%	31.5%	48.8%	51.7%
Mean		8.88	9.23	7.62	8.73	8.07	9.15	8.06	9.13	6.69	8.7
Mean Difference			+.35		+1.11		+1.08		+1.07		+2.01
Standard Dev.		1.57	.742	2	.65	2.17	.709	2.11	.785	2.57	.6
Three four relocations											
Frequency		56	44	56	35	56	41	56	34	56	21
Respondent Percent		18.9	14.8	18.9	11.8	18.9	13.8	18.9	11.4	18.9	7.1
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10	0/10	8/10
Median		9	10	8	9	8.5	9	9	10	6	9
Mode		10	10	9	9	9	9	10	10	9	9
High Score/Percent		10:	10:	9:	9:	9:	9:	10:	10:	9:	9:
		48.2%	61.4%	39.3%	62.9%	35.9%	48.8%	32.1%	52.9%	17.9%	47.6%
At/below 3 rd Level/%		21.1%	25%	26.3%	30%	47.4%	50%	36.8%	40%	73.7%	75%
Mean		8.59	9.48	7.38	8.69	7.88	8.87	7.96	9.5	5.88	8.67
Mean Difference			+.89		+1.31		+.99		+1.54		+2.79
Standard Dev.		2.061	.731	2.25	.53	2.04	.714	2.29	.564	2.69	.65828

Table 24
Ideal and High Ideal EPI constructs by relocation

N=411		EPI Constructs									
Mean:	1.95	Physical Facility		Furniture & Equip.		Control		Culture		Amenities	
Min: 1	Max.: 4	Ideal	High	Ideal	High	Ideal	High	Ideal	High	Ideal	High
Five to eight relocations											
Frequency		19	15	19	14	19	10	19	12	19	5
Respondent Percent		6.4	5.1	6.4	4.7	6.4	3.4	6.4	4.0	6.4	1.7
Minimum/Maximum		0/10	8/10	0/10	8/10	0/10	8/10	2/10	8/10	0/10	8/10
Median		9	10	8	9	8	9	8	9	7	9
Mode		10	10	8	8	7	9	10	10	7	9
High Score/Percent		10:	10:	8:	8:	9:	9:	10:	10:	7:	9:
		42.1%	53.3%	31.6%	42.9%	31.6%	60%	26.3%	41.7%	31.6%	60%
At/below 3 rd Level/%		21.1%	25%	26.3%	30%	47.4%	50%	36.8%	40%	73.7%	75%
Mean		8.37	9.33	7.79	8.79	7.42	8.8	7.74	9.08	6.42	9.4
Mean Difference			+.96		+1.0		+1.38		+1.34		+2.98
Standard Dev.		2.43	.817	2.3	.802	2.19	.633	2.23	.9	2.65	.548
Valid N (listwise)		297									

Table 25
High Ideal EPI constructs by Ideal OSAS constructs

N=411 Mean:	S.D.2.00 4.6	EPI High Ideal Constructs				
		Physical Facility	Furniture & Equip.	Control	Culture	Amenities
Closed, 0-3.25 level						
N=310						
Frequency		57	42	40	44	28
Respondent Percent		18.4	13.5	12.9	14.2	9.0
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		10	9	9	9	9
Mode		10	9	9	10	9
High Score/Percent		10: 54.4%	9: 57.1%	9: 43.3%	10: 41.1%	9: 47.3%
At/below 3 rd Level (7) /%		27.8	46.8	22	31.5	49.3
Mean		9.42	8.71	9.13	9.32	8.8
Standard Dev.		.706	.596	.757	.74	.738
Closed, 3.26-4.5 level						
N=310						
Frequency		68	56	60	53	37
Respondent Percent		21.9	18.1	19.4	17.1	11.9
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		9	9	9	9	9
Mode		10	9	9	9	9
High Score/Percent		10: 48.5%	9: 55.4%	9: 46.7%	9: 39.6%	9: 48.6%
At/below 3 rd Level (7) /%		12.8	28.2	23.1	32.1	52.6
Mean		9.31	8.77	8.9	9.08	8.76
Standard Dev.		.758	.632	.73	.781	.683
Closed, 4.51-6.08 level						
N=310						
Frequency		67	54	59	58	42
Respondent Percent		21.6	17.4	19.0	18.7	13.5
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		9	9	9	9	9
Mode		9	9	9	10	9
High Score/Percent		9: 43.3%	9: 48.1%	9: 55.9%	10: 44.8%	9: 52.4%
At/below 3 rd Level (7) /%		15.2	31.6	25.3	26.6	46.8
Mean		9.21	8.74	9.07	9.31	8.57
Standard Dev.		.729	.678	.666	.706	.547
Closed, 6.09-10 level						
N=310						
Frequency		61	53	59	47	38
Respondent Percent		19.7	17.1	19.0	15.2	12.3
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		9	9	9	9	9
Mode		10	9	9	9	9
High Score/Percent		10: 41%	9: 67.9%	9: 50.8%	9: 44.7%	9: 65.8%
At/below 3 rd Level (7) /%		17.6	28.4	20.3	36.5	48.6
Mean		9.39	8.87	9.02	9.13	8.82
Standard Dev.		.665	.556	.707	.741	.563

Table 26

High Ideal EPI constructs by Ideal OSAS constructs

N=411 Mean:	S.D.1.78 8.05	EPI Constructs				
		Physical Facility	Furniture & Equip.	Control	Culture	Amenities
Open, 0 – 7.20 level						
N=318						
Frequency		61	43	52	44	29
Respondent Percent		19.2	13.5	16.4	13.8	9.1
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		10	9	9	9	9
Mode		10	9	9	9	9
High Score/Percent		10: 54.1%	9: 46.5%	9: 40.4%	9: 41.7%	9: 44.8%
At/below 3 rd Level (7) /%		23.8	46.3	35	55	63.7
Mean		9.3	8.84	9.14	8.97	8.79
Standard Dev.		.828	.722	.768	.774	.730
Open, 7.22 – 8.54 level						
N=318						
Frequency		65	49	55	54	33
Respondent Percent		20.4	15.4	17.3	17.0	10.4
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		9	9	9	9.5	9
Mode		10	9	9	10	8
High Score/Percent		10: 43.1%	9: 57.1%	9: 41.8%	10: 50%	8,9: 45.5%
At/below 3 rd Level (7) /%		13.3	34.7	26.7	28	56
Mean		9.26	8.74	8.82	9.37	8.64
Standard Dev.		.735	.605	.748	.708	.653
Open, 8.55 – 9.25 level						
N=318						
Frequency		72	59	64	65	49
Respondent Percent		22.6	18.6	20.1	20.4	15.4
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		9	9	9	9	9
Mode		9	9	9	10	9
High Score/Percent		9: 51.4%	9: 69.5%	9: 57.8%	10: 43.1%	9: 61.2%
At/below 3 rd Level (7) /%		20	34.4	28.9	27.8	45.5
Mean		9.3	8.9	9.17	9.28	8.7
Standard Dev.		.638	.548	.631	.718	.548
Open, 9.26 – 10 level						
N=318						
Frequency		58	54	52	51	35
Respondent Percent		18.2	17.0	16.4	16.0	11.0
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		10	9	9	9	9
Mode		10	9	9	10	9
High Score/Percent		10: 46.9%	9: 53.7%	9: 53.8%	10: 41.2%	9: 57.1%
At/below 3 rd Level (7) /%		20.5	26	28.8	30.1	52.1
Mean		9.47	8.61	8.92	9.20	8.80
Standard Dev.		.681	.564	.682	.775	.633

Table 27

High Ideal EPI constructs by Ideal OSAS constructs

N=411 Mean:	S.D.1.92 6.52	EPI Constructs				
		Physical Facility	Furniture & Equip.	Control	Culture	Amenities
Random, 0-5.25 level						
N=319						
Frequency		62	45	49	37	27
Respondent Percent		19.4	14.1	15.4	11.6	8.5
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		10	9	9	9	9
Mode		10	8	9	10	9
High Score/Percent		10: 54.8%	8: 44.4%	9: 44.4%	10: 48.6%	9: 44.4%
At/below 3 rd Level/%		26.2	46.4	41.7	56	67.9
Mean		9.37	8.71	9.06	9.27	8.74
Standard Dev.		.773	.727	.747	.805	.712
Random, 5.26-6.98 level						
N=319						
Frequency		64	50	56	53	39
Respondent Percent		20.1	15.7	17.6	16.6	12.2
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		10	9	9	9	9
Mode		10	9	9	9	9
High Score/Percent		10: 56.3%	9: 60%	9: 44.6%	9: 50.9%	9: 51.3%
At/below 3 rd Level (%)		16.9	35.1	27.3	31.2	44.4
Mean		9.39	8.72	8.98	9.11	8.77
Standard Dev.		.769	.573	.751	.698	.667
Random, 6.99-7.88 level						
N=319						
Frequency		71	58	63	59	43
Respondent Percent		22.3	18.2	19.7	18.5	13.5
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		9	9	9	9	9
Mode		9	9	9	10	8
High Score/Percent		9: 43.7%	9: 53.4%	9: 60.3%	10: 45.8%	8,9: 46.5%
At/below 3 rd Level (%)		11.3	27.5	21.3	26.3	46.3
Mean		9.28	8.78	8.89	9.27	8.65
Standard Dev.		.755	.554	.787	.773	.659
Random, 7.89-10 level						
N=319						
Frequency		61	55	57	60	40
Respondent Percent		19.1	17.2	17.9	18.8	12.5
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		9	9	9	9	9
Mode		9	9	9	10	9
High Score/Percent		9: 50.8%	9: 70.9%	9: 45.6%	10: 41.7%	9: 70%
At/below 3 rd Level (%)		21.8	29.5	26.9	23.1	48.7
Mean		9.23	8.86	9.12	9.22	8.85
Standard Dev.		.668	.524	.734	.761	.535

Table 28

High Ideal EPI constructs by Ideal OSAS constructs

N=411 Mean:	S.D. 2.02 3.41	EPI Constructs				
		Physical Facility	Furniture & Equip.	Control	Culture	Amenities
Synchronous, 0-2.10 level						
N=311						
Frequency		65	49	46	50	33
Respondent Percent		20.9	15.8	14.8	16.1	10.6
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		10	9	9	9	9
Mode		10	9	9	9	9
High Score/Percent		10: 53.8%	9: 61.2%	9: 58.2%	10: 44%	8: 42.4%
At/below 3 rd Level (7) /%		18.8	38.8	42.5	37.5	58.8
Mean		9.42	8.74	9.13	9.3	8.67
Standard Dev.		.705	.569	.687	.707	.646
Synchronous, 2.11-3.25 level						
N=311						
Frequency		63	46	53	46	34
Respondent Percent		20.3	14.8	17.0	14.8	10.9
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		9	9	9	9	9
Mode		10	9	9	9	9
High Score/Percent		10: 47.6%	9: 52.2%	9: 43.4%	9,10: 39.1%	9: 4.1%
At/below 3 rd Level (7) /%		17.1	39.5	30.3	39.5	55.3
Mean		9.32	8.83	8.96	9.17	8.74
Standard Dev.		.737	.677	.759	.769	.710
Synchronous, 3.26-4.75 level						
N=311						
Frequency		67	56	62	56	37
Respondent Percent		21.5	18.0	19.9	18.0	11.9
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		10	9	9	9	9
Mode		10	9	9	10	9
High Score/Percent		10: 52.2%	9: 58.9%	9: 53.2%	10: 42.9%	9: 62.2%
At/below 3 rd Level (7) /%		15.2	29.1	21.5	29.1	53.2
Mean		9.37	8.73	8.83	9.18	8.68
Standard Dev.		.735	.588	.666	.811	.530
Synchronous, 4.76-10 level						
N=311						
Frequency		58	52	57	50	39
Respondent Percent		18.6	16.7	18.3	16.1	12.5
Minimum/Maximum		8/10	8/10	8/10	8/10	8/10
Median		9	9	9	9	9
Mode		9	9	9	9	9
High Score/Percent		9: 46.6%	9: 51.9%	9: 49.1%	9: 46%	9: 51.3%
At/below 3 rd Level (7) /%		23.7	31.6	25	34.2	48.7
Mean		9.19	8.79	9.16	9.18	8.77
Standard Dev.		.712	.667	.702	.720	.667

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Since leaving a full-time interior design practice spanning over 30 years in order to complete her academic pursuits, Natalie is poised to provide a unique contribution by combining design practice alongside higher education & research with an emphasis in organizational analysis, for the University of Oklahoma's College of Architecture as an assistant professor for the Division of Interior Design. Her most recent full-time employment was with SAIC, where she contributed toward national and international military and private sector clients with interior design, construction management, and LEED services. As demonstration to the importance of practice, Natalie continues to work as an independent consultant for energy management strategic planning for local projects. Natalie earned her Bachelor of Science in Environmental Design (Interior Design) from the University of Missouri in 1995 along with a Bachelor of Science in Elementary Education from Missouri State University in 1982.