Moving Home to College:

Socio-Physical Factors in Creating 'Home' in Temporary Environments

By

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Abstract

Intentionally temporary housing environments, like student housing, where residents know they will settle for a short period may lack the social and physical factors that inspire a sense of home and community. Yet, these environments compete with traditional housing options to retain residents and therefore, universities want to create housing that makes students feel at home and bond with their fellow students and their eventual alma maters. Therefore, student housing should include design qualities that inspire home and community. This research asks how do the social, psychological, and physical structures of a temporary living environment create a sense of 'home?' It utilizes qualitative methods based on research by Toby Israel and Clare Cooper Marcus to probe the social and physical connections that enable a user to transform a temporary space into a home. This study analyzes these connections in temporary living environments, a residence hall and two scholarship halls on the campus of the University of Kansas, Lawrence, Kansas, as a way to develop principles that will result in high-quality design for temporary living environments. The study tests the viability of using the *charrette* method to uncover a participant's past living experiences as a way to improve resident satisfaction in temporary environments. Methods used in this study adapt a series of five focus-group activities combined with follow-up interviews and observations of the student-housing environment to investigate the social and physical factors that inspire students to create 'home' in the residence hall and the scholarship halls. Four major themes developed through this study address the social-physical connection in the environment: choice and control; flexibility and adaptability; comfort and well-being; and community. These themes suggest a set of basic design principles

that respond to the social development of college-aged residents and the physical requirements for successful student spaces. The principles encourage the incorporation of smaller, clustered residential communities to improve identity and community, the use of adaptable furnishings, and the incorporation of 'third places' for socialization. This study contributes to the field of student housing in two major ways. First, it proves that scale matters; it sets forth design principles for temporary environments that emphasize the importance of social and physical scale in the living environment and second, it highlights the viability of a design process to develop ongoing design practice in the field of student housing. Student housing officials may use the results of this study to evaluate housing policies and set agendas for future construction projects.

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This is dedicated to Mike for taking this wild left turn with me and for his dedication to turning me into a Jayhawk.

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Chapter One: Introduction

Everyone deserves a place to call home, whether it is for a night, a school year, or a lifetime, and the environments designed for living should inspire a person to feel comfortable and at ease. The creation of a home environment depends on users making connections between their social and psychological comfort and the physical environment. When people make connections among the social, psychological, and physical influences in their environment, they develop a sense of home and community. Through a survey of literature and housing environments, I define the context in which to understand the concepts of home and community. As I explore the dynamics between claiming and adapting territory and a user's social interactions in an environment, I identify characteristics in the environment that help create a community of people and a safe and secure place imbued with identity. Looking specifically at intentionally temporary housing types, this study examines the uses of space, the development of community, and the customization strategies used by residents in university housing to adapt a space into a place that meets their specific needs and satisfies their sense of home. It explores the effects of these dynamics in university housing and proposes design principles to inspire a sense of home for people who will not permanently settle, who intend to stay only for a while, but who must feel confident and secure in the place they live.

The research question in context

      The research question asks, how do the social, psychological, and physical structures of a temporary living environment create a sense of 'home?' Using the research paradigms of Clare Cooper Marcus and Toby Israel in their studies of home environs idealized by their inhabitants, this research employs similar qualitative methods to probe the social and physical connections that enable a user to transform a space into a home. It moves earlier research forward to analyze these connections in a temporary living environment in an attempt to create principles for developing high-quality designs.
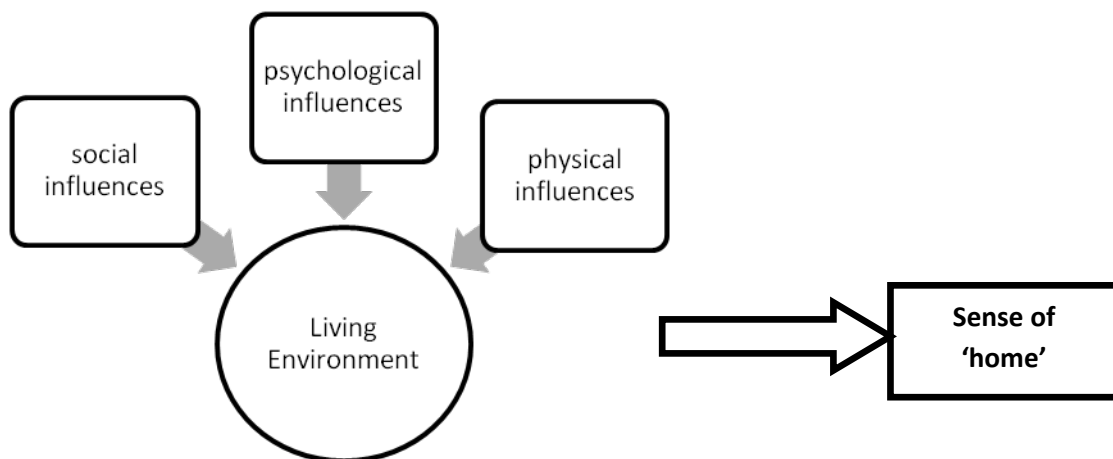
1-0-1: Three primary structures influence the user's physical living environment attributing to the sense of home and belonging.

      The sense of 'home' and more generally, 'belonging' are socially constructed perceptions of the spaces we inhabit. The social aspects of space can be difficult to measure. Designers need to understand how users physically and psychologically conceive of space based on the influence of their own previous experiences with living spaces and creating homes. These experiences

begin to define their sense of a social and psychological living environment. A designer who recognizes how people mark personal space and personal territory will have insight into the social and physical extent to which subjects perceive their place in an environment. A person's comprehension of what it means to own space and have personal territory weaves a web of social, psychological, and physical influences that illustrate his or her specific place in the living environment, as well as his or her relationship to others in that same environment. This web creates a socially constructed definition of space. The concept of previous living experiences appears to have the most marked impact on the relationship between the physical environment and the social/ psychological sense of belonging within it (Israel 2003; Marcus 1995; Sixsmith 1986; Vinsel, et al 1980).

When studying the relationships between the built environment and the user, researchers in the field of Environment-Behavior Studies have focused on the definition of space and territory to create an ideal and lasting 'home.' This research is based in environments designed to be permanently fixed in the user's life: the productive work environment, the ideal home environment, or a companionable neighborhood. Few studies have examined this phenomenon in terms of temporary living environments, designed intentionally as impermanent housing for 'right now.' Yet, most individuals experience periods in life when they may have suitable housing   but do not intend to stay there indefinitely. From the college dormitory to assisted living, from single-room occupancy shelters to emergency-response facilities, these types of environments are widening the scope of housing choices and thus reshaping the meaning of the 'ideal' home. Is it fair to assume temporary living situations cannot be a 'home?' Objectives of this research are to investigate and understand the social, psychological, and physical structures

of temporary living environments and how they work together to create a sense of home. In addition to the primary research question, I measure the extent that a person's experience in previous dwellings contributes to his or her satisfaction with a temporary living environment. How can the designer imbue a temporary housing environment, such as a residence hall in which residents often have little to no choice in neighbors, location, and space, with the qualities that will inspire a sense of belonging and home?

Conceptual framework and research agenda

A pragmatic research agenda engages in problem-solving and real-world applicability to seek out serious answers to difficult problems. In a competitive market to retain students and provide top-notch education, American colleges and universities attempt to extract the greatest value from their design /construction budgets. Knowledge backed with research plays key roles in a field in which practitioners such as university housing officials see academe as both the customer and the service provider. Therefore, research strategies behind this new knowledge must incorporate broad-based tactics triangulated to verify quality findings. A qualitative approach to this particular study aims to provide a sociological picture of the 'client' for temporary housing. It looks particularly at the characteristics of the residents of student housing and their opinions about their living situation. This study generates ideas to understand and interpret the connection between the person and the space. The principles derived from my findings offer key insights into design and planning for living environments like the residence hall.

While the concept of 'home' is a social and psychological construct, the physical demonstration of characteristics attributed to the sense of home plays out in a living environment. Therefore, qualitative investigation is ideally suited to understand the connections between the social and physical structures at work. Evaluation of the environment as well as the social habits of the resident may uncover key attributes to understanding the sense of home. Observation and evaluation of both the actual physical environment and the users are required in order to uncover the meaning behind the satisfaction of the residents. The research methodology used in this study consists of three parts: a design *charrette*[1] (focus group), observation and evaluation, and interviews.

The use of qualitative methods enhances my ability to understand the social and psychological components of the living environment available for analysis beyond the physical observations of the building evaluation itself. This study uses the concept of the design *charrette* to engage focus groups in a series of five experimental exercises designed to elicit information regarding previous, current, and ideal living environments. From these focus groups, in-depth interviews and observations of participants in their living spaces bring to the forefront their daily use of and transformation of space, opportunities for social interactions, and their psychological sense of place. The unique knowledge presented in this research is recasting the environment in which similar studies occur, like those of Marcus and Israel. The informants in this study know

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[1] From Old French meaning 'cart' or 'wagon' it commonly refers to a group or joint effort to collaborate on a design project. Dating back to Paris in the 19th century at the *Ecole de Beaux-Arts* where the term became a symbol as a manner to bring together diverse ideas on a single subject. In the architecture and planning professions, charrette often describes a facilitated group visioning process that is completed quickly (Dictionary.com 2012 and Institute 2001-2010).

these homes are temporary, and how they adapt to that knowledge and transform the environment is at the root of this investigation.

Cooper Marcus set up the conceptual framework to use self-actualizing processes to develop the relationship between self and home; Israel translates this into a planning activity. This study tests these ideas in a new dimension: home as it correlates to permanency. To get at this knowledge, the methods remain rooted in the paradigms of Cooper Marcus and Israel, using the approach that informants become like 'co-researchers' to explore the deeper meaning behind the communication used to orally describe, visually evoke, or physically manifest home in the environment (Marcus 1995). The difference is the environment itself: a university residence, where there is no opportunity for permanency. The inquiry strategies make use of Israel's Design Psychology toolbox and Cooper Marcus's situational communication, which is talking to the informants within the situation of their living environments, to triangulate the meanings used by each informant to describe, evoke, and manifest home. Given the age and experience of this study's informants (university's undergraduate students), Jungian archetypes have less value here than the Cooper Marcus study that used informants further advanced in life experience. However, her conclusions of the emotional connection to environments based in these archetypes are useful. For example, the idea that in childhood we develop hiding places to express physically the ego-self and then as adults recreate these places to enforce our personality correlates to the use of illicit spaces by young adults to reinforce social relationships (Chickering and Reisser 1993; Kastenbaum 1984; Marcus 1995; Strange and Banning 2001). More pointedly, the claiming of semi-private or public spaces for private activity can be perceived like a childhood hiding place: to explore the ego-self and identify that aspect of a personality that may

otherwise not physically express itself through common interaction. Thus, an activity such as creating a mental map or visualizing an ideal environment gives definition to and actualizes these illicit spaces. Through in-situ interviewing, the informant provides deeper meanings behind these spaces and their connection to the self. Conducting these exercises and interviews to the point of data saturation alludes to basic principles for the creation of spaces where informants have the ability to act out this childhood hiding place without the complication of truly generating illicit activity. These guidelines are the basis of advancing knowledge in the fields of planning and design. If like Israel, this study validates the toolbox in a new environment, it has a two-fold benefit for our knowledge base. First, it generalizes the toolbox into multiple environments, thus further validating Israel's concept of Design Psychology and the 'rigor' of her methods. Second, it generates a basic set of principles for living environments, specifically student housing but perhaps more generally congregate housing and emergency facilities, to facilitate the sense of home for those not intending to dwell there permanently. The value in this study is in the generation of principles to understand which environments produce the greatest sense of home and how environments may be adapted to produce the same effect. Israel developed a toolbox for designers, and this study could assist in the creation of building components for people designing congregate living environments.

A common method of evaluating buildings and environments in terms of function and facility is the post-occupancy evaluation (POE). As Sim Van der Ryn pointed out in his study of student housing at Berkeley, a study must go beyond the functional aspects of housing and look at the qualitative aspects (Van der Ryn and Silverstein 1967). Building evaluations allow the researcher to align human use with the architectural program, to understand and extrapolate not

only the effect of lighting and noise, but also the effect of the built environment on the psyche. In the Berkeley study, Van der Ryn and his team noted for the first time researchers could credibly use the evaluation study to provide "organized information for the designer and [reduce] the realm of uncertainty in which he works," (Van der Ryn and Silverstein 1967). The post-occupancy evaluation as a method of research, investigates both quantitative and qualitative factors to account for behaviors. In fact, the POE increasingly became a favored method to understand socializing behaviors and territoriality within environments (Preiser 1989). In student housing, Van der Ryn and Silverstein's analysis of housing at Berkeley has been the primary study of this sort. Few other POE studies of student housing have met the breadth and depth of theirs and since that time, a majority of studies involving student housing refer to it as a guide. Work environments often benefit from the POE analysis method because the findings usually result in solutions to environmental and functional problems (Preiser, Rabinowitz and White 1988). However, where work environments are apt to have technical and functional issues, living environments often present a greater breadth of behavioral issues (Cooper 1975). The POE is a tool for practicing designers, and although it has utility in academic research, strictly speaking it is functional and not inquisitive (Preiser 1989). To incorporate the inquisitive nature of academic research into the post-occupancy evaluation would confuse the idea of the practitioner's tool. Therefore, this study uses the more generalized concept of building observation and evaluation as opposed to a strict POE. While the intent is similar to that of a post-occupancy evaluation, the findings focus on the behavioral aspects of the building and not on the technical issues, like air quality and building material durability.

Significance of the study

The results of this study provide design principles to make university housing competitive and current. The generalizing concepts of this study have the potential to address the difficulty of creating home and community in problem areas: temporary housing, such as health-care facilities, transitional housing, hotels, and other educational housing, as well as choice-less housing, like military and emergency personnel barracks. The ultimate product following this study could culminate in a model for the effective design and planning of living environments that create a sense of lasting home. The ultimate outcome of this study is a test of design processes like Cooper Marcus and Israel's in a different research setting, which validates their research paradigms and provides additional mechanisms to understand the design process for all living environments.

The design principles generated by this study address the importance of designing for social, psychological, and physical satisfaction with the environment. Design principles for sociability focus on the spaces necessary to increase opportunities for happiness and social interaction. They focus on the development of a cultural reference group, whereby an individual can easily identify people who belong in the environment with them and people who do not. This reference group is vital to positive social interaction and a sense of security in any environment. The principles to support psychological well-being draw out the elements of design that build identity, create calm, and put residents at ease in the environment. The use of these types of design ideas promotes specific types of behaviors that coincide with the psychological profile of

well-adapted individuals and healthy environments. Principles to create a good physical environment discuss the adaptability of physical features and artifacts within a space as they connect back to both the social and psychological influences in the environment. In sum, these principles outline the creation of spaces that are adaptable and put the user in a familiar and comfortable environment. Spaces should enrich the sense of community. Spaces should allow opportunities to create a sense of identity. Space should be flexible and create choices for participation in a community. Finally, a key ingredient in a successful 'home' is allowing the perception of choice in how we use and transform space.

These principles do not prescribe a specific environment, but attempt to shape the spaces that speak of the vital importance among the social, psychological, and physical influences surrounding a successful student living environment. The idea of letting buildings speak to us or more accurately, listen to what buildings say incorporates the use of sociological and psychological research within design. While philosophers postulate on how a conversation may evolve between our environment and us largely for the sake of discovery, in reality the discourse between building and user proves to be an important step toward better design, effective planning, and insight into the social well-being of users.

Chapter Two: Theoretical Issues

Sociological reasons for good environments

Environments are socially constructed (Urry 1985). As such, the connection between our social and physical environments is a dynamic starting point to understand the best way to design a home. The sense of home in an environment is as much about a person's feelings of ease and security as the construction of the physical environment (Altman and Werner 1985). Living in a place that is not a real home can disturb our psyche, influence the relationships we have with others, and affect our own emotional well-being (Marcus 1995). In order to recommend a manner of design that evokes home and community, it becomes essential to understand the sociological, psychological, and physical structures of the environment and how these connections interplay in the creation of an ideal environment, regardless of the time spent there or the people who live in it.

To understand satisfaction, define dissatisfaction; to understand community, define isolation. Social theorist Emile Durkheim wrote in the nineteenth century about two ideas central to the study of community and environments: social detachment and social solidarity. In his treatise *Suicide,* Durkheim refers to social detachment as *anomie* defining it as a state where there is an absence of societal norms that define the reasons for interaction and limit desire and ambition (Durkheim 1951). He bases the cause of these disenchantments on economic and psychosocial pressures. At the time he studied this issue, housing was challenging enough to come by, but good housing was an ideal only afforded by the wealthiest. Durkheim's narrative on economics parallels a reality that many young adults face in choosing a place to live during

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their post-secondary education: a lack of choice and options that are affordable. Many students choose university student housing because of the limited number of affordable options and easily become disenchanted with the social and physical environment. It is not to say that all student-housing residents fall victim to anomie; but the sociological conditions Durkheim attributes to anomie are rife within the age group of the typical student population. Away from their childhood community for the first time, students must actively seek a new community and have few other avenues to do so. Generally, they first find reference to a social group where they live. In this unfamiliar environment, new residents may not readily understand the societal norms; this may hinder their interaction in the community. A lack of regular social interaction can lead to social depression, which in turn leads to the loss of community that is needed to establish a set of social norms. For new residents in an environment, these social norms reinforce the residents' presence in the environment. Creating environments that readily promote community and providing spaces for common and casual interactions counter the likelihood of social isolation and anomie among people.

In *Suicide,* Durkheim emphasizes that a person's well-being is not merely dependent upon biological fitness but also requires social fitness and the ability to exercise one's position within society. This idea is central to the concept of building community and creating community-oriented environments. Environments like student housing, cooperative housing, and other community-oriented spaces attempt to cater to a person's social fitness by providing community through social interaction. In essence, it provides a sense of social solidarity. Educational and academic programs are preferred methods of promoting social solidarity in student housing. However, understanding the connection between social fitness and

environmental satisfaction is crucial to the development of community-oriented spaces and environments that promote stronger social solidarity than programming alone. In his discussion on Durkheim, Mark Cladis (2005) supposes that Durkheim, like Martin Luther King, Jr., would agree that as social diversity and the need for social justice increases, so does the need for a vigorous, but appropriate form of solidarity. Durkheim argues that solidarity is a source of morality in community (Durkheim 2001). There is a long history of student activism referencing societal issues, but in a community-scaled fashion, students within the housing environment have multiple opportunities to form solidarity through sports, committees, social interest organizations, and academic interests. This solidarity generates societal norms within the residence hall around which the community forms. Within the individual residence hall, solidarity translates into a tighter sense of community, especially where solidarity revolves around common goals and interests.

The significance of the questions asked in this study extends beyond those who study design because it offers a clue to the wider sociology of communities. In the same manner that we use the historical study of tribes and primitive villages to draw lessons about how to understand the characteristics of today's society, we can use the study of student housing to understand the conditions for creating community within other types of temporary environments through design. This comprehension can lead to lessons for better community organization and better design to facilitate social interactions and personal success. Social connection is a key ingredient to a healthy student community. Healthy student communities produce a stronger society, higher academic confidence, and more philanthropic alumni.

Definable measures

To understand the setting and intent of this research, I use definable measures of social, psychological, and physical influences on the living environment to establish and link to the concepts of belonging and home (see Figure 1-0-1). Environments that create a sense of belonging play into the ethos of human behavior by promoting a sense of personal territory and ownership which are identifiable and measureable (Abu-Ghazzeh 2000; Al-Homoud and Tassinary 2004; Altman and Chemers 1980; Brower 1980). Territory is often expressed in terms of binary oppositions: *mine* or *yours; personal* or *collective.* The binary terms confirm that boundaries exist to relate the importance of spaces (Altman and Gauvain 1981). Under Altman's definition, a primary territory is "mine" and a secondary territory is "ours." The way that residents reflect on this binary may provide a useful measure of territorial meaning in understanding the nature of cooperative living. In their research, Billig and Churchman find that the ease with which these distinctions could be made translates to greater comfort and identity amongst disparate cultural and socioeconomic groups in housing (Billig and Churchman 2003).

Judith Sixsmith also seeks to understand the meaning and definition of territory as home. She finds that humans categorize home [territory] in three ways: physical, social, and psychological (Sixsmith 1986). She acknowledges the idea of home as a physical territory, a space to be defended and personalized, but goes further to establish home as a social entity and the meaning of home as a sense of place. Finally, Sixsmith discusses the idea of the psychological home, or a perception of territory. To relate this idea to student housing, the room would be the physical home, the members of the hall would be the social home, and the perception of acceptance within the hall community would be the psychological home.

Most studies of territoriality and living environments use the expectation of long-term use to justify findings; however, the physical manifestations of territory appear in temporary living situations to identify a sense of ownership, even though it could be perceived ownership versus actual ownership. Tawfiq Abu-Ghazzeh (1995) identifies six physical markers of ownership (real or assumed) displayed within the landscape, which he tested across multiple types of living environments and cultural situations. These markers include constructed boundary mechanisms, such as fences and walls; presence of personalized artifacts at the front entry, such as potted plants and statuary; the amount of furniture in outside spaces adjoining the residence; proportion of the grounds landscaped; sidewalk personalization and maintenance; and the condition of territorially marked house grounds. By understanding the meaning of each physical marker and the impetus behind using these types of territory-claiming tactics in permanent living situations, one sees that these are translatable to other environments, much in the same way these particular markings have been discovered based on animal and human behavioral studies (Abu-Ghazzeh 1995). At the essence of these markers is their ability to (1) define space; (2) personalize and claim ownership of space; (3) create a transition or buffer around primary personal space; and (4) maintain defense and control over space (Abu-Ghazzeh 1995, 2000; Al-Homoud and Tassinary 2004; Altman and Chemers 1980; Altman and Werner 1985; Newman 1972). This deeper meaning behind Abu-Ghazzeh's findings should be discernible in most living environments.

A central theme that seems relevant cross-culturally is the idea that housing is important to communicate identity and social status. Abu-Ghazzeh (2000) used multi-family housing to illustrate his point. The ability of the resident to modify and decorate spaces, particularly exterior

entries and their adjacent space heightened the sense of social contact and personal identity. The studies of Sixsmith (1986), Altman and Gauvain (1981), and Rapoport (1982) substantiate the idea that identity is manifest in housing within many cultures. Sanjoy and Shampa Mazumdar (1997) have studied the use of architecture and decorations to identify not only the culture, but also the relative status of minorities who may otherwise not be noticeable to the conquering majority. In a study of the Zoroastrian minority in Iran, the Mazumdars found that in a situation where the government forbids the public practice of their religion, adherents enact socio-religious relationships through house and neighborhood design. Zoroastrians repurpose architectural features within the home for shrines and sacrificial spaces (Mazumdar and Mazumdar 1997). The presence of these features act to preserve their cultural identity and stand as a symbol of resistance against a majority regime that has literally outlawed any public indication of religion other than Islam. As with a similar study of engendered uses of privacy in households, the Mazumdars used an evaluation of a space and buildings in addition to a study of the users to understand the social and cultural underpinnings of an environment (Mazumdar and Mazumdar 2001). Like a study of student housing, these studies examine the user and environment as an intertwined web of influences studied in tandem to look at how the culturally relevant clues give way to understand how a user reflects identity and home in transformed space. Whereas Abu-Ghazzeh primarily discusses the stylistic modification of space, the Mazumdars found specific building forms that echoed the user's standing within the community (Mazumdar and Mazumdar 1997).

Durkheim posits in the *Elementary Forms of Religious Life* that society is dependent on a sense of the sacred; it motivates members of the society to act within the collective norms of the

order (Durkheim 2001). His theory identifies events and actions that breed group solidarity and power. Durkheim specifically calls out the ritual effervescence that permeates a group, giving individuals the collective power of the larger group. The act of being part of such a group raises the moral threshold, compelling the individual to uphold the standards of the group and act accordingly. People who develop a sense of community with their environment make an active investment in it leading to better maintenance of the spaces, a sense of pride, and in the long-term, a better sense of well-being (Abu-Ghazzeh 1997; Altman 1975; Marcus 1995). Not only will residents take better care of an environment they feel at home in, but also the sense of belonging within that home environment has the affect of taking better care of the residents.

Social relations within a civil society revolve generally around the idea that people tend to group with those who share characteristics like race, gender, education, or lifestyle to generate a sense of community (Urry 1985). A person's sense of his or her environment and the ideas that begin to develop a sense of community and belonging are based within the rituals and symbols expressed by these social relations (Altman 1975; Rapoport 1982). Personal territory is considered as a symbolic definition of space, and therefore, space as conceived by a person is inherently social (Altman and Chemers 1980; Sayer 1985; Urry 1985). Thus, in terms of understanding the concepts of 'space' and 'belonging,' it can be understood that these are socially constructed realities. Within the Chicago School of Sociology, a well-developed body of research concludes that connections among space, territoriality, and belonging reflect a person's situation in urban life (Park 1915, Suttles 1972; Wirth 1928), non-urban environs (Urry 1985) and finally structures (Gregory and Urry 1985). While Sayer argues the study of territorial relationships is difficult because it is not a finite 'object' to study, later research in the

territoriality of housing suggests methods of investigation using markings (Abu-Ghazzeh 2000; Altman and Gauvain 1981; Sayer 1985). In fact, Suttles in his updated examination of Wirth's Chicago ghetto communities indicates a strong connection between the psychological realm of 'community' and the physical marking of territory by both residents of a defined community—in his case a gang-- and outsiders to that community (Suttles 1972). Through the creation of this reference system, as first Wirth and later Suttles explains, this inherent sense of community clearly establishes a binary system of 'us' versus 'them' which facilitates the distinction between community members and non-members, but also establishes a process by which outsiders may join the community (Suttles 1972; Wirth 1928). This process is imperative to its longevity and recognition of the community as organized and established. Jorgensen points out that this binary system helps ensure cultural stability amid competing influences (Jorgensen 2010). Within cultural groups, this binary sense of belonging creates a reference group to define those in and out of the community perpetuating a distinct identity (see Figure 2-0-1).
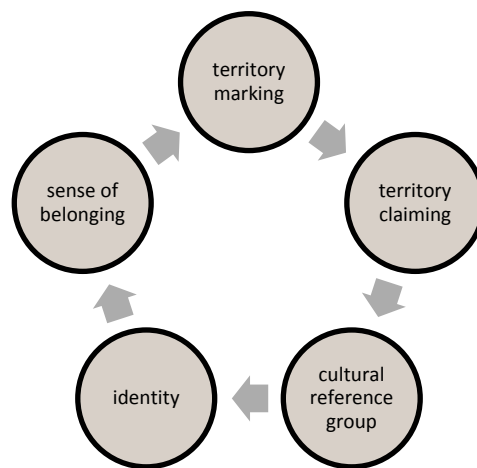
2-0-1: Territorial markings may lead to cultural reference groups, which emerge with identities that initiate a sense of belonging with the marked environment that may in turn lead to continued territorial marking and claiming, thus perpetuating the cycle of identity and reference.

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Investigating the environment and user

Clare Cooper Marcus begins her reflective study of home by citing what she refers to as an overlooked premise: as people mature, their psychological development is affected by relationships not only with other people, but also with physical environments (Marcus 1995). Emotional ties to significant places provide a backdrop to the ideal sense of home and affect the way people adapt and situate their self-identity in new environments (Chickering and Reisser 1993, Israel 2003; Marcus 1995). From her viewpoint as a sociologist and planner, Marcus argues that research has looked intently at the environment and at the user, but few have adequately studied the dimension of that relationship through the lens of previous living experience. In her research, Marcus argues that artifacts moved from environment to environment along with the user display greater aspects of self-identity than the physical fabric of the environment itself (Marcus 1995). These vestiges of "life experiences" create a type of psychological blanket that can add to a sense of belonging for an individual in any environment and therefore, the idea of using these artifacts have meaning in temporary as well as permanent living environments. In her study of the Easter Hill Village government-funded housing in Richmond, California, Marcus discusses the need to create identity in a series of buildings that look identical even to the insider. Through an exploration of their sense of place, the children in the community could readily note the inconsistencies and unique quirks of a place as 'theirs'. A slightly leaning chimney, a loose shutter, or dead landscaping became iconic references in the mind of a child where few other qualities distinguished the buildings (Cooper 1975). Marcus notes that identity in the building itself becomes critical to establishing a relationship between

the resident and the place. Likewise, in other environments, residents will hold onto the image or perception of uniqueness to claim an environment as a place to which they are attached.

Nearly a decade after Marcus published *House as Mirror of Self* design researcher Toby Israel used a similar argument to justify the development of her "Design Psychology Toolbox" to identify specific artifacts or living experiences from a person's past that may influence his or her ideal home environment (Israel 2003). The point of her toolbox is to generate a discussion between designer and client on how the physical memories of the past, valued artifacts of the past and present, and visualized ideal spaces may translate into the design of new spaces that ideally suit the client's need for 'the perfect home.' Like Marcus, Israel mostly focused on the need of a fixed or permanent environment. Marcus followed her subjects as they conceptualized ideal spaces and then sought out new environments to satisfy their concept (Marcus 1995). Informants were asked to draw pictures and annotate feelings about their home. In-depth interviews drew out emotional responses, life experiences, and the connections to their physical environment. Israel, on her own personal discovery of the ideal home, used her research to generalize the design process for altering or constructing new client spaces as well as her personal living environment (Israel 2003). Similar to the use of cognitive mapping to instruct a person's sense of place, the design psychology toolbox draws indications of how a person feels the emotional sense of home in a living environment. Israel developed a five-step process for the toolbox, which involves nine separate activities completed by the clients and facilitated by the designer. In step one; the goal is to explore the client's past history and experience with creating a place to live. Participants complete a Place Timeline where the facilitator/ designer guides a participant to categorize previous living environments by age, then to articulate the qualities of

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their favorite environment. When evaluated collectively, responses create a 'Whole-Place Chart' that can be assessed against design goals to epitomize the type of environment desired. In step two, the designer leads the client to associate 'high' and 'positive' feelings with past places. They develop a family tree with associated living places, creating a type of hierarchical place tree. This activity requires a high degree of innovation and free thinking to identify a highly desirable design. The third step is to identify functional needs and the ideal design. The client draws a mental map of their place and then is given a functional needs pyramid to rate basic ideas about security, aesthetics, and identity. In step four, the pyramid continues to be useful as the individual and collective group visualize ideal places, identify specific cultural tastes, and conceive of public and private spaces. Again, the pyramid is used in both existing and visualized places to identify how these places meet their functional needs. In the last step, the designer uses the exercises to translate the ideal vision into a functional design (Israel 2003).

Both projects assume the ideal place is a lasting home, but there are arguably environments that need to project the ideal of home in order to satisfy the social and psychological needs of a user that are not intended to be lasting homes. These include the types of environments that are intentionally not permanent housing situations; planned for a finite stay, and not designed with an individual 'ideal' in mind. A primary example is the university residence hall.

The university student in housing

Chickering and Reisser's publication *Education and Identity* is considered by the education field to be a standard benchmark of knowledge, despite the fact that the research it (and subsequent editions) is based upon pre-dates the lifetime of most college students today (Chickering and Reisser 1993). The guidelines included in the study generate the basic design of most residence halls existing throughout American college campuses (Strange and Banning 2001). Educational psychologists contend that college-aged students may experience greater personal satisfaction, growth, and academic achievement if they reside on campus during the first year of study (Chickering and Reisser 1993; Heilweil 1973). College-aged students who reside on campus for at least the first two years of their education self-report greater academic and social satisfaction and have higher retention rates and academic standing (Chickering and Reisser 1993).

Research on college housing has looked closely at the relationships among location (i.e., on-or-off campus proper), room design (double-loaded corridor, suite-style, or apartment style), and amenities and correlated it with student satisfaction, retention and academic performance. Starting with early studies in the 1960s through the most recent design research published in this decade, the primary interest in residence halls is divided between, on the one hand, academic performance and retention and, on the other, innovative design to increase the market share in a business-type model (Strange and Banning 2001). Few of these studies have drawn on the type of research Marcus and Israel used to discuss the sense of belonging and home, which capitalizes on both the user's satisfaction and personal growth. Gregory Blimling (1993a) has published widely on the impacts of residence-hall living and academic achievement, concluding that while

on-campus living has little direct influence on academic performance, it has noticeable effect on

personal growth/ maturity, social well-being, and the level of satisfaction with the college

experience. Chickering and Reisser (1993, p. 45) use a set of seven key sequential benchmarks to

chart personal growth and self-identity in college-aged students:

1. Developing intellectual, physical (manual skills) and interpersonal competence;
2. Managing emotions;
3. Moving through autonomy toward interdependence;
4. Developing mature interpersonal relationships;
5. Establishing identity;
6. Developing purpose; and
7. Developing integrity.

Their premise is that environments designed to encourage these behaviors will benefit the

person and the institution by creating better students. Regardless of these findings, students can

be reluctant to participate in campus housing. The most cited issues are a lack of amenities,

privacy, and space—in essence, the lack of qualities used to describe the physically and socially

ideal 'home'. In an attempt to retain greater numbers of students, universities and colleges have

begun to focus construction on designs that create more 'home'-like atmospheres within

residence halls as a way to compete with other housing choices (Banning, McGuire and Stegman

1996).

An increasingly popular option for student housing is a type of cooperative living

environment where the residents share in some aspect of maintaining the residence and have a

responsibility to the community as a whole. As Durkheim notes in *Suicide,* sometimes a lack of

choice may heighten social detachment. His proposed remedy is to increase social connections

and moral consequences where choice is limited. Cooperative environments like those developed in the University of Kansas (KU) scholarship halls provide both. The social interactions within the scholarship hall are designed to increase responsibility. Unlike traditional student housing, students do not merely move in and focus solely on themselves and their studies. A resident of the scholarship hall is responsible not only for their room but also for their participation within the community of the hall. They answer to the moral consequence of that greater community by stabilizing their attachment to their environment and solidifying their place within the social community. That is, they greatly invest in the community—financially, socially, and morally— and thus have greater interest in seeing its success and longevity.

The user in the environment

A noticeable difference between the user of most housing and the university student is ownership. A user of traditional housing perceives ownership of their residence either outright through purchase or by agreement through lease or contract. It is a conscious decision to live in that place and to make it a home. A typical university student does not purchase or lease their residence hall, although they do sign a contract for the room they 'rent' through room and board fees. The student is removed somewhat through the housing process as they have not specifically chosen their room, have little control over furnishing the space, and likely do not know their roommate(s) prior to moving in. Coupled with little to no responsibility in the upkeep and maintenance of the building and the room, the students' lack of control over the environment reduces the sense of ownership they might feel if the space were their responsibility (Altman and Werner 1985).

Age is also a definitive difference between traditional housing users and the student-housing user. A typical resident of student housing is 18-22 years of age, with a majority of those on the younger side. Financially, it is unlikely that they have previous experience owning a residence beyond the mediated sense of privacy they expect in their childhood home (Marcus 1995). Therefore, the traditional markers of ownership would not be as apparent and robust in student housing as those displayed by users within a study of traditional housing markets.

Indeed, the environmental displays of ownership in student housing, where reliant on the user, are expectantly different from other housing models. However, the basic elements of territory, community development (i.e., reference-group association) and self-reflective personalization and identity exist (Kastenbaum 1984). Looking at housing types with similar qualities as student housing, I validate the assumptions that, despite the differences in users, the environment yields messages necessary to understanding the sense of home. In cohousing, for example, the responsibility of cooperative living joins with the need for personal space in an environment where common space is maximized and personal space minimized (Fromm 2000). There are multiple sub-forms of cohousing, as there are with student housing, but largely, the issues of territory marking exist within each. In the landscape of cohousing, all residents share the 'yard;' however, some individuals will stake out a piece for their personal enjoyment. The user remains part of the collective but adapts the space into a realm for their personal pleasure. It is commonly understood that the space is jointly owned, but belongs to the user. This same event occurs in multi-family housing, typically at entry points and gardens adjacent to individual units (Abu-Ghazzeh 2000).

Colleges and universities are special purpose places that promote student success and learning (Strange and Banning 2001). Residence halls are key components in the plan to nurture successful students. Multiple studies have shown that some of the most significant learning opportunities for students occur outside the classroom (Banning, McGuire and Stegman 1996; Bennett and Benton 2001; Chickering and Reisser 1993; Cox and Orehovec 2007; Strange and Banning 2001). How comfortable people find a place may depend more on their familiarity with similar places than on the amenities provided within it. A student who shared a childhood bedroom with a sibling may find the transition to a college residence hall less stressful than the student who has not. It is typical that incoming students arrive at university having lived solely in a family household environment. Suddenly thrust into an independent living situation, students are required to cope with their newfound independence and the responsibilities of everyday life, which may help or hinder their reaction to the simplest environmental features, like the location of the dining facilities or laundry. In some situations, privacy becomes a serious issue for those who have never shared a bedroom or bathroom (Heilweil 1973). Thus, a key component to understanding a student's attempts to feel a sense of home in a residence hall may be how they transform the collective environment. Altman and Chemers surmise that fewer social conflicts arise when individuals have the opportunity to territorialize the space they commonly use. That is, student housing should allow a student to 'mark' and personalize not only personal but also social space in order to create more comfortable and natural social interactions (the psychological blanket effect). For students who easily adapt, the highest quality interactions will likely occur in these personalized spaces and will increase the likelihood that they will develop long-term relationships and will return to school in subsequent years (Altman and Chemers 1980; Vinsel, et al. 1980). Environments allowing for adaptation can ease the transition between

'home' and 'school.' How easily students wrap their new environment with a 'psychological blanket' and adapt it to their emotional and physical needs becomes paramount to developing identity and community.

The students' ability to personalize space not only affects their personal well-being, but the *quality* of their social interactions, academic success, and ongoing relationships with other students and faculty. Students cultivate relationships through close proximity. Martin Heilweil (1973) found correlations among the closeness of relationships, physical adjacency, and traffic flow (i.e., repeated interaction because of circulation); however, problems arise between students in residence halls when sociability is forced without providing opportunities for solitude and privacy. This argument arises in subsequent research about gang-style lavatories versus semi-private/ private bathrooms as well as the design and use of study lounges. The most valuable and lasting student interactions occur spontaneously and through happenstance. The newer the student is to the environment, the more physical opportunities there need to be for incidental social interaction. Therefore, the idea of gang-style lavatories and lounge spaces are more appealing in first-year housing than in upperclassmen housing when privacy is more valuable than new social opportunities.

Understanding the students' concept of environment and space, along with their social development leads to the derivation of certain design ideas: the use of numerous smaller, more intimate spaces throughout a building promotes higher quality student sociability than one large lobby (Biddison and Hier 1994). Using a body of literature on socialization and space, Chickering and Reisser (1993, 398-399) developed a set of 'ideal' characteristics for student housing:

- Encourages regular interaction among students, and provides foundation for ongoing relationships;
- Offers opportunities for collaboration and shared interests; to engage in meaningful activity and face common problems together;
- Small enough so that no one feels superfluous;
- Includes people of different backgrounds; and
- Serves as a reference group, where there are boundaries to define who is 'in' and who is 'out' and has norms that inform those with different roles, behaviors, and status that they are 'good' members or that what they are doing is unacceptable.

These characteristics include components of social, psychological, and physical influences on the environment, such as opportunities to socialize (interaction and collaboration); to establish identity (reference groups, backgrounds, and relationships); and to territorialize (activity, size, status and reference.) A key opportunity in the student living environment is life beyond the individual sleeping space and the classroom. Important personal and academic interactions occur outside of these rooms; therefore, other spaces have relevance to the well-being and success of a student environment. Outside of the student living environment, these types of interactions often occur in a place Ray Oldenburg refers to as the 'Third Place' (Oldenburg 1989). This place functions as a site for activities outside of living and working; this place is for conversation, play, and the daily social interactions humans require (Durkheim 1951). Oldenburg stresses the importance of creating places that inspire a home-like atmosphere, which act as a neutral ground for social interactions. He uses the European pub as an exemplar: "[The] reasons are fairly simple and have to do with scale and warmth. Most pubs are built to the human scale; they are intimate, even cozy settings, designed more for an immediate neighborhood than a horde of transients and sometime visitors." (Oldenburg 1989, 125).

Obviously, the student environment is not going to contain a pub; however, the social environment created within the pub, as Oldenburg describes, meets the needs of the typical student user. Within student housing, Oldenburg's recommendations for creating a third place evolve into a space that easily fits into the larger residence hall design. He describes the ideal third place as one close to home with easy access and long hours of operation; it releases the user from obligations of work and home but provides a place for active conversation and passive entertainment. This place is neutral, that is, it belongs to everyone and nobody with equal opportunities for social interaction (Oldenburg 1989).

As with Marcus and Israel, the environment described here capitalizes on the interplay between these three types of influences to normalize and situate a person in the environment with a sense of satisfaction and belonging. Students need to personalize not only their private space, but semi-private social spaces as well.

The environment described here capitalizes on the interplay between these three types of influences to situate a person in the environment with a sense of satisfaction and belonging. This emotionally solid state encourages a sense of community. Humans develop community along lines of shared experiences, physical relationships, and common interests. In a group of diverse and unknown neighbors, new students could easily isolate themselves within the confines of their private space, venturing out only for necessary activities (eating, class). Engaging students in programs and activities develops a strong community, however a physical environment designed to elicit a comforting sense of home in each student will advance the whole group's collective sense of community.

The market and the consumer

In the late 1960s and early 1970s student housing began to address a spike in student-initiated legal challenges aimed to improve living conditions on college campuses (Gehring and Dey 1983). The primary cause for these challenges revolved around the lack of amenities and space provided to students within housing. In reaction to these challenges, a new wave of residence construction considered the incorporation of semi-private and public spaces into individual building design, in addition to the specific programming of these and other spaces to incorporate non-academic learning opportunities for residents (Winston, Anchors and Associates 1993). Student activism did not lead to direct policy changes and implementation, as implied by systems theory, but nonetheless, helped form the basis for a new agenda in student housing the change in policy focus from 'student housing' to 'residential life.' As the new idea of residential life formed and took hold, it expanded the scope of housing into other aspects of a student's life, including social and academic satisfaction. New policies, under the umbrella of housing, spread into a more holistic approach to what the college experience would encompass. Housing departments began to incorporate academic and social programming into student housing. The mission of most departments moved from providing students a place to stay to providing a campus experience (Blimling 1993b). Housing budgets changed to reflect this new direction in policymaking: the typical construction pro forma included amenities such as fitness centers, recreation lounges, and tutoring centers. Housing officials adopted the language of living-learning community (LLC) programs not only as policy, but also as a mission statement. After the initial implementation of a few LLC programs, the successful evaluation of these experiences

spread to the point that few residence halls remain without some direct programming influence (Winston, Anchors and Associates 1993).

Chickering and Reisser's environmental guidelines start to form a basis to evaluate student-living environments. Evaluation performs a critical role in creating a competitive business model for colleges and universities wishing to attract the best students. Gehring and Dey (1983) were among the first to state the importance of consumerism as an influence on residence hall design. They base their claims on research measuring the intensity of litigation, specifically consumer suits brought by students against colleges and universities during the economic decline in 1975. This was a benchmark in student housing. After this, it was no longer satisfactory to provide mere lodging; housing had to incorporate the concept of amenity and community (Gehring and Dey 1983). "Institutional settings are reflective and responsive to the societal context in which they are lodged. Student services also must be responsive both to the context of society and the institution" (Hurst and Jacobson 1985). Students have the expectation that housing at college will afford them the individuality of independent living, while still provide them the comforts of home.

Designing for a sense of community in a knowingly temporary, or finite, environment is difficult but necessary. Students with strong ties to their college community do better academically, socially, and physically than those who do not. There is some belief that these individuals are more successful as students and become more active in alumni associations and as supporters of the academic community in general. Therefore, the investment in creating a sense of home and community within the residence hall has a long-term goal. While there is no exact prescription, designing the physical environment to meet the social and emotional needs of

students as they grow and self-actualize provides the opportunity to understand the relationship between the environment and the well-being of the college student.

Connecting social and physical influences

Learning, particularly for college students, is not limited to the knowledge acquired from a book or class. It is a social action where acquiring social skills is as important as acquiring study skills. Providing an environment to facilitate active learning and the development of social skills creates a depth of understanding that passive observation cannot replicate (Stimpson 1994).

An estimated 80 percent of college students remain through the first year of study, yet only 55 percent on average will ultimately complete a degree after six years (Brandon, Hirt and Cameron 2008). The persistence needed to complete a degree may be attributed to the level of integration—academic *and* social—that a student perceives with an institution. College students spend approximately 70 percent of their time within their living environment; therefore, it is logical to contemplate that students need an environment that contributes to academic and social well-being. For many students, the center of this environment is the residence hall (Brandon, Hirt and Cameron 2008).

The design of a residence hall can influence how students interact, the quality of these interactions, and the effect they have on the well-being of the students (Brandon, Hirt and Cameron 2008; Strange and Banning 2001; Terenzini, Pascarela and Blimling 1996). In a 2007 study, researchers noted that residents of suite-style residence halls experienced 23 percent fewer opportunities for social interaction than residents of a traditional-style residence hall (Brandon,

Hirt and Cameron 2008). Participants in the study attributed the difference in quality of the interactions to the building's layout, likening the suite-style design to a hotel. While the suite-style building was highly desirable for the perception of increased privacy, the users perceived the traditional-style hall to be more community-oriented and social. Specific attributes mentioned included the ease of interaction with open-door activity in the traditional hall and the contrary perception of 'invasion' in the suite-style hall. Residents of suite-style halls indicated they knew fewer residents within their own hall and perceived attitudes to be less welcoming. Fewer residents reported regularly engaging in interactions in a room that was not their own. In contrast, residents of the traditional style hall expressed positive interactions based on casual stop-in traffic in individual rooms and the opportunity to meet and know more residents based on traffic patterns through the building (Brandon, Hirt and Cameron 2008). However, the longer the corridor is in the traditional-style hall, the less socialization becomes a positive correlation (Chickering and Reisser 1993).

The space within the environment matters, as well. Residence halls with multiple entrances alter the flow of interaction-inducing traffic patterns. Students are presumed to use the entrances closest to their rooms, thus a building with fewer points of access can direct traffic to points designed with the opportunities for socialization (Brandon, Hirt and Cameron 2008). However, multiple common spaces will promote increased social interaction (Terenzini, Pascarela and Blimling 1996).

In addition to design research, education researchers have evaluated the housing and social needs of students based on academic standing. Younger students require opportunities for incidental socialization in order to explore their social identity. As students increase in class

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standing and age, the need for more privacy and independent living facilities increases. Opportunities to meet new people are less important than opportunities to control their environment (Chickering and Reisser 1993).

The available literature on the impacts of design on behavior and day-to-day social activity points to a set of rudimentary design ideas for creating academic residential spaces that benefit both the physical and social well-being of students (Banning, McGuire and Stegman 1996). The majority of these studies are based in the fields of education and psychology and use quantitative methods to understand the correlation between academic standing and physical environment or the number of daily social interactions and retention in student housing (Blimling 1993a). Derived from this research, these ideas include the use of small individual living spaces with a focus on multiple social and study spaces to increase social opportunities. Designers should attempt to reduce the overall scale to a human level by using low-rise buildings with smaller occupancy numbers and devising multiple residential communities within the larger whole that feature common living and eating spaces. Finally, designers should include flexible academic spaces for both formal and informal learning.

Other aspects of the space should also be addressed, including but not limited to the availability of natural lighting and view-sheds through appropriately placed and operable windows (Heerwagen 2008). Daylighting and views of nature have been shown repeatedly to increase both the physical and emotional well-being of people (Day 1990). In addition, the ability to personalize or customize space through the movement of artifacts, decoration of surfaces, and the use of personal mementos encourages a resident to psychologically integrate into the environment and adapt a sense of entitlement to the space (Marcus 1995). This

entitlement has a two-fold effect: close monitoring of the space for personal security and personal pride in the activity and connection to the space, or more loosely defined, it creates a sense of belonging (Hagerty, Williams and Oe 2002; Kaya and Weber 2003). Students who develop a close sense of belonging to their college environment are not only likely to remain in student housing, but also to complete their degree and become active alumni.

Students are consumers of housing. Student housing competes directly with off-campus housing and as such, must increasingly become marketable in a real-estate sense. The location of the residential hall is often not flexible, but the way that the building is oriented on the site and addresses the adjacent context can attract or detract from the interior options and should be considered as important as the interior layout and design. The availability of technology, lighting, and connections to nature are also intrinsically associated with the success of residence halls (Hill 2004). However, student housing has the ability to contain programming that off-campus cannot; specifically, student housing can provide spaces and activities that directly promote academic and social success for students (Banning, McGuire and Stegman 1996).

If cost considerations limit design options then spatial issues can be mitigated through programming activities (Brandon, Hirt and Cameron 2008). For example, if it is not possible to re-design a hall to create a layout that would meet the needs of the students, then programming activities such as a hall-wide scavenger hunt or holiday celebration can provide opportunities that are both formal and informal to increase socialization. Alternatively, the inclusion of artifacts in the space may be used to promote socialization, as an example, the inclusion of a game table or entertainment unit in a lounge space.

The design of a residence hall can be used effectively to moderate activity and behavior to promote a successful outcome. By providing spaces that fit the social as well as the physical needs of a college-aged student, the architect can create a building that can become a successful tool for retention and academic success.

Forming the physical environment

The concepts of architectural determinism and environmental behavior studies describe the connection between the built environment and human behavior by charting observable behaviors such as use, activity, and movement. A closer look at direct links between environmental characteristics and the physical and neurological responses of users in these environments gives credence to the notion that environment affects the well-being of people.

The use of patterns within design shows up in multiple ways, including building and space form, circulation, materials, and artifacts. Fractal patterns, or those with branching and repeating patterns as found in nature, have a calming effect on a person's neurological and physical self (Sternberg 2009). Studies indicate this type of pattern used within a landscape, such as found in a Zen garden, optimizes calming through visual meditation. The vision of repeating patterns creates a pleasing view, which creates a physiological calm in the viewer resulting in happier behaviors and increased awareness. This response, referred to as an 'endorphin high' is reflected in the successful use of fractal patterns in therapy gardens and medical clinics (Sternberg 2009).

Using patterns in pathways can also have a meditative effect. While enclosed maze-like hallways can induce anxiety and increase stress signals in the brain, the use of labyrinthine walkways have the opposite effect. A labyrinth pathway with open views calms stress signals to the brain, which recognizes the rhythm of the walkway allowing the walker to breathe slowly in time to the pattern. This activates the vagus nerve system, a response found in the practice of Tai Chi and yoga and found to have a generally positive effect on the emotional and physical well-being of the practitioner (Hogg 1996; Seyle 1976).

Visual meditation accounts for positive physiological responses, as well. Ulrich's study of post-operative patients in a Pennsylvania hospital noted the physical healing impact of views of nature in patient rooms as opposed to views of blank walls. Patients recovering in rooms with windows looking at scenes of nature took fewer pain medications and left the hospital sooner than those who recovered in rooms with views of blank walls (Sternberg 2009). Irving Biederman at the University of Southern California-Los Angeles followed that with an in depth study of the neurological impacts of certain views. His study found that views of natural vistas, trees, sunsets, and similar images found in nature activate nerve cells in the brain along an opiate-rich pathway between the visual cortex and the parahippocampal area of the brain to accept endorphins more readily than with other views (Sternberg 2009). When color, depth, and movement are added to those scenes, even more nerve endings fire, thus producing increasingly positive neurological responses. In studies of Chicago's public housing, residents of units adjacent to plots of green space performed better on attention tests and were found to psychologically cope with day-day stressors better than residents living in units adjacent to barren areas but with identical housing design. Ultimately, studies such as these reinforce the

idea that elements of design such as operable windows, use of natural light, and views are critically important when designing a space for user well-being and academic success (Heerwagen 2008; Kuo 2001; Sternberg 2009).

Studies of views also include the use of natural light to some extent, indicating the use of windows and other day lighting features to have a positive correlation to well-being (Day 1990). Additionally, lighting effects may produce specific and desirable behaviors. In an experiment conducted during a showcase by *Architectural Digest,* researchers bathed identical white rooms in red, blue, and yellow-colored light and observed how users behaved. While more people reported being 'hungry' or 'thirsty' in the red and yellow light rooms, actual consumption of food and beverages was higher only in the room infused with yellow light. People in the blue room reported feeling 'calm' while those in the red and yellow rooms used words like 'active', 'playful' and 'energetic.' Despite this, researchers found no recorded physiological differences between users in a particular room. However, researchers did note that specific behaviors existed within a social context. People in the blue room congregated around its perimeter, yet clustered in the middle of the yellow and red rooms. Twice as many people visited the yellow room as the blue and were the most animated of all user groups (Sternberg 2009).

The use of certain spaces can also link to memory and mental 'landmarking.' There are specialized areas of the brain that recognize buildings and create a mental landmarking process. Studies of stroke victims in which this area of the brain has been damaged have been successfully retrained to learn to identify smaller features or artifacts in the environment using a different part of the brain as a way to mitigate the stressors created by the 'lapse' of memory to identify a known place. As the brain searches for and identifies these places within a person's

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mental map, he or she attaches certain emotions to the place. This is why people easily associate the concept of "Main Street" with positive emotions. Regardless of an actual familiarity with a Main Street environment, most people can mentally associate with a similar place and feeling from their experience (Sternberg and Wilson 2006). Clare Cooper Marcus found residents of public housing to have positive associations with their 'home' building more often when they could visually distinguish it from amongst a collection of similarly styled buildings. In her study, color and identifying decorations were most commonly associated with this affect (Cooper 1975).

Design influences both the physical and emotional well-being of an individual user. If the goal is to create successful students, the environment should be designed to respect both the physical and emotional well being of the users. Certainly, designers can incorporate elements of design that will encourage well-being, like the use of natural daylight, without subscribing to the idea of architectural determinism. By designing student living environments to incorporate features known to encourage healthy behaviors, we are more likely to create healthy and successful students. The implementation of a few key ideas like the use of patterns, views, and lighting can create spaces that physically respect the users and may ultimately create a healthier student population.

Connecting psycho-social influence with the form

Security issues within residence halls include both the physical security of the place and person and the emotional and psychological security of the resident. Assuring the psychological

security and awareness of a resident within a place encourages a sense of belonging and community that strengthens the bond between people and their environment. This bond—also identified as a territorial claim—increases the likelihood that residents will protect and maintain their environment.

People who are aware of the environment are just as important to security as the traditional measures employed at most college residence halls—ID scanners, automatic door locks, etc. People are utterly important in securing the day-to-day environment from both unwanted visitors and vandalism. Residents familiar with the environment and people within it will be confident of their place within the environment and therefore vigilant about protecting it (Sommer and Becker 1969). This protection of the environment does not rely on total control of the immediate environment, but works in extended patterns based on the resident's familiarity and comfort with the place he or she inhabits (Altman and Werner 1985; Kastenbaum 1984).

We can assume that a resident within a hall will exhibit certain behaviors depending on their awareness of the public-to-private nature of spaces. Using knowledge from other studies, we know that residents will protect that which they associate as belonging to them (Suttles 1972). For example, residents will offer the strictest protection over the area they wish to keep most private, i.e., their individual living space. However, their sense of protection will extend to spaces they 'claim' beyond that private space, such as their favorite study space, bathroom, their table in the dining hall, etc. Lastly, they will maintain a sense of surveillance if not protection over spaces they move through in connection with the semi-public and private spaces even when they acknowledge these as belonging to many others (Abu-Ghazzeh 2000; Altman 1975; Altman

and Chemers 1980; Altman and Werner 1985; Brower 1980; Cooper 1975; Jorgensen 2010; Kastenbaum 1984; Kaya and Weber 2003; Sommer and Becker 1969; Suttles 1972).

Most studies of territoriality and security focus on long-term homes and neighborhoods, however, residents in more transitory locations also display these tendencies (Kaya and Weber 2003). Residents of temporary housing, like a residence hall, will traditionally guard against incursions by strangers when given the opportunity to stake a 'claim' on the place. That is, the higher the degree of personalization allowed in the space the greater the sense of ownership or belonging (Abu-Ghazzeh 2000; Sommer and Becker 1969). This pattern of ownership and belonging translates into a psychological sense of security that extends to securing the physical environment (Jorgensen 2010; Brandon, Hirt and Cameron 2008). Like the sense of security, the sense of claiming space can be seen in zones. The highest degree, and thus the need for personalization, is found in the most private space. Spaces designed for flexibility and personalization will increase the likelihood of fostering security and belonging in these spaces (Brandon, Hirt and Cameron 2008).

The size of the environment matters in maintaining a positive sense of security. Residents who can easily create a cultural reference group within the environment will be diligent in surveilling that environment. That is, if residents easily distinguish who 'belongs' and who does not in the environment, they will readily report the presence of outsiders (Jorgensen 2010). Developing a personal reference group is also critical in the development of identity and culture in this particular age group (Chickering and Reisser 1993; Erikson 1959). The creation of this referencing system is also important in the development of strong ties to the environment (Park 1915). The fewer people a person needs to identify as belonging in a specific environment (i.e.,

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the reference), the easier it is to recall the reference when they need to enforce security in the environment. Therefore, the smaller the reference group, the stronger the sense of security. This validates the idea that smaller residence halls are positively associated with stronger community ties and psychological well-being.

A resident's sense of security can be tied to a sense of community. By encouraging a strong sense of community within the environment, residents will feel a sense of responsibility for the place and attempt to discourage invasion by non-residents. A stronger sense of security arises when access to the environment by outsiders is discouraged (Chermayeff and Alexander 1965; Cooper 1975). Returning to the idea of socialization and design, this idea gives credence to the design recommendations limiting access. Creating a master flow between the entry and exit points of a residence hall, as in a central courtyard scheme, provides better opportunities for physical surveillance and the psychological sense of security (Suttles 1972).

Once the emotional and physical ties to the place are created, the ongoing effects evolve. If allowed a degree of flexibility to claim additional territory in the semi-public and wholly public areas of a building, residents will seek to maintain the environment and secure it (Abu-Ghazzeh 1997). For example, allowing residents to decorate a 'public' social space will increase the likelihood that they will keep it clean and graffiti free (Jorgensen 2010).

Looking at research on territoriality and the creation of community-based surveillance, we can deduce a number of solid design implications:

- Residence halls should rely not only on physical security measures, but create a sense of psychological security for residents

- Environments should be varied to allow for private, semi-public and public spaces to generate a varying sense of ownership amongst residents
- Access should be discouraged to outsiders through heightened resident surveillance and limited entry
- The overall size of the hall should remain small or be designed into parts to allow residents to develop a small reference group amongst those who belong or do not belong in the environment
- Spaces within the environment should be flexible to allow degrees of personalization and customization

These design ideas are similar to those that constitute positive spaces for developing identity and community. The concepts intricately tie to the principle that the more a person cares about the environment, the more they will do to develop and protect it. Therefore, the most successful environments for security will be those with the strongest sense of community. By allowing a resident to develop a close association with an environment through territorial claiming, a group of residents will form a community reference group and thus, develop a secure network of authorities to rely on. Members of this reference network, like a community watch, will seek to protect the environment in which they feel most closely tied, in this case the residence hall. Moreover, as with community watch, members outside the reference group will be more closely monitored and overall, surveillance and vigilance in the environment will ensure physical and psychological security.

Environments are a social construction of the residents. This connection between the social and physical environments is a dynamic web of personal territory, identity, and community. This web gives life to the sense of home and belonging that sets the user at ease and firmly integrates the people and the space into an ideal sense of place. In order to create designs that evoke home and community, the designer must understand the sociological, psychological,

and physical connections between the environment and the user. Most importantly, the designs should encourage these connections to construct an ideal environment, no matter the length of residency or the characteristics of the residents.

Chapter Three: Methods and Analysis

This research asks how do the social, psychological, and physical structures of a temporary living environment create a sense of 'home?' To investigate the question, the study undertook a qualitative methodology based on research by Toby Israel and Clare Cooper Marcus on the perceptions of home. Using these studies as benchmarks, the methods adapted a series of five focus-group activities combined with in-depth follow up interviews and observations that situate it within the physical context of the research, i.e., student housing, and the social and psychological context, which is home.

The sense of 'home' and more generally, 'belonging' are socially constructed perceptions of the space we inhabit. The social aspects of space can be difficult to measure. Understanding how the user physically and psychologically conceives of space through the influence of his or her past living experiences begins to define his or her sense of the social and psychological environment in which he or she are living. The users' perceptions of public and private space gives meaning to the social and physical extent to which they perceive comfort and safety in their environment. Their comprehension of what it means to own space and territory creates a web of social, psychological, and physical influences that illustrate their place in the living environment as well as the relationship they have to others who share that environment, thus creating a socially constructed definition of the space. A person's housing biography appears to have a marked impact on the relationship between the physical environment and the social/ psychological sense of belonging within it compared to the other measureable influences, (Israel 2003; Marcus, 1995; Sixsmith 1986; Vinsel, et al. 1980). How comfortable a person finds a

space may depend more on their familiarity with similar spaces than on the amenities provided within it. Therefore, these measures must be accounted for in creating a study of how residents create a home-like sense within an environment during a finite stay.

The research setting and scene

This study is set within student housing at the University of Kansas (KU) documenting the living experiences of residents in two student-housing types. The University offers a wide selection of different building types, design programs, and functional approaches to campus living. Housing at the university consists of traditional style residence halls offering multiple academic and living program situations, scholarship halls consisting of cooperative living environments, family, single, and suite style apartments, and Greek houses. This variety, along with proximity and funding opportunities, provided the impetus for selecting this particular research setting.

In a preliminary review of campus living environments, two specific styles present the best research opportunity: the traditional style residence halls and community-oriented scholarship halls, which house the broadest audience of unaffiliated, college-aged students. Hashinger Hall is a traditional-style residence hall, renovated in 2005 by Treanor Architects. Hashinger Hall is an eight-story residence hall featuring long, double-loaded corridors and double-occupancy rooms, large common spaces, and community bathrooms suitable for 350 co-educational residents. The Dennis E. Rieger and Krehbiel Scholarship Halls are designed as mirror images and have won awards for their community-oriented design. They are reminiscent

of a three-story house consisting of a mix of two-person rooms and suites, a mix of community bathrooms and en suite baths, a first floor parlor, living room, kitchen, and dining room to house 50 residents each with women in Rieger and men in Krehbiel. In total, twenty-four residents—sixteen women and eight men between the ages of 18 and 22—volunteered to participate in the research process. Twelve participants resided in Hashinger Hall and twelve resided in the scholarship halls. The residents who volunteered for the research represented varied majors and academic backgrounds. Since the research was qualitative in scope, the number of participants was not as meaningful as the breadth of experiences they represented. The sample provided experiences in multiple housing types and locations including multi-family dwellings, detached and attached single-family houses, communal-living groups, family-living groups, divided-family homes, other residence halls, international cities, small towns, rural farms, large cities, and even, a tree house. All lived, at the time of the study in one of the three research sites, identified as their primary student living space between August 2010 and May 2011.

3-0-1: Hashinger Hall, front elevation. The flamingo has been a mascot for residents of the hall since the 1970s.

Hashinger Hall is located in "Daisy Hill," an area of residence halls on the western edge of the main KU campus. It is the middle building of five flanked on either side by two nearly identical looking residence halls. Each building is constructed of similar brick with matching wing forms and fenestration patterns and feature large lobbies with a central entrance. It is co-ed by building wing and has a primary programming focus on the performing arts. Hashinger underwent a complete renovation in 2005 to upgrade program specific spaces such as a small theater, music practice rooms, and an Academic Resource Center ('the Spot'). During the

renovation, the front entrance design was altered to include a stylized front stoop and metal-sheathed exterior with enlarged windows to draw the eye (see figure 3-0-1). The building contains double-loaded corridors featuring double-occupancy rooms and community bathrooms on each wing. Each floor contains a central community lounge and smaller study lounges. In the basement, there is a central laundry facility and common space and a dining facility in an adjacent building. Other than the program focus, residents do not need to meet any additional application or academic requirements to live in Hashinger Hall.
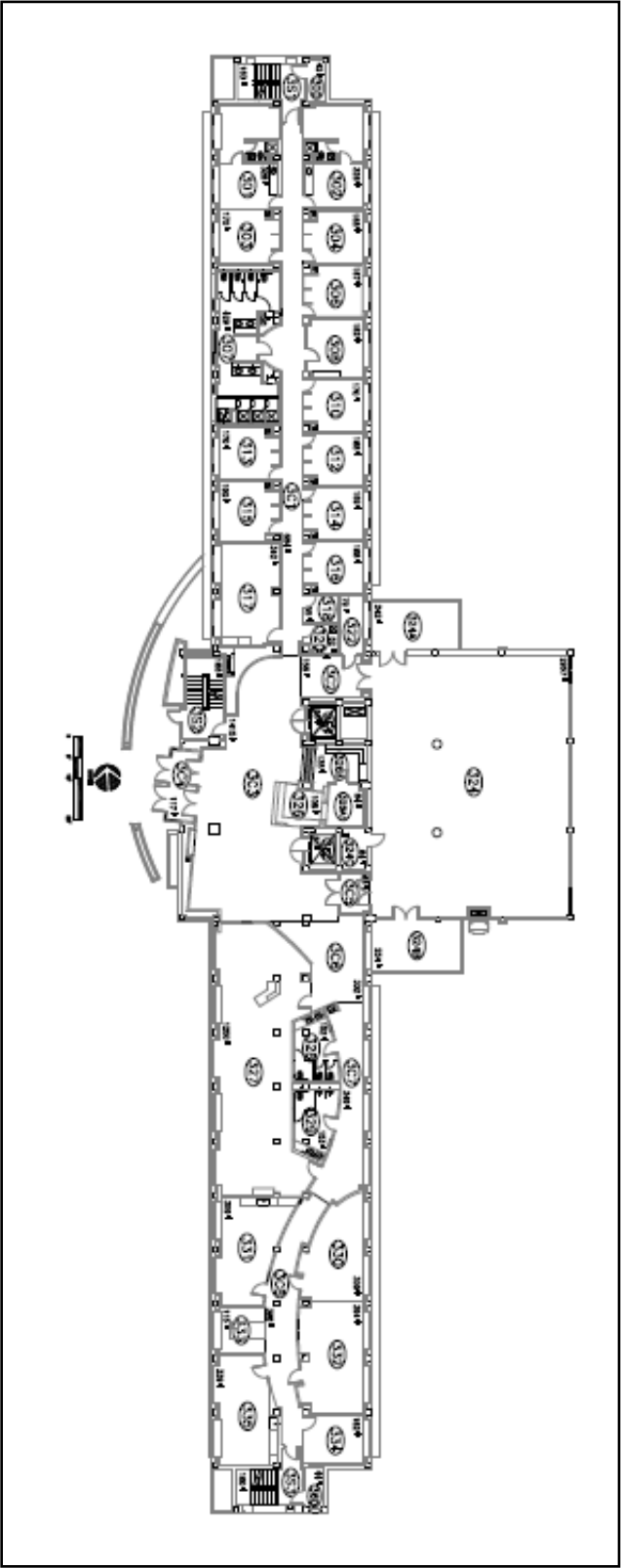
3-0-3: Hashinger Hall, 3rd Floor. This is the level of the main entrance. To the left is a typical residential configuration; to the right a series of flexible programming spaces (Treanor Architects 2006).
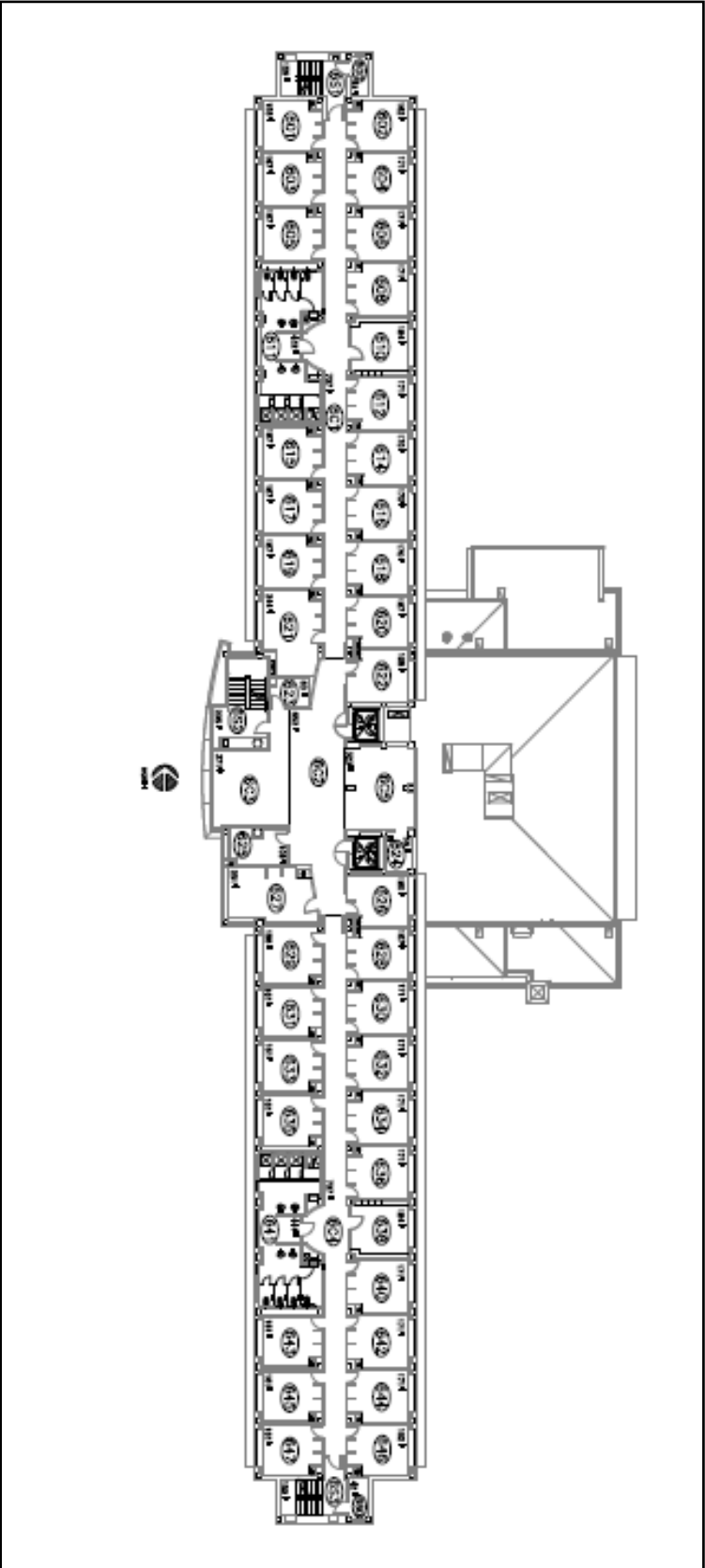
3-0-4: Hashinger Hall, 6th Floor. This is a typical floor configuration mirrored on floors 4-8 of the building. Each wing contains double occupancy rooms and one bathroom. A central lounge space divides the wings (Treanor Architects 2006).

3-0-5: Krehbiel Hall, front elevation. Rieger Hall sits to the south and has a similar appearance.

The second environment consists of two nearly identical buildings, each designed reminiscent of a large house and focused on a community atmosphere-- Krehbiel Scholarship Hall, completed in 2008 and Dennis E. Rieger Scholarship Hall, completed in 2005. Each houses no more than 50 residents in variably designed two-person rooms with a community bath on each wing and four-person suites with an en suite bath. Krehbiel houses male residents and Rieger houses female residents. Both buildings feature first-floor common spaces including a parlor and music room, kitchen, dining room, laundry, and computer center. Living spaces are located on the upper two floors with smaller lounge and study spaces, along with the occasional window seat along the hall. Residents have completed additional application materials, met established academic requirements, and agreed to uphold the principles of cooperative living. Scholarship halls require weekly service commitments for shared kitchen and cleaning requirements within the building. Both are located on a residential street adjacent to the KU campus and architecturally designed to blend into the existing neighborhood.
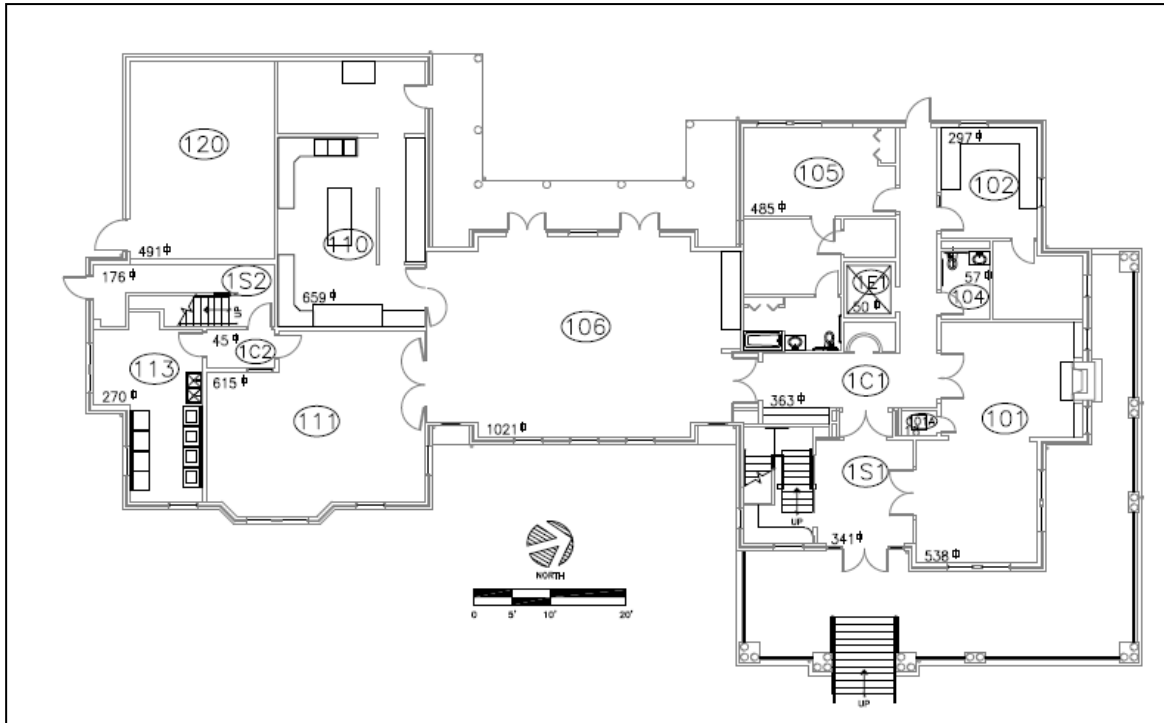
3-0-6: Rieger Hall, 1st Floor. The majority of public spaces are located on this floor including the parlor and music room (right), the dining room (center), kitchen and the living room/ TV room (left) (Treanor Architects 2007).
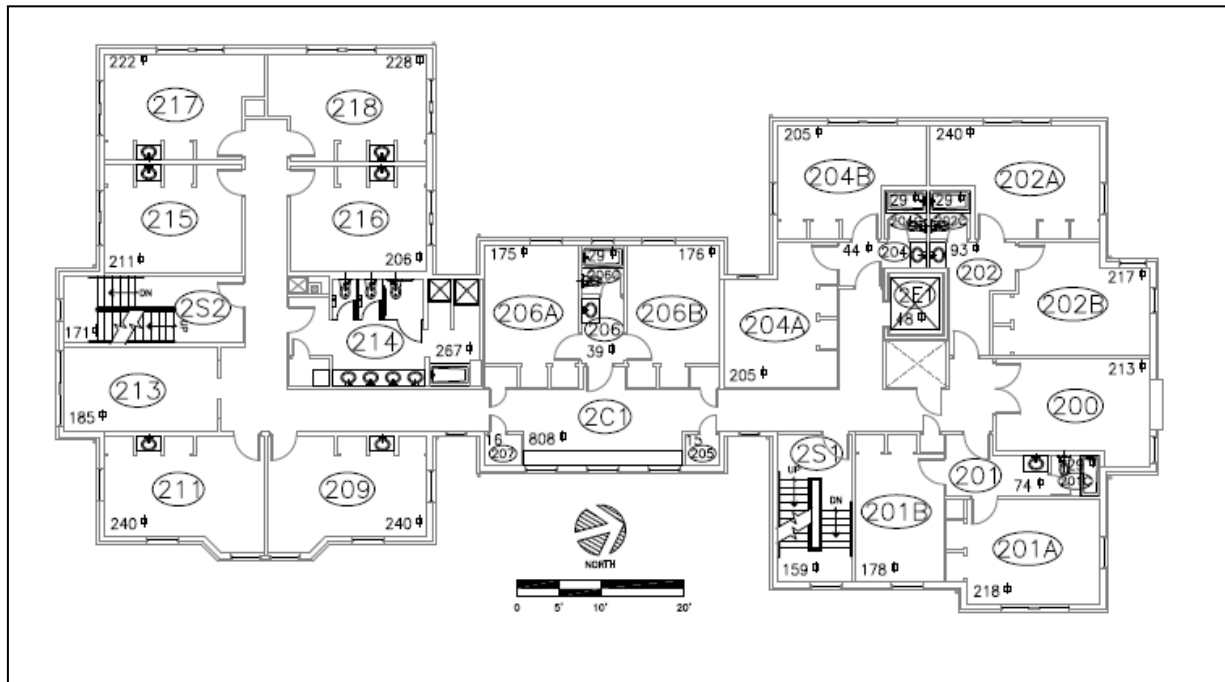
3-0-7: Rieger Hall 2nd floor. The second and third floors residential space with both double occupancy rooms clustered around a community bathroom and four person suites with en suite bath. In the center space on the second floor are rooms for hall proctors. On the third floor, this space is a lounge (Treanor Architects 2007).

The focus group

This study involved three qualitative data collection methods using focus groups, follow-up interviews with the focus group participants, and direct observation and evaluation of building usage by participants. The study included twenty-four volunteer participants—sixteen women and eight men between the ages of 18 and 22—divided between the two building types: seven females and five males from Hashinger Hall, nine females from Rieger Hall, and three males

from Krehbiel Hall. The first step in data collection for this research involved a charrette process with follow up interviews with residents of the three settings throughout the academic year 2010-2011.

Techniques for the focus groups drew on Toby Israel's idea of design psychology, using a series of five activity 'tools,' located in Appendix A, to ask participants to reveal past living experiences, perceptual images of current living environments, and to idealize their concept of 'home.' Each tool engages participants to think and describe living environments physically, temporally, and perceptually with the expectation that exploring the subconscious experiences of the past triggers additional thoughts on the participant's existing environment and the influences that shape their view of a desirable home (Israel 2003).

Not all parts of the original toolbox designed by Israel were used in this study. Israel's original study included nine separate tools; however, only five were adapted for this study. Some of Israel's tools in the original toolbox did not fit the scope of this study, and others, like the place family tree exercise require specific client-based visioning and may be substituted by less specific tools, such as tool one. This study evaluated a set of existing buildings; therefore, I did not use Israel's tools that focused on the creation of places for specific clients. The selected tools, using Israel's notation system include tools one, three, five, seven, and nine. Diagrams and descriptions are located in Appendix A. These tools specifically connect visualized or perceived environments with the current living environment and draw out meaning behind the described features of each place. The intent of this methodology is twofold: first, to elicit responses from the informants as they perceive the meaning of home in the student living environment and second, to evaluate the elements of the built environment that contributes, or detracts from the

sense of home and community. In addition, individual responses to the activities provide a basis for structuring the follow-up interview questions around the larger research theme.

The first exercise completed, which Israel refers to as the Place Timeline, guides participants to categorize previous living environments by the age or year in which they lived there, then to articulate the qualities of their favorite environment. This activity is used in place of the family tree to isolate the participant's experiences as individual influences instead of the idea of family-based notions of home. This study asked participants to create a timeline of their 'home.' Participants were specifically told to use whatever definition of home they were comfortable with and asked to describe the place and age or chronology for which they lived in that place. I then asked participants to annotate the timeline with words describing what they liked or disliked about the place, and then they were to mark which home was their favorite.

The second exercise used in the focus group was a mental map of the participant's "home." Members of the focus group drew the map of how they perceive their home and describe it to someone who was visiting or not familiar with it. Participants annotated the map with specific descriptions of the environment, physically and perceptually (Israel 2003; Lynch 1960). Again, this study asked participants to use their own definition of 'home' to decide the content of their map. Participants had great latitude in how they drew the maps, including the ability to write descriptions of the environment when they were uncomfortable or unable to draw what they wanted to include. Participants annotated the maps with key words to indicate what they liked and disliked about their home. I asked that they keep in mind what makes this environment uniquely theirs. When compared, the maps yield commonly associated landmarks, nodes, and paths as well as associations of how both the user and others perceive the socially

constructed environment (Lynch 1960). These mental maps compared with actual building plans and programs assess functionally the buildings' intended spaces and uses.

The third exercise called 'Place Visualization' in Israel's study is an idealization of the participant's dream living environment. I asked the participants to close their eyes and relax. The visualization process begins with a hypnotic-like suggestion story, which leads the participants to encounter their existing home from afar and gradually move closer and closer. They enter the building and must visualize their surroundings. I lead them to note the colors, the textures, the furnishings, the ceiling, the floor, and any objects within the space. They imagine a conversation with a friend where they describe what they like about the place. They imagine moving through the space and resting while they take in the environment and see what makes the environment their ideal living space and specifically what about the place makes it an ideal *student* living environment, then they leave the place, come back to the room where we currently sit, and when they are ready, they draw that environment. Participants again used enough creative license that they could draw, diagram, or write out a description of the environment. I asked that they be sure to note the colors, the furnishings, the textures, and the objects that made their visualized place ideal. This is the only point in the study that participants conceive of an ideal place, since the basic point is to uncover elements of the existing place. It is important to understand the participant's dreams and desires reflected in how they adapt the existing space; therefore, this exercise is used as a way to encourage freethinking ideas of what physical elements are ideal. Again, this tool is used in place of Israel's tools two and four because the evaluation focuses on actual spaces and not the future design of a client-based project.

The fourth focus group tool is the 'Place Sociogram' that led residents to code spaces on building plans, which they perceive to be public, semi-public, and private that again can be used in comparison with intended building programs to assess functionality as well as collective user behaviors. The participant is given a set of building plans to the residence hall they currently reside within and asked to color code spaces into these three categories. It is based entirely on their perception; therefore, informants were instructed to color-code only spaces with which they were familiar. I asked them to ignore what others might think or what they have been told about the spaces and only include what they see and believe. This activity defines the participant's concept of primary and secondary territory (private and semi-public space) and public space or common territory. The study highlights the individual user's perceptions and not the organizational structure of the space, therefore this tool is used in place of Israel's tool seven, which asks for an organizational concept of space. Looking at territoriality, it is not important if the resident considers the lounge to belong to the university or hall, only that they consider it public space.

The final tool uses the previous exercises to assess if the conceptualized and actualized living environments meet qualities of shelter and security, functional needs, social contact, identity, aesthetics, and personal growth, as defined by the informant and arranged in a hierarchy similar to Maslow's hierarchy of needs (Israel 2003). Participants rank how well their living environments meet each need. They are instructed to assess only their personal needs and not the intended building program or others' needs. This activity is adapted from two parts of Israel's toolbox. Israel used the pyramid to assess both actual environments and proposed plans for a future environment based on preliminary drawings. However, the intent of this study is to

evaluate not to design. The generality of the descriptive words used in the pyramid has multiple

uses, and I found that it worked well as a tool to assess my informants' functional needs in an

environment.
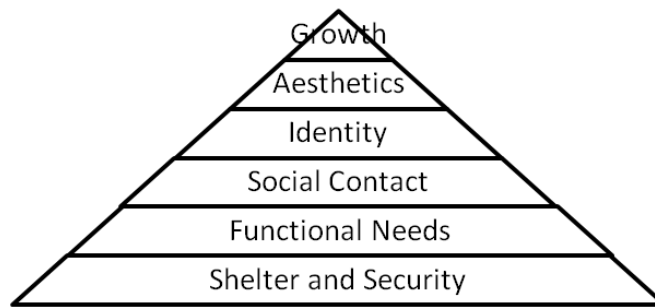
3-0-8: I used a pyramid of needs to assess personal needs in the environment. It is a generalized concept of a hierarchy of developing needs and coded by each informant based on their personal experience in the current living situation.

Testing the methods

A pre-test of the study conducted prior to and during the first round of focus groups

revealed four vital clues to the importance of administering the exercises, involving who

participated, what was said, how the study was conducted, and where the study took place. An

initial test of the methods used six volunteers in groups of two to three participants. These tests

revealed little about the overall structure of the focus group other than the need to allow no more

than 30 minutes per exercise but no less than 15 minutes to insure continued progress but

completion of each activity.

It was during a mass execution of the focus group exercises in which the quantity of

participants became noticeably secondary to the quality of interaction with the participants. In

the early fall 2010, I conducted a test on the timing of the focus group activities in conjunction

with a laboratory course in the KU Department of Architecture. Five classes of approximately 21 students each completed the first three focus group activities.

After initial review of the findings from these test cases, it became apparent that the quantity of participants did not equate with quality. By varying the times allotted for each activity, I constructed an average response time for each activity and noticed that the quality of responses equated more closely with the interaction and length of time than with the overall number of responses. An initial analysis of the findings from the test focus groups found repeatable themes within the first ten responses of each group. This appears despite the much more varied living environments and experiences in the test group than in the study sample. The test group included participants beyond the age of the study sample, including at least one-fourth of the total aged 24-35. Within the test sample were people with more housing experiences in their place timeline, including actual ownership of a residence. Nearly all test subjects lived outside of the study environments and a majority did not currently live in university-sponsored housing. Nevertheless, the overarching themes found in the study were found in the test groups: dedication to a reference group, control over the environment (perceived and actual), and qualities of adaptation. Qualitative sampling and analysis translates to less reliance on a specific number and focus on the quality of responses leading to the development of categories and themes.

It was in this same test that the issue of the vocabulary used in each exercise became critical to eliciting quality responses. The use of key words in the instructions of each activity changed the type of responses given. Specifically, the use of the terms 'environment,' 'place,' and 'space' did not have interchangeable meanings to the degree that I could use one in place of

another in the same exercise. Environment worked well to explain the notion of larger scaled structures like an entire building or campus, but required further explanation when used in the context of an individual's space or a specifically described place. Thus, the term 'living environment' worked well in the first exercise and in the fourth and fifth exercises, but space and place were required to elicit detailed information in exercises two and three. In addition, the term 'home' was not equated with the phrase 'living environment' to the degree that they could be interchangeable. Particularly noted in exercises one and two, when asked to describe their 'home' participants in the test groups repeatedly asked if this was where they 'grew up' or 'lived' as if these were separate environments. In addition, 'home' was further questioned to mean where one lives or where one spent their time. This particular vocabulary difference appears to be important to the target age group of this study. It was at this point that participants were asked to use their own definition of these ideas. However, once the vocabulary differences were recognized, further discrepancies in the process became apparent.

The ordering of the exercises required further revision from Israel's original process. Since only five of Israel's nine exercises were adapted for this study, they were not consecutive in the order she administered her Toolbox. During initial testing in summer 2010, I found that three specific exercises worked best for my research needs when administered as a focus group; two exercises worked best as follow-up to the interview and observation process. The timeline, mental map, and visualization exercises were definitively best in the focus group. However, the Sociogram and needs pyramid seemed to work best when done one-on-one at the conclusion of the interview. This was primarily due to the nature of providing individualized building plans and ascertaining specific perceptions of the public/ private nature of space. Therefore, in the

administration of the actual study focus groups, the exercises were limited to the first three with the final two exercises conducted with the interview and observations.

Finally, the environments in which both the focus group and interview occurred mattered in the ease of responses and quality of the data gathered. During the first test group, an informal setting dictated by the test participants appeared to relax the participants and allowed casual interaction between the investigator and participants. During the second test group, participants sat in a computer laboratory/ classroom with the investigator in the instructor's position at the front, dissuading participants from casual interaction with the investigator or other participants. The participants were easily distracted and routinely moved between completing the exercises and other work on the computer stations. The second set of test groups was considerably larger than the initial test groups, causing an environmental issue. The room in which the test occurred is situated for 25 computer stations; however, during the third test group, the room at capacity created a sense of overcrowding. Participants were not at ease and appeared uncomfortable closing their eyes during the third exercise. This juxtaposed with the fourth group, where the room was less crowded with a smaller group of closely associated students. The smaller group plus the tight social connection appeared to put the group at ease as noted by the casual interactions and increased dialogue during each exercise. These participants were slightly older than the target group of the study, noted by the reminiscence of one subject about how 'awesome' residence hall living had been. It is important to note that this group, with its size and familiarity, of all the test groups had the quickest response times, as well. In the more casual atmosphere of the first pre-test, responses occurred more quickly and with greater interest in the subject. A post-test group conducted in a similar environment, a conference room, elicited

similarly timed responses. These two groups also asked more follow-up questions about the study, although this condition may be related to academic interest in the research setting. Members of the second test group were part of the post-test group and reported being more comfortable in the second environment.

Administration of the focus group

When it came time to conduct the actual study focus groups, there was some concern about how to attract participants to the study. After initial and follow up conversations with the University's Director of Student Housing and the hall directors for each identified residence hall, it became apparent that they must make the initial contact with the students. Each director took a hall-specific approach to identify key student leaders and attract residents to the focus groups. I relied on their familiarity with individuals and the group dynamic of the hall, and I trusted that they could find a group of willing volunteers. In Hashinger Hall, the focus group dovetailed to an existing dinner activity that students were familiar with and would attend. I held the first focus group at Hashinger directly after in a nearby location and advertised as 'dessert' to dinner participants. Held in the Hashinger Theater, located within the residence hall itself but away from the main pathways of the building, the focus group attracted seven initial residents with two late arrivals and two additional participants making appointments for a later date. All of the participants were familiar with the room. It was set up with six-foot tables and chairs. Hall staff provided food and drinks, as well as a door prize for participation. The timing and order of the exercises went well. Midway through the second exercise, the sound of screams came from a nearby location. This caused several of the participants to explain to me and others that a resident

known to them was working on a film and auditioning 'screams' that evening. This occurrence appeared to participants as part of the building's common atmosphere.

Following the focus group, four additional participants scheduled one-on-one appointments to conduct the exercises. In these instances, participants completed each of the five exercises with an immediate follow up interview and observation of their use of the building. No meaningful difference appears in the type of information received in the exercises between the focus group participants and those who completed the exercises individually at a separate meeting. The major difference appears in the interview, as discussed below.

Focus groups within Rieger and Krehbiel Halls followed the same activity process. However, the advertisement process is different. Both halls have the same director, who lives on site in Rieger. She advertised the focus groups and followed up with residents at multiple times. She met me immediately prior to the focus group at Rieger but was out of town at the time of the Krehbiel meeting leaving the hall proctor (a resident) to engage the group. At both halls, we scheduled the focus group meeting immediately after dinner, like Hashinger Hall. With the Rieger group, the director walked into the dining room to remind residents of the meeting to follow a hall activity. We set up in the hall's downstairs parlor. Residents perched on chairs, couches, the hearth, and sat on the floor and completed the exercises whilst enjoying their evening dessert. At one point, another resident entered the music room adjoining the parlor and began to practice the piano. Fourteen residents participated, although two had to leave early due to prior engagements. These two individuals completed the activities during the follow-up interview.

The Krehbiel focus group occurred one week after the Rieger group, and by that time, the director was out of town. The hall's student proctor met me at the front door and invited members of the hall who were scattered about the dining room to join the focus group. While the timing was the same as at Rieger and Hashinger, dinner had clearly ended prior to my arrival. The proctor indicated that the lack of participants was likely due to the director's absence as she was a 'more coercive' person than he was. Again, the focus group met in the hall's parlor and participants sat on the couch. Three participants completed the exercises, including the hall's proctor. As Rieger and Krehbiel are the same design and the data collected as a composite, the number of participants relative to data collection is not as important as it is relative to the issue of recruitment and hall dynamic. Further evidence of this dynamic became apparent during the interview and observation period.

As mentioned in the description of the pre-tests, the ordering of the focus group activities needed to change from Israel's original process. To keep the participants engaged and the process running smoothly, the timeline, mental maps, and visualization had to be completed in this order. As found in the test groups, participants responded most favorably and with ease when the exercises followed the specific notion of past living, present living, and future or ideal living. In Israel's original process, the Sociogram came before the visualization technique. Given the number of participants in the pre-test, it was too difficult to disrupt the flow of past-present-future orientation of the exercises to ask participants to diagram on a building plan. In addition, the test subjects all lived in different places and thus, acquiring plans to their buildings was impossible. The idea of separating the exercises became a reality, and in the first focus group, like the test groups, by the end of the third exercise participants were ready to be finished. By

separating the Sociogram and pyramid of needs out of the focus group and into the interview, the participant's perception was more personal and less oriented to the group dynamic. More importantly, these two activities came at either the mid-point or the end of the interview at a time when the participant had already introduced the investigator to the building as a whole, as well as their individual living space. This timing was particular to explore the subject's perceptions of what contributes and detracts from feeling at ease and at home as well as how they identify members of their community. This is important when justifying internally how individuals and groups appropriate building space. In addition, through the interview process they have begun to identify many of the qualities in the pyramid of needs.

As noted in the pre-test, the environment of the focus group was important to put the participants at ease. In all three buildings, the focus groups occurred in spaces with which the residents were familiar. The Rieger and Krehbiel focus groups happened in the 'living room' of their halls, while the Hashinger group occurred at tables set up in a theater. The Rieger and Krehbiel focus groups were far more casual interactions than Hashinger. Both the participants and investigator were more at ease. The instructions, comments, and questions were more conversational in tone and occurred between participants and the investigator. The Hashinger focus group interactions occurred more naturally between the participants but not with the investigator who sat separately from the participants who sat around the tables.

The interviews and observations

The second stage of this study included a follow-up interview and observation with participants of the focus groups. The interview was organized as a 'walk through' of the

residence hall and living space with the participant. The interview questions, based on the guide found in Appendix B, were specified to the individual based on results of the focus group activities. In general, each participant met the investigator at the 'front door' of the residence hall and instructed to 'show' the investigator where they live and how they use the building. As with the exercises, the definitions and explanations of these instructions were open to the participants' interpretations. Interview questions sought specific reactions to these interpretations. The typical response from a participant followed the same patterns in all three buildings: they started with the public spaces, moved to semi-public spaces and finished in the private spaces, also known as their room. It is important to note that this pattern emerged independent of the fourth exercise of using this nomenclature to diagram the building plans—in every case, the participant had not yet been introduced to the exercise. The journey through the building and concurrent interview were recorded on audio with photos taken at the investigator and participants' discretion. Key spaces, fixtures, and objects were photographed.

Initially, it was intended that only participants from the first stage would move on to the second stage, however it became apparent after the initial test groups that one-on-one participation would not differ significantly from the focus group. Volunteers were accepted who had not attended one of the initial focus groups, and their process began by completing the first three exercises, followed by the interview and observation and closed with the completion of the final two exercises. Interview questions were not tailored as specifically as to those who had completed the exercises on a previous day, but were somewhat focused based on an initial examination of each exercise as it was completed using key identifiers gleaned from previous

interviews. This adaptation of the process increased participation but had no apparent gaps in the outcomes.

The interview guide involved a simple laddering structure designed to move the process along, while keeping the participant comfortable enough to reveal clues about their living environment. As the participant led the investigator through the building's spaces, common questions involved what were favorite/ least favorite spaces and why. Further questions asked about specific artifacts or spaces based on the participant's previous answers. Most questions related to the focus group exercises. For example, if a participant indicated a favored childhood space involved studying at the kitchen table, the investigator inquired about where the participant studied most commonly in the building. Follow-up questions might relate the two spaces through spatial awareness, artifacts, furnishings, and the presence of other people.

In each interview, participants shared their living spaces with the investigator and answered specific questions about how they adapted the space to feel comfortable. Participants answered a key question: what is your definition of home? Based on the response, the investigator could draw additional questions about the individual living space. For example, a participant might answer that home is where their family lived. From this, the investigator would follow up asking if the participant brought reminders of their family into the space and how. In addition, information derived from the third exercise evoked certain questions. If, for example, in the visualization of an ideal space the participant indicated the use of retro modern furniture, the investigator scanned the present living space for indications of similar design and followed up asking about a preference for style and on what the preference was based.

The building observations and evaluation looked specifically at the use and unique attributes that measure functional and behavioral elements of campus housing environments. The study of each building's environment included examination of building plans and a walk-through observation of spaces, furnishings, and fixtures. The intent of the observations drew on how the users of the buildings adapted spaces and manipulated the environment to suit their needs independently of the intended design of the space. The evaluation of each building is similar to the intent of a traditional post-occupancy evaluation; however, instead of investigating the relationship of the building's technical facility and functional success, it focused on the relationship between the user's perceived satisfaction (psychological environment) with their social context and physical environment. I evaluated space types and qualities, specifically looking at design versus functional/ adapted use. Observations focused on the most objective data in the study and documented the physical environments of each research setting, the use of space, and behaviors or interactions that occurred within the spaces. Specific data collected on the actual environment include observation and user-based descriptions of the physical settings, and photography of spaces, finishes, and features.

In correlation with user interviews and building evaluations, I conducted an interview with representatives of Treanor Architects, the firm responsible for the design of Rieger and Krehbiel Halls and the rehabilitation of Hashinger Hall in 2005. The interview, conducted in their offices, worked from a structured format laddering on responses. The interview guide is located in Appendix B. Its content included specific questions about the design process, community and client participation, and general design philosophy regarding student housing. It is important to note that Treanor Architects has a team of designers and project managers tasked

with acquiring clients specifically in college and university housing. Therefore, their design team's primary goal includes issues of livability in student housing. The interviewees included the head of the Student Life design team and the project manager for the Krehbiel Hall project.

Validity of the methods

Validity of the methods rested in using each to triangulate the responses from participants into usable meanings. Each exercise in the focus group generated data specific to a question that could also relate across the five exercises and then into the interview questions. Results from each exercise were compared across participants and then to all of the exercises of each individual. Observations triangulated both the exercise and interview responses to ensure consistent comprehension of vocabulary and meanings with language in instructions, questions, and overall content of the process.

The intention of this study was to generate qualitative data. Therefore, I expected a wide array of responses but similar meanings. Data from the focus group exercises generated open-ended questions for the interview to cross-examine intended meanings and definitions. The pre-test groups insured that the instructional quality of the focus group, timings, and content maintained equal across groups. This consistent application produced consistent findings with little anomaly, thereby validating the process of this method. The University of Kansas Department of Design and Construction Management provided building plans of each residence hall, therefore insuring consistent use of materials.

The process for each part of the study remained consistent, validating its utility, however, the next question remains, was it useful? Each exercise provided intended results, consistent to the degree that data saturation occurred rather quickly in both the test groups and the actual study participants. The technique of using the focus group exercises may not be an ideal part of the design process, as evidenced by this study. Its greatest utility was as a pre-meeting information gathering for the interview and observation, components that quickly became the informative part of the study. The exercises, as devised by Israel, intended to act as data gathering for a design process, which this study did not undertake. Therefore, that part of their usefulness was not on review. However, the exercises provided a sound start to the interview process through two means. First, the focus group in which the exercises were conducted acted as an introduction to provide a face-to-face meeting between the investigator and participants. Second, the results of the exercises provided the structure for interview questions beyond those basic to the research question. This structure acquired the deepest and most meaningful qualitative data of the study.

The methods used for this study provided a unique opportunity to generate meaningful information on the social and psychological influences on the user's response to the physical environment. These methods derived a vocabulary that in itself provides meaning to the study of behavior in design and merits a place as a useful tool to implement a study of socially constructed design.

Research limitations

This research is qualitative and as such, variation in the personality and experiential influences of the informants was expected. Parts of the interview and toolbox activities

intentionally elicit responses designed to reflect personal behaviors, attitudes, and commentary. Informant personality colors the raw data, but provides a richer narrative to the interpretation of the thematic data. The threefold data collection mitigates some influence on the individual personalities of informants (Lindlof and Taylor 2002). Field notes reduce the likelihood of research reflexivity (Hammersley 1992). Throughout the analysis of data, open coding balances the *in vivo*[2] coding to reduce the impact of jargon or misinterpretation of inter-group communication within the informant pool. Decontextualizing the data diminishes the impact of superficial and biased findings. The acknowledgement of potential issues with reflexivity and reliability within the data collection process is critical in order to maintain the validity of the study (Lindlof and Taylor 2002). The tactics used are designed to collect data and triangulated responses while intentionally eliciting responses that reflect behaviors, attitudes, and commentary. The threefold data collection strategies of observations, interviews, and focus group activities mitigate some of the influences of the individual personalities of the informants; however, informant personality provided more detail to the narrative and interpretation of the data (Hammersley 1992).

To avoid possible reliability issues, a type of member validation was used to insure that the findings and conclusions are recognized by a similar population of the study at its conclusion (Lindlof and Taylor 2002). This is not a scientific test, but an endeavor designed to present the findings to a group of people with similar characteristics as the informant pool who are aware of the study and of possible influences on the research (Lindlof and Taylor 2002). A revisit to the scene of research is common in ethnography and other qualitative studies to provide a type of

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[2] *In-vivo* coding uses cultural terms to create themes and categories (Lindlof and Taylor 2002). This should not be confused with the use of computer software titled NVivo ™.

epilogue experience to the narrative. It appears logical. If a similar population does not recognize the conclusions, this is a sign the process has failed. Despite the idea that failure may be as telling as success in research, failure of the research process is not. Therefore, the use of strategies within the process from design to conclusion is as important as the evaluation by peers.

For this study, the compiled research assisted in the development of a design studio to create a 'good residence hall' for student living. Validation of the study's findings included the implementation of said findings by a group of architecture students, similar in age to the informant pool, in their design process. As part of their studio, I led the students through the same focus group activities as the informants participated. Then, I shared with the studio the results of their activities and the results of the actual research study. Similar themes emerged. The final design schemes in the studio addressed the core findings of this study, particularly addressing the need for small-scale design to encourage the development of community and integrating other types of living spaces for student's social development. In addition to the studio, a preliminary set of interviews in a related research setting found similar thematic findings, which reinforced the reliability of responses found in the initial study. I acknowledge that this checks and balances may not insulate my study entirely from issues of validity and reliability; however, I am confident that they created awareness of possible research design issues.

Obtaining volunteers for the interviews and focus groups was challenging. Support from the Department of Student Housing proved imperative. Arrangements in each building were coordinated through Hall Directors, who provided physical space and promotions for focus groups. The overall number of participants constituted a small percentage of the total student

housing population; nevertheless, since this is a qualitative study, the research sample represented a rich set of responses in each housing type to the point of data saturation under the main thematic data groups.

There was little to no impact on human subjects from the study, as the research design looks at spaces and users in a composite but not at the lives of individual residents. However, as some documentation of personalized private space was involved, students provided signed consent and notice of how they may remove their information from the study at their choosing. Participants are anonymous; known only to the principal investigator and all information is kept confidential. The Human Subjects Committee-Lawrence maintains on-going oversight of the study's ethical standards and research procedures.

Analysis of data

Data analysis involved decontextualizing and reconstituting raw data into categories, which evolved into themes and main concepts. Open and *in vivo* style coding of the raw and reconstituted data provided the opportunity to compare and develop major themes (Lindlof and Taylor 2002). Decontextualizing the raw data diminished the impact of superficial and biased findings, in addition to generalizing primary categories. Throughout the analysis, triangulation of data collected from multiple methods and participants assuaged potential conflict and credibility issues. Using multiple data collection methods provided objective and subjective data, behavioral and socially constructed data, which when triangulated further mitigated issues of validation and reliability (Lindlof and Taylor 2002).

Initial interpretation utilized a narrative approach. The use of multiple collection methods provided the type and quality of data needed to derive meanings behind both the environmental situation and the behaviors identified in the study. The use of a narrative form of reporting allowed greater latitude in the reconstitution of data and introduction of participant behaviors. Because the research process was qualitative, it welcomed the introduction of personality and experiential influence by participants and created a vibrant dimension in the narrative.

Validity and triangulation of the data

The validity of the method discussed in this chapter also provides a way to validate the findings of this study. The analysis of data involved the comparison of raw data from each focus group exercise between participants as well as to the other exercises. Additional raw data collected from the interviews and observations provided comparative validation with the exercises. To develop categories and themes, I continuously compared information derived from a participant in each part of the study and then to the data from other participants. That is, analysis began with all of the data received from a single participant in each of the five exercises, interview, and observation. This occurred for each individual involved in the study. To validate, I compared these findings with data from each exercise against all other data from that particular exercise, and likewise with interview questions and observations.

A key issue of validity and reliability in data analysis is the depth to which meaning is attributable and accounts for accurate portrayal of events and behaviors. Mitigation of this issue within the data analysis component of my study focused on the coding of data. Using qualitative

research software NVivo ™, I used two types of coding: open and *in vivo* in both raw data and again in reconstituted data following initial analysis. Open coding uses a process similar to grounded theory to compare constantly key patterns and themes. *In vivo* style coding uses culturally based coding, that is, themes and patterns derived from the informants to develop concepts. Throughout the analysis of data, open coding balances the *in vivo* coding to reduce the impact of jargon or misinterpretation of inter-group communication within the informant pool. Undertaking both forms of coding with categories and patterns provided the opportunity for comparison and conceptual development of key ideas (Lindlof and Taylor 2002).

Data in the raw

This study collected data through three qualitative methods: charrette activities conducted in focus groups, interviews with individual participants, and observations of users and spaces. Raw data included information collected during the focus groups, comprised of diagrams, words/ phrases, short descriptive notes, sketches, and color-coded plans. Interviews and observations provided audio transcripts, photos, and field notes. The focus group exercises generated paper-based 'worksheets' of hand-drawn and written word data making the initial analysis easier to do by hand. Therefore, subsequent software-enabled analysis involved a process of entering pieces of hand-drawn data into electronic format.

Data deconstruction, reconstitution, and development of themes

I began the analysis by deconstructing the raw data into words and images categorized by open coding subjects, descriptive elements, and then themes. Concurrently using *in vivo* coding, I used categories based on Chickering's research to develop categories of data entrenched in the psychological growth of a college-aged student, as well as, physical markings of territory and home (Chickering and Reisser 1993). Each level of categorization within both coding built upon the previous theme to build layer upon layer of thematic information.

I divided the raw data into two concurrent streams of analysis. First, using open coding the responses from each exercise were randomly picked apart for key words, phrases, images, and structure both across the same exercise and through each participant. Once the basic information was deconstructed, it was categorized into common groupings. This categorization occurred multiple times, re-sorting the data after each pass. This step involved both the manual sifting of data and using NVivo software to key word search and group. Comparison of the two types of categorization yielded few disruptions, although the manual method produced fewer initial categories. The second stream of analysis used *in vivo* style coding. In this process, I based my categorization of data from the exercises and interviews on Chickering and Reisser's seven key benchmarks of self-identity (Chickering and Reisser 1993, 45):

1. Developing intellectual, physical (manual skills) and interpersonal competence;
2. Managing emotions;
3. Moving through autonomy toward interdependence;
4. Developing mature interpersonal relationships;
5. Establishing identity;
6. Developing purpose; and
7. Developing integrity.

Additional categories derived by grouping data from the interviews and observations using four concepts of physical marking adapted from Abu-Ghazzeh and others, as described in Chapter 2: define space; personalize and claim ownership of space; create a transition or buffer around primary personal space; and maintain defense and control over space. I manually manipulated and controlled these categorizations, as the software did not adequately define the subject field nor capture data from images that were required for the complexity of the coding.

From categories of data, I began to look for emerging patterns. Basic patterns included references to the fixed environment, artifacts and objects, and people or groups of people. From these patterns, specific themes began to emerge. References to the fixed environment fell into themes involving choice and control, particularly with regard to patterns of customization and personalization. Patterns like color, temperature, and maintenance appeared repeatedly at each level of categorization. References to artifacts and objects were relative to their place in the fixed environment and the appropriation of space revealing a theme of flexibility and adaptability. A theme of comfort and well-being addresses the separation of spaces and maneuvering of artifacts within the space to sub-divide spaces into manageable scale. The final theme emerged from patterns referencing people and groups of people relative to community in the environment. This idea, referred to as the development of a reference group, relies on the understanding of who belongs and who does not.

Developing the narrative

The narrative of this study involves understanding the reconstructed data under the lens of each theme, basic design principles, and guidelines through examples of encounters with informants. In Chapter 5, this narrative results in a discussion of each theme as it evolves the nature of this study and the subsequent findings into design principles and guidelines. From the narrative, I drew conclusions about the applicability and generalizability of the study as they relate to further research and practice. While not formulated into concrete building design, these conclusions may be adapted into logical responses to key design problems.

The narrative compiled in Chapter 5 draws on the use of each exercise, interview technique, and observations of space analyzed into a concise descriptive meaning. The meaning derived in this study generally accepts that a sense of home can be found in a temporary living environment. More importantly, there are key characteristics of these spaces and uses that enable a greater sense of home through creating a sense of ease and security that provide the general structure of community.

Chapter Four: Four Themes to Consider

The research question asks how do the social, psychological, and physical structures of a temporary living environment create a sense of 'home?' Experiences from previous living environments influence how a person personalizes and conceives of current living spaces and how he or she visualizes an ideal living environment. Understanding a person's living experiences provides a point of reference to understand their ideal environmental preferences. Knowing what types of spaces have made them happy and safe in the past, provides insight into what types of spaces will have the same affect in the future. Deriving indicators of satisfaction from exercises and discussions to explore the past, present, and ideal living environments test the effectiveness of this type of exploration in a charrette process to design for living environments. These indicators link the overall vision of an ideal environment, that is, the type of space a person would most like to live in, with certain conditions of the past and present environments. Examining the qualities of these environments leads to the development of themes within the data. Examples of data under each of these themes lay the groundwork to develop basic principles and guidelines for design. Four major themes that were developed through this study address the social-physical connection in the environment: choice and control; flexibility and adaptability; comfort and well-being; and community. These themes derive a basic set of principles that suggest designs for student housing environments. The first two themes address specific features of the environment and spatial order, while the second two themes address the connection between sociability and the environment.

Theme 1: Choice and control: Within the focus group activities, the timeline, mental map, and visualization exercises highlight the user's ability to perceive control over the fixed environment. The use of key word descriptors in the data derived from these exercises reflects a positive or negative sense of control of the environment. Participants depicted greater happiness with environments in which they perceived the option to manipulate physical features such as lighting, temperature, color, and maintenance. Drawings and descriptions of past and current environments indicate that participants are as likely to conceptualize an ideal situation that give them control over an environmental feature over which they have experienced a lack of control in the past, as well as they are to express a desire to have it. For example, a participant indicates dislike of a past living situation where it was always dark and in turn, reflects an ideal living environment with specific attention to lighting fixtures and windows. Ideal living conditions appear to revolve around the users' ability to adapt the space to their specific vision as an exercise of their personal choices and control over the environment. The exercises display these choices through depictions and descriptions of the amount of control they have to manipulate the environment, the inclusion of specific artifacts representing a concept of 'home,' the marking of space into degrees of territorial control, and the choice of activity into separate spaces.

Residents define spatial territory as their personal and community-recognized conceptions of what is 'mine' and what is 'other.' Dividing space by marking it as 'my territory' represents a choice in the living environment. By making a claim on that territory, a person chooses a sense of ownership. The movement of furniture from its original arrangement enacts a sense of owned space within a collective environment. This movement observed in private spaces often acts to define the individual's place separate from the roommate's. Rearrangements

and movement occur within semi-public and public spaces as well, again to define their personal space for the length of their stay in the space, however temporary.

Territorial markings, like boundary definitions, arrange spaces into individualized categories for users. Informants are quick to explain the definition of spaces that may inhabit the same environment: the bed for sleeping, the futon for socializing, or the desk for studying. For example, multiple residents of the scholarship hall use the dining room to study, socialize, and to eat, yet within the same space there are observable separations in the activities happening. In Rieger Hall, an informant describes that a small table near the windows creates the perfect lighting to read and the size is adequate for the spread of books, laptop, and notes for an individual's daily study habits but not so large that more than one person would be comfortable spreading out their books. However, the larger tables centered in the room create the best environment for group discussions over a snack or a meal. It is observed that residents rarely use these tables for studying, unless in a group; and, likewise the smaller tables are rarely used for meals since this is a group activity and the smaller tables are too small for the number of people eating.

> At those two tables I study a lot of the time. I like being closer to the windows and having natural light, personally. I occasionally eat there, but usually at the bigger tables, because you can get more people around them. The smaller ones are just for small groups. [A] lot my friends are like that. Half the time we're studying and it's mealtime and our stuff is on that table and it is easier instead of putting it away we just move over.

Observations of study lounges indicate another type of hierarchy where the locations of certain couches appear more suitable for conversation or watching television and not for studying.
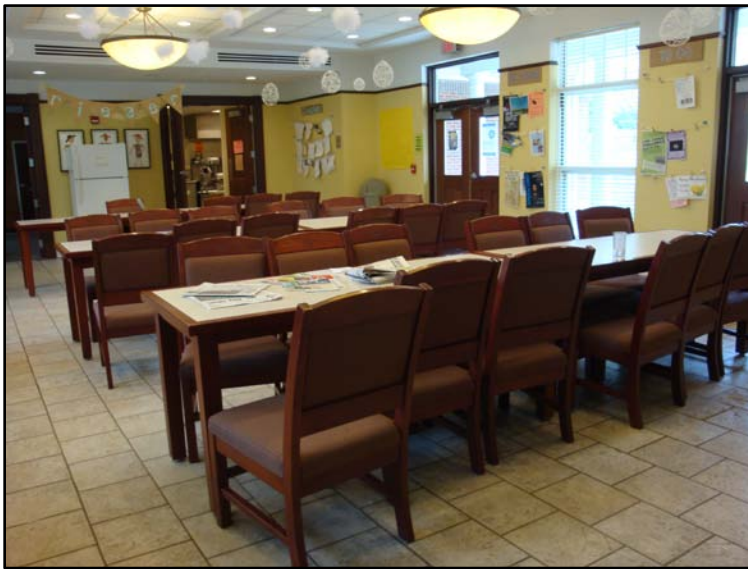
4-0-1: Large dining tables, such as these in Rieger Hall, are ideal for group dining, but used less for studying.

The perception of control is often more important than demonstrable control. The act of placing the bed near to the window allows a resident to exact control over the apparent fixity of the space in order to provide a sense of ease and comfort. The movement is a matter of a foot or two in either direction and does not change the overall design of the space, only the resident's perception that it feels more comfortable. Another good example of this is available in the Scholarship Halls. Each room has its own thermostat, allowing residents to adjust the room temperature to their liking, and while each participant agrees it is a nice amenity, few routinely

change the settings. Residents appreciate the ability to control the room temperature, however exercising the right to make a change appears less important.

The resident's choice to create separate spaces for different activities reflects each of the four themes developed. On one hand, in the scholarship halls the arrangement of rooms and variation in room sizes provides greater flexibility as to where activities occur. Dining rooms, through no change in décor or arrangement, allow space for studying, socialization, and dining. However, residents have the option to do one, two, all or none of these activities within this space. With the multitude of different spaces available for daily living activities, socialization can occur almost entirely outside of the individual sleeping space. Hashinger Hall, on the other hand, appears to have less flexibility for choosing environments to separate activity despite a greater number of spaces. Through observations and interviews, I have found that residents' social activities appear pushed into the sleeping room. Environments offered for use as social spots have less flexibility and appear little used for informal activities. Therefore, the residents' rooms become multi-functional for studying, sleeping, and socialization.

4-0-2: The informant in Hashinger hates sleeping off the ground but without the lofted bed, he would not have room for a desk. A lack of options within the room to separate these activities is a big problem for him.

Hashinger residents have few spaces in which to enjoy activities away from their primary home environment, i.e., their sleeping space, where they can exert control and choice in the same way they do in their individual room. Exercise four of the focus group reflects this idea. Residents of each building diagrammed building plans into categories of private, semi-public, and public spaces. The traditional residence hall reflects more rigid conceptualizations of space, with a clear separation of private and public and few semi-public spaces, than the scholarship hall. Residents of the scholarship halls negotiate their concepts of semi-public and public spaces with descriptions of the activities that routinely change this characterization. For example, the music room in Krehbiel becomes semi-public while someone practices, but public when a group socializes.

Theme 2: Flexibility and adaptability: Claiming territory expresses a person's identity. Design should be flexible enough to allow representations of territory and identity in the living environment, which proves the necessity for adaptability in student housing. Residents appropriate semi-public spaces as needed to conduct daily activities that become part of their personal growth and identity. For example, in Rieger Hall, the mailboxes located on the first floor are a typical design element in most collective housing. At Rieger, the boxes have become personalized memory keepers for each resident. No longer used primarily for incoming mail, boxes house favorite condiments for dining, a stash of preferred pens for studying, or a collection of fliers and ticket stubs from social activities. The scene evokes the idea of the primary school 'cubby' more than the college mailbox. One participant regarded it as such in her description of daily use to hold everything she needs but does not wish to carry.

4-0-3: An informant in Rieger Hall explains the mailboxes have evolved into 'cubbies' for residents to hold important items.

> People leave random stuff in my mailbox. [Well], like I keep... I like to have
> [these] with breakfast and rather than carry them up and down every day. And I
> keep my cup that I drink water in because it's bigger than all the cups here. And
> usually I have mail and papers... I just well, the things I use down here pretty
> often it's easier to leave them here because most of the time I'll mean to bring
> them and forget them.

It not only reflects the adaptable nature of the mailbox element, but it also serves as a reminder of the individual's identity in the group setting. The personalization of the mailbox establishes a marker of the user's presence within the community, discussed further in theme four, mediating the social identity of a resident in the physical setting of the residence hall.

Standard furnishings within each student room in both the traditional halls and the scholarship halls have a rigid design but are routinely adapted; where adaptability is not viable, residents discard the furniture. Each student room comes furnished with two beds and two desks. Every room observed has a different configuration: bunked beds, mattresses on the floor, and beds at right angles, in a double-bed configuration, and as far apart as possible. Desks are a problem. Nearly every participant in the study remarked that the desk is too small. It offers insufficient study space or is placed oddly in the room thus making the space uncomfortable to maneuver around. Most adapt the desk into a dresser, bookcase, or room divider or completely discard it by pushing it into a closet or moving it out of the room entirely.

Space is highly adaptable. An example of adaptable spaces occurs in Hashinger that could not have happened in Rieger or Krehbiel due to the lack of non-programmed space in the scholarship halls. In Hashinger, the third floor houses a series of flexibly programmed rooms that are adapted year-to-year based on the needs of the current resident population. One room in particular, located near the computer center served as a bike shop when a large group of bicycle

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enthusiasts lived there and is used now as a studio space created by architecture and design majors unwilling to walk across campus late at night to work. From small design elements to entire spaces, the amount of rigidly programmed space within the student living environment needs to be balanced with opportunities for flexibility and adaptability to suit on-going needs that cannot be predicted.

Theme 3: Comfort and well-being: A photograph of family; a quilt made by a grandmother; a bookend made from a rock found in a childhood backyard, each containing a treasured memory and an innate sense of what home means. Participants in this study are able to identify the use of certain mementoes and artifacts to personalize space as a way to retain the idea of 'home.' This occurs regardless of the actual presence of these artifacts. Every participant in the study identifies an artifact he or she brought into the residence hall, which represents his or her personal idea of home. The importance of this idea does not rest on the artifact itself, in fact in most cases; the original artifact identified is no longer present. In some cases, the artifact has been removed for safekeeping; but in other cases, the artifact initially used to represent home has been removed in favor of other artifacts that now represent a bridge between past and current conceptualizations of home. The point of having such an item is the sense of comfort its presence and the memories associated with it bring to the individual.

4-0-4: An informant in Rieger Hall sleeps with a pillowcase made by her grandmother as a way to make herself feel comfortable away from her childhood home.

4-0-5: An informant in Hashinger Hall collected rocks from his childhood home and uses them as bookends in his residence hall.

The greatest sense of privacy and personal territory is relatively universal among student living environments and centers primarily on the sleeping space. However, the semi-public spaces --that area owned but with less privacy--varies between the scholarship hall and the

traditional residence hall. Within the scholarship hall, residents extend a sense of ownership over the whole building, including its immediate outside environments such as the porch and side yard. Within the residence hall, this area extends only to the floor on which the resident lives with variations to semi-public spaces routinely used like a studio. Outside environments, despite repeated use appear to fall into full public realms. Perhaps the scholarship halls' locations within an established neighborhood and situated like a traditional house enhance this premise. These halls have front porches and yards defined by the sidewalk and street edge and by their appearance, which is similar to the patterns of porch and yard featured on the other houses next to and across the street from the buildings. Hashinger Hall does not have these edges to reference. Hashinger Hall has a front stoop at the entrance with a large sidewalk facing onto a series of large parking lots. The grassy areas behind the building are more park-like in scale than a traditional yard. Residents do not appear to use it as a yard for daily activity, but they use it as a neighborhood park for occasional visits.

Spaces identified to be most relaxing and to put the resident most at ease are also identified to be most secure for the resident, regardless of actual physical 'security' of the place. Residents of the scholarship halls recognize the front porch as a place of relaxation and security; however, it is open to the public street without a secure door or gate. Similarly, smoking residents of Hashinger Hall identify a sense of security on the front stoop, likewise open to the

street without physical barriers from the public.

4-0-6: Multiple informants in Rieger Hall and Krehbiel Hall remark on their use of the front porch and in particular the porch swings as safe and comfortable places to study, read, and socialize.

> I really like the front porch. I study out here a lot. I read or write. Usually on one of the porch swings. Those are my favorite places to sit out here. When the weather is nice I sit out here a lot. ..I don't spend a whole lot of time in [the parlor] But some. I don't play piano or anything. Normally, I am in here every other Sunday for our hall meetings...Well, if I can't study outside because it's colder, or if friends are in [the parlor] that have the same class as me, or if I'm just tired of my own room. Sometimes I just need something different. But I don't study here very often. Sometimes we have fireside chats in here and those are fun.

Smaller spaces relate more closely with perceived security than larger spaces. In the most basic observation, residents demonstrate greater knowledge of the building spaces within the smaller scholarship halls than residents of the larger Hashinger Hall. A telling example highlights the significance of this difference. Observation of an informant in Hashinger Hall, who serves as a staff member in the hall, indicates that he has only a basic knowledge of areas in the building other than the floor on which he resides and those spaces he uses personally. He has

little information on other residents' use patterns of spaces outside of his own personal use, despite having lived in the building longer than most residents have and having a job that requires him to know what is going on in the building. In contrast, all informants in the scholarship halls demonstrate in-depth knowledge of who regularly use the spaces in the building and to what extent. In exercise five of the focus group activities, when asked to label private, public and semi-public spaces the scholarship hall users appear to have more familiarity with the building itself than did those participants in Hashinger, regardless of the aggregate time lived in the building. In Hashinger, the basic assumption seems to be that because floors four through eight have a similar design, the use is similar, too. Interviews suggest the residents in the scholarship halls routinely use spaces on every floor, whereas residents of Hashinger typically use the spaces on the floor in which they reside and the lower three floors containing public amenities, but few other spaces.

The perception of personal security is noticeably higher in the scholarship hall. Residents appear routinely to leave the daily detritus of life in spaces denoted as public, such as the living room, versus in Hashinger where residents clearly do not leave personal belongings in the lounges. The physical security of a place relies on the presence of a reference group. Smaller reference groups have a tighter sense of security. Residents of the scholarship halls report comfort in enforcing the physical security of the building, whereas residents of Hashinger refer to security as a staff obligation that does not rely on their knowing who belongs or does not within the building.

Theme 4: Community: Despite the fact that Rieger and Krehbiel house separate genders, it seems that the proximity of the buildings and camaraderie between the households has the

effect of providing a strong sense of reference over both houses. Residents of each building respond that while the strongest reference group is within their own building, they routinely count the other as part of larger 'neighborhood' like community. Residents reference this community to identify the residents of these buildings separate from other people in the actual neighborhood as well as the other scholarship halls located adjacent to the street. Members of both houses handily reference instances where they use the larger reference group to identify outsiders' use of the basketball court in the side yard between the buildings.

Residents of student housing personalize space wherever and however they can. Regardless of programmed design, within the most rigid of fixed environments passive design elements are favored targets: mailboxes, doors, or hallways; each can easily become a target for community-sponsored customization. In each hall, the door to a room is a common canvas of identity creation. Decorations on the door—placed by the occupant, other residents, and even hall staff—create individual identities through which the larger community will come to know them. The same effect as with the mailboxes in Rieger, the door decorations mediate a social identity within the collective environment. This identity creates a place for the residents in the social environment and expresses the residents' personalities within the physical environment. One door displays the resident's love of manga (Japanese graphics), while another's devotion to science. The public displays act to identify residents to each other during the initial move-in period in August, and remain throughout the year, growing, as community events, traditions, and social interactions generate new stories and identities for them.

4-0-7: Door decorations reflect both the individual's personality and how the community in the residence hall sees the individual.

Various findings in this study stress the importance of the resident's identity as part of a collective social group. Door decorations are visual expressions of this; the creation of a public stamp on the environment through appropriation of space and adaptation of the environment generates a place for a resident within the space of the environment. A resident of Rieger tells a story of how another resident brought in a store display depicting a young male model and surreptitiously placed it throughout the building. Amongst a group of residents, the cutout has

become a running joke. Residents taking part in the joke define themselves and recognize each other as a social group, but the community defines them as known pranksters.

A sense of physical territory influences the creation of a social reference group, i.e., community through a psychological identification with the building (I am a Rieger Girl) and physical enclosures (I am on four). Both building types have spaces defined by users. The scholarship halls have piano rooms within the living room. Hashinger Hall has studios for design students within classroom spaces. However, the critical aspect of home is how the building itself is represented by its users and vice versa. Stripped down from the influences of educational programming, each building has an identity manifest through its residents and as such, the residents' identities become entwined into a community relative to that building. Regardless of major area of study, grade point average, gender, or group affiliation, residents commonly identified themselves relative to their building, i.e., a Hashie or a Rieger Girl. This identity has two sources: sufficient territorial definition for them to have acquired a sense of home and belonging and a clear self-identification that they are part of the core reference group.

The sense of community within a student living environment appears to relate closely to the camaraderie of the group. Smaller reference groups more easily identify who belongs and who does not. Along with this identification, an individual's place in the group associates with a social identity. The Chicago School places social identity in context with a time and place (Park 1915; Suttles 1972; Wirth 1928). As previously mentioned, the public stamp a resident places on the environment relates closely to social identity and as such, the camaraderie between the individual and the group. The 'piano player' becomes a part of an individual's place in the group, not only because of the skill he or she possesses, but because he or she marks the piano in place

and time as his or hers. Others within the group recognize this domain, and elevate him or her to a singular position as 'the piano player.' There may be others in the collective group who play, but they adopt other identities.

Responsibility to a community appears relative to the importance of it as an ideal place. A person's willingness to assume responsibility imbues deeper camaraderie and community similar to a social identity. The scholarship halls may indeed be tighter communities because each resident within the group has a share of responsibility to the whole community. Residents partake in weekly chores, such as cooking and cleaning for the entire household. Whereas in Hashinger Hall, only the resident assistant and other paid staff within the building have responsibilities to the whole community.

Traditions play a part in the development of a group that generates a strong sense of community. These need not be formal traditions; in fact, unique personal traditions seem to enhance camaraderie within the reference group more easily than formalized traditions. Recall the group of residents in Rieger with the store display prank. By the end of the academic year, most residents are in on the joke and claim custody of their cardboard 'boyfriend' explaining it as something 'we do to goof off.' Juxtapose with it the observation of a formally programmed candle-lighting ceremony held by the residents. Few residents know what the ceremony is about and cannot ascribe meaning to its place in Rieger Hall tradition, but the residents easily discuss their cardboard boyfriend and the traditions associated with finding him hidden in the house. This ongoing prank appears more ingrained in what the residents of Rieger regard as their community spirit than the formal ceremony that is simply an act to be completed.

4-0-8: This cardboard cutout from a local store is part of an ongoing prank among the residents of Rieger Hall. The prank involves most residents and creates a constant conversation within the hall. The tradition of "Loose" has carried over multiple semesters through returning and new residents.

Loose, a couple of years ago we had a resident [at Rieger] who worked at Gap. And when they were taking down an ad campaign and the displays she ended up bringing home several cardboard people. Male models such as Loose. One was named Standard, and the food board manager passes standard around to a different person at every hall meeting as like a reward, like if they cooked a really good meal or did really well on their shift. Standard is fun you pass him on after a couple of weeks. Loose just kind of floats. We've had him a couple of months and he just goes to whoever he wants or happens to be given Loose for a while in a kind of fun thing. [Laughter]

We used to have three or four of them and I think one got put in someone's shower as a prank. I think he got wet but I think the person's reaction was relatively amusing… from what I've heard [laughter]. ..Little jokes or pranks. We know how to goof off and have fun. We also have a mannequin. It's kinda weird; it creeps me out. He usually lives in a closet and the last time he came out in someone's bed and was dressed up. I stay away from the mannequin. It's part of the mystique. Part of the weird quirky fun we have.

During the initial focus group at Hashinger, a sudden onslaught of blood-curdling screams rang through the building. None of the participants even flinched at my startled expression. Then one calmly announced that another resident was having auditions for a new film. Apparently, this was a regular event. While screaming is not a tradition per se, the act of random oddities is well known to people inside and outside the hall because Hashinger is 'the arts hall.'

Developing theme driven design principles

The aim of this study is to provide a set of basic principles to create better design in temporary environments, like student housing. The findings of this study show that residents in student housing connect to the environment where and when they are provided the opportunity to control and adapt the environment, find comfort, and create a community. Using the evidence discovered through the charrette exercises and interviews, we begin to see common design issues in each theme. These issues lead us to basic principles that encourage design and social opportunities in order to enable residents to adapt and find a home in these environments.

Choice and Control

A basic principle to express choice and control in the environment is to create spaces and opportunities that allow the users to perceive a choice. The issue of providing choices to a person in the environment is as much about their psychological well-being as their satisfaction with the physical place they create. Whether this choice is actual or perceived does not appear to have a

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great influence over their reaction, but the ability to accept the responsibility to make the choice seems paramount to their sense of personal identity. In design, the issue of choice can easily manifest in a space. However, to balance the needs of the consumer and housing official's budget, allowances should serve other purposes, such as the scholarship hall example of the thermostat. Individual room thermostats allow the perception of temperature control and serve to provide a sustainable approach to energy consumption and management.

A similar multifunctional approach to spaces, finishes, and furnishings would also be beneficial. Modular units and open-planned spaces could provide multiple choices for the resident's use, but provide cost effective options for future construction. Instead of the large central study lounge on each floor, the use of multiple small study spaces with a mix of flexible classroom/ programming spaces provide a choice in environment and activity. It also enhances the individual's sense of security in the study environment. Additional thought should be given to the amount of choice residents have in the types of spaces they may use. In addition to the living space and study space, we must consider the separation of public to private spaces creating another type of space. If the sleeping space is the first place and the workspace is the second place, then this new space is the 'third' place where neither work nor sleep occurs, but only socialization (Oldenburg 1989). These 'third' spaces for socializing and for activities that separate the 'sleeping' from the 'living' parts of everyday-life activities provide additional choices in the environment while also providing social support and psychological comfort for the end users. This separation is apparent in the way residents adapt the space, and in their descriptions of the importance placed in not having to socialize or study on the bed. Allowing individuals to distinguish their bed from all other spaces in the room appears highly prized.

Providing living-space choices within the building could be a way to adapt existing buildings to provide for the social needs of users. Hybrid spaces that divide traditionally designed, double-loaded corridors emphasize the need for a smaller reference group of community members, increase social interactions with smaller, flexible study spaces, and provide users the opportunity to live out the traditional college dormitory experience in a psychologically and physically comfortable manner. These hybrid spaces would partition larger floor patterns into smaller communities with shared living, dining, kitchen, or study spaces. They are different forms of the suite-style and traditional-residence-hall plan similar to a residential college with a smaller number of residents and group identity within a larger, traditional-style residence hall building.

Flexibility and adaptability

Along with the need for choices in the environment, the user should be allowed to adapt the space to their needs, or at least the space should have the perception of adaptability. The existing use of moveable furniture like bunkable beds is one way of providing flexible spaces, but there are other ways. Few students truly use the standard desk as such, citing small size, insufficient lighting, or lack of physical comfort in studying at the desk. It largely functions as a space for storage. Modular units that transform into shelving, closed storage, or a tabletop would be suited ideally to students with varying needs and that might still satisfy their aesthetic sense. Mark-able/ flexible finishes such as chalkboard paint, whiteboards, and cork for walls; sections of walls; or doors allow students to personalize continuously.

An extreme measure would be to provide standard spaces and little more. The housing standard for student living is to provide the typical double occupancy room with two beds, two closets, two desks/ dressers and an overhead light. In multiple observations of personal space,

this study found excess furniture crammed into small rooms in an attempt to create a new space with personalized ambiance. Since the existing furniture must remain, personal furniture must be shoved into the small amount of extra space, if any. Perhaps an option for the housing official would be to provide only the open, unfurnished space. The typically provided furnishings could be rented, should the resident wish to use a bed or a desk, but otherwise the space would remain empty and highly adaptable to the resident's design. Roommates could negotiate the use of space as they most likely do, but without the limitations enforced by the standard furnishings. The concept works in the private housing market; it may be time for the university housing system to consider adopting it.

Comfort and ease

The focus of this study has remained on physical, social, and psychological influences on the user. These influences relate to the well-being and comfort of the end-user. Physical well-being includes how the user moves with ease through space and the environment. Within the scholarship hall, the use of a low rise building form enables all residents to be within one or two floors of living and sleeping spaces. Movement through the environment compares easily to movement through a typical house; creating a physical ease and reinforcing the psychological sense of safety in the familiar. The placement of spaces, also similar to a typical house, encourages the use of sleeping spaces for 'sleeping' and living spaces for 'living,' unlike in Hashinger Hall where both usually occur in the same space. In both environments, the use of décor and specific artifacts enable the user to create a physically comfortable place in the space. These artifacts and decoration help subdivide space, remind residents of home, provide aesthetic enhancements, and highlight personal choices. A resident's ability to use spaces within the

environment at his or her leisure generates social comfort. Most often, this sense of comfort is associated with the idea of the 'third' place. In the scholarship halls where additional living spaces are smaller and more convenient to the users' demand, this sense of third place provides residents a place other than the sleeping quarters to socialize. In addition, these spaces are adaptable: the parlor hosts a meeting, a piano practice, or an impromptu game of Pictionary. The dining room is a study space, a knitting circle, or a place to fold laundry. Hashinger lacks a discernible 'third' place space. There are study lounges, classrooms, and game rooms but they lack the sense of comfort associated with the 'third' place. Socialization appears to occur despite the lack of space: three people sitting in the middle of the hallway sharing a snack; a student perched in the window well talking on the phone while a couch sits vacant five feet away. The smaller spaces are not only smaller; they are friendlier and increase the user's sense of security. The smaller the number of people habitually using these multiple small spaces creates an easier sense of reference and thus produces a tighter community. Reducing the overall number of people who 'belong' in the environment leads to greater social interactions and again, enhances the sense of community within the reference group. Security is greater, both physically due to enhanced comfort in surveillance and psychologically due to the known reference group. These smaller spaces come with new construction and with the renovation of existing spaces into physically smaller environments and closer communities.

Windows, in particular operable windows, are very important to create a comfortable place. In the living space, the study space, the dining space, the entertainment space, and the lounge, windows are vital to the satisfaction residents feel for their place. Residents within Hashinger Hall consistently regard high narrow windows as a negative design element in the

building. A resident perched on the window ledge enjoying the uninterrupted view of Allen

Fieldhouse is otherwise oblivious to the dreary and sparsely furnished study room.

> [My favorite part of my childhood home was] the windows. It had better light, the visual aspect of the windows. The views were good. In houses windows are more placed in rooms, you get better light. Here [at Hashinger] you get a little direct light in the morning but no other time. The views in houses are more contained, you see a tree, but here they are just there.

4-0-9: View from study room at Hashinger Hall has expansive views of the campus. The views are well liked by residents, although the individual rooms feature very narrow windows.

In Rieger Hall, a consistent pattern of beds next to windows provides a clue to their

importance. Several residents base their preference of spaces within the room to the natural light

available from the window. Operable windows are paramount for both light and views. A key

focus of both construction and renovation needs to be in the use and placement of windows,

particularly within living spaces, and should not be disregarded for their importance in dining, study, and living spaces.

Community

It comes down to creating a community where residents belong and want to participate. As a Hashinger Hall resident explained, "There is strength in numbers beyond physical power. People are made to operate as community not individuals."

Building identity and tradition (in the building) improves the likelihood that residents will not only be satisfied with the environment but also retain residency in subsequent years. All three buildings have ingrained traditions in their programming. The participants in the scholarship halls regard their return to 'their room' each year as a sure thing; those in Hashinger do not. When queried about why they would stay, residents of the scholarship halls talk of intangible qualities like camaraderie, spirit, and friendship. Residents of Hashinger speak of physical attributes like the design studio, parking availability, and the theater. In the dissection of these statements and observations, the intangible qualities have a critical relationship with design. The camaraderie of working together to prepare meals in the house kitchen plays a role in building relationships among residents with little else in common. The spirit of the place bespeaks of the informal interactions taking place in the living room such as the Tuesday evening *Glee* watching party. Friendships spark from sharing meals and discussing current events through the fireside chat. Each of these is dependent on a specific space available—the kitchen, the dining room, and the fireplace—that are present in the scholarship hall, but not available to residents in the traditional hall. It seems that the creation of spaces that enhance these intangible qualities should find their way into the design of temporary living environments.

Summary

Student housing should meet needs that residents cannot find otherwise: support for personal development and social connections. Using the evidence collected in this study, themes emerge on student-living environments that outline the physical and social shape of space: choice and control in the environment, the flexibility and adaptability of space and elements in the environment, personal comfort and a sense of ease, and the community. The amount of choice and control over an environment begins largely as a perception of transforming space and elements of the environment like temperature and furniture. A person wants his or her space to reflect their identity, therefore flexibility and adaptability is highly desirable to help shape the space into a specific type of place. People feel most at home when they are at ease and comfortable in an environment. Designing for a sense of security and ease encourages the creation of a home-like quality and community. Encouraging designs scaled to enhance the development of community among residents creates stronger ties to the place and lasting traditions within the environment.

Chapter Five: Principles for Design in Practice and Policy

To the university, student residents are consumers. There is an understanding that students have available options outside of the university to fulfill their housing needs. Students who reside in university housing for at least the first two years of school report higher academic achievements and stronger social relationships, as well as have higher graduation rates, which is the primary focus of any institution of higher learning. Therefore, student housing must meet needs that residents cannot find otherwise: support for personal development and social connections. Design approaches to housing that intends to satisfy the emotional and intellectual needs of college-aged students should address two key features: the creation of a specific kind of 'place' for students within housing and the development of camaraderie to foster community and a sense of home.

Basic principles in the design of this type of place address the social, psychological, and physical elements of an environment to create successful and healthy spaces:

- Create spaces and opportunities for the user to perceive choice in the environment
    - Use a multifunctional approach to spaces, finishes, and furnishings
    - Use modular units and adaptable furniture
    - Replace the large central study lounge with multiple, small social and study spaces or a combination of large and small spaces
    - Use of hybrid style spaces, for example a "house" designed with 10-12 rooms clustered around common living, dining, and kitchen facilities
    - Provide a 'third-place' space to allow students the opportunity to congregate for conversation in a space that does not function for academics or sleeping

- Allow users to adapt space to meet their needs
    - Use maneuverable and adaptable furniture

- Use adaptable finishes like paintable surfaces , chalkboards, whiteboards or bulletin board walls/ doors/ desktops
- Provide only the space shell and offer furniture as a rental option

- Allow the user to move with ease and familiarity through the space
  - Use low-rise buildings to keep the resident within one or two floors of living, dining, and sleeping spaces
  - Orient the spaces to familiar patterns like that of a house
  - Separate spaces for sleeping and living or adaptation of single spaces for different functions, such as daytime living and nighttime sleeping
  - Include windows with views of nature and/or green space and which allow natural light in addition to mechanical lighting within a room
  - Create psychological as well as physical security
  - Create multiple smaller spaces leaving more access to light and views

- Create a community residents want to be a part of and participate in
  - Create building identification through a visual feature-large or small- identified by residents to distinguish it from other buildings should be used to create a landmark memory
  - Keep the overall size of the hall small or break into identifiable parts to allow residents to develop a small community group
  - Include features that encourage the development of intangible traditions, like kitchens and fireplaces
  - Create spaces or design elements that allow for the creation and celebration of identity (personal and community)

Design to connect social and physical environments

Students need to find a place within their space on campus that provides a physical and

an emotional identity. That is, the design of the residence hall should bear in mind the creation of

a place that serves the non-academic and non-housing needs of the student resident, but that also

enforces the idea that this is a place meant for living as much as it is for studying. The lessons

from this study advocate for the development of a third place, as described in Ray Oldenburg's

the Great Good Place, "The home *roots* us… (Seamon) Those who have a third place will find

the criterion applies. If an individual has a third place, then the third place also 'has him.'"

(1989, 39.)

As Oldenburg suggests, these spaces need not contain special features or decoration, in fact plainness is best because in these environments it is the ability of the users to adapt them and make them their own that enable residents to feel most at home. Like the pubs and coffee houses used by older generations, students need a place that is neither their sleeping space nor study space; it is not intentionally educational or deliberatively programmed but open to interpretation. It is a place for something other than education, and it provides a place welcome only to students where they feel comfortable and at ease. As Durkheim suggests, it provides a place for the social interactions necessary to all humans (Durkheim 1951). It is accessible and nearby and is without pretention; most importantly, it is a neutral place of gathering:

> Neutral ground provides the place, and leveling sets the stage for the cardinal and
> sustaining activity of third place everywhere. That activity is conversation.
> Nothing more clearly indicates a third place than that the talk there is good; that it
> is lively, scintillating, colorful, and engaging. (Oldenburg 1989, 26).

In the residence hall, this idea of a third place could build into the design of the space in a manner that meets the other criteria for good student-housing design. It can include the use of smaller, informal nooks in an existing hallway. Rather than one large study lounge, multiple small study spaces with furniture create a living room style space. Including a fireplace in a lounge creates a hearth within an enclosed common space.

Not only is this place helpful to fulfill needs that exist beyond academics, it will ideally begin to foster security within the environment. As noted in the scholarship halls, students hold surveillance of the building to a higher standard than in the larger hall because they physically

identified those who belong. As Oscar Newman describes it, the more people define a place as their own, the more they actively monitor activity and use (Newman 1972). A student resident who engages in the regular use of a third place within the hall develops a sense of what is normal behavior for the place and, knowing what to expect, the student seeks to actively enforce these norms. Not only do the students become socially aware of more users in the place, they translate that social behavior into physical surveillance thus increasing the likelihood that fewer security issues arise without notice.

The importance of giving students a third place in which to spend time and develop community leads to the development of stronger social influences, specifically the camaraderie necessary to realize a community of friends. A strong sense of camaraderie is inherent in developing a strong community (Durkheim 2001). Strong community ties to the personal growth and emotional development necessary for residents of student housing to move through the stages of maturity as described by Chickering and Reisser (1993).

Camaraderie within a cultural reference group (community) indicates a level of social and psychological ease amongst the members that encourages stronger working and living experiences. Durkheim discusses the idea of group effervescence and ritual to bond members of a community. The use of regularly occurring group activities, like sharing meals or an inside joke, evokes shared experiences and builds camaraderie in community members (Durkheim 2001). Students who develop rapport within the living environment would more likely develop study groups in that community. In other forms of housing, this camaraderie evokes clubs and organizations like book clubs, neighborhood watch groups, or community garden groups. In work environments, this camaraderie increases productivity and retention within the company. In

a living environment, like student housing, this camaraderie is evident in the informal traditions residents develop. Therefore, where camaraderie develops in the living environment, retention can also be higher. The university views retention in campus housing to be a priority for its success. Building camaraderie not only increases retention within the unit but may also create tighter connections to the university as a whole. As design looks to make student housing more market friendly, small changes that increase the opportunity for greater social connections have importance, like the clustering of rooms, design of third places, and the separation of living and sleeping spaces.

Elements of the physical environment

Residents of both types of student housing in this study describe similar elements in their use and adaptation of spaces. The need for spaces in which specific activities take place appears to be very important. The separation of sleeping space from spaces used for social and academic activities appears significant in the ideal-living-environment focus-group activity, the interviews, and observations of students within their living space. I observed students in the scholarship halls, who have access to additional types of living spaces. I found that students use these spaces to fulfill social activities (music practice, entertainment, social interaction with others) and academic activities (group and individual study, project space) to a higher degree than those in the traditional hall. Residents have a level of comfort with environments that are similar to those they experienced in their childhood house. While not likely to claim territory by leaving valuables unattended for long periods in these spaces, most residents did indicate willingness to leave personal objects in common spaces believing they would be untouched. This act of

incidental space claiming acts as an extension of secondary territory; it has an effect to increase the resident's sense of home (Abu-Ghazzeh 2000).

Students in the traditional hall expressed no such comforts or practices. In fact, residents put effort into adapting their sleeping spaces into smaller breakout spaces for social/ studying and sleeping in an effort to achieve separation of activities. The introduction of additional furniture, like a futon or entertainment cabinet, acts as a divider between sleeping and social/ study space. The maneuvering of provided furniture to subdivide the student room with physical barriers functions in a similar manner. Interviews with residents in these spaces indicate a clear intention on their part to use these spaces for separate purposes. Additionally, residents of the traditional hall are less likely to use the common spaces for intended purposes: study lounges are used, but not for individual study purposes. Typical responses to inquiries of their use include group studying, test preparation, or projects but not necessarily for an individual's common study purposes. Day-to-day study uses occur within the individual's room that had been adapted. Residents use the lounges and game rooms for casual conversations and incidental interactions, however multiple observations indicate these social interactions are even more likely to occur in random hallways, the front stair of the building (primarily claimed by smokers), and grouped around a window ledge (used as a window seat.) Use of common spaces is typically short term and where territory claiming occurs, it is often with an understanding that it is a public space with the intention of not doing truly private or studious work within the space. This lack of territory claim indicates a lower sense of ownership and home outside of the individual's room.

Going back to the main point of this study: do these students make a 'home' in their residence hall? The simple answer is yes, to an extent, they do make a home. This home is

conditional, likely due to their inexperience in taking ownership of their own space at such a young age and lacking confidence to claim territory (Altman and Werner 1985). Residents in the scholarship halls appear more at ease and comfortable in their living environment in a way that looks like a home. They share the space and responsibility for it with their housemates and enjoy a sense of security with their place. Residents of the traditional hall make a home-like space that relies on artifacts within their smaller living space to remind them of their primary home place but do report a sense of familiarity with the space that encourages the sense of community in the hall, if not exactly a place they identify as home (Marcus 1995). Residents in both environments are cognizant that their time there is temporary and often reflect that knowledge in qualifying their feelings of home in the student living environment. Other qualifiers reflect their sense of reference group and those they readily identify as belonging in their environment and the amount of responsibility they have to the environment in maintaining its character and identity.

Using the principles in practice

In the development of sound planning and design practice, the use of a charrette to encourage participation amongst various stakeholders is common. Even in the university housing environment, designers often have the flexibility to use a charrette or similar design approach to provide feedback on the project. The use of this particular type of charrette where participants explore their personal experiences with past, present, and ideal living environments, develops a synthesis of design to create a specific environment with elements of home. Designers of temporary environments face this particular challenge to imbue the space with these qualities. Therefore, the use of these exercises can be helpful to develop design principles. Using a few of

the more prominent design principles derived from this study as examples, we can see how practitioners can develop their projects through the charrette.

Separation of spaces for daily activities like sleeping, studying, and socializing

In the study, participants readily express a desire for colors or architectural styles. Part of the analysis is separating out that which reflects a personal bias and where this bias reflects physical references to the space. For example, a participant from Hashinger Hall shows in his drawings a preference for neutral colors, modern design, and open spaces. His drawings include architectural references to furniture and finishes inherent in modern design. These are a personal bias discovered in his interview and observations, reflected in the personalization of his room, and perhaps based in his choice of study (architecture.) Deconstructing his drawings and interviews, I see a correlation to the larger data pool where he expresses a need to separate activities: even in the openness of his ideal living space there is clearly a space for work, a space for sleep, and a space for social interaction that combined define a place in which he would feel at ease. Within the drawing, basic elements create definitions such as a fire pit with bar and couch containing his girlfriend for socialization; a brushed steel and wood bed for sleeping; and modern cabinetry and art corner to inspire his work. This separation and definition occur repeatedly throughout the third drawing exercise.

Psychological and physical security

Regarding the issue of security, as an example, practitioners should consider the use of charrette exercises that involve the diagramming of spaces into public, semi-public, and private to gain an understanding of where people will act on physical surveillance of an environment

based on their psychological concept of territory. Beyond the individual room, as the primary territory, it is important that residents feel a sense of secondary territory by making a claim on adjoining semi-public and public spaces. This claim extends their sense of ownership into spaces that otherwise may not be under their surveillance. Extending ownership and surveillance has a two-part importance: residents take an active role in maintaining physical security in these places and they develop extended psychological security to increase their sense of ease and well-being in the physical environment.

Flexibility and adaptability

Where designers allocate dollars strictly to provide the highest quality for the least amount, providing options for choice in an environment may not be part of a critical-needs list. Design budgets need to address the adaptability of spaces in order to increase immediate success as well as longevity in these types of projects. Basic furnishings should be flexible: provide the primary use but also adapt to secondary uses, for example shelving that can be maneuvered to shape cabinetry, dividing walls or desktops and beds that can be bunked, lofted, or stand alone. There seems to be a high desire for adaptable finishes as well, for example, wall surfaces used as chalk or white boards and window shades that act as projection screens. In the design of student living environments, the practitioner should place emphasis on the space more so than the environment. More importantly, there needs to be an emphasis on the idea of allowing students to make a 'place within the space.' Users will attempt to adapt the space in an attempt to make their place unique and homey. Giving students the tools to do this-- finishes and furnishings are critical—can foster identity and community that leads to retention and higher levels of satisfaction.

Scale of living spaces

If the ideal vision of the design is to make a home, it should consider the scale of the space as a paramount issue. In the need to increase numbers of beds available in mass housing, like student residences, making smaller and friendlier spaces may depend on reconfiguring large spaces. The typical large central study lounge on any given residence-hall floor is often poorly furnished and ill designed for the needs of a student living environment. However, these spaces can be adapted. In looking at the successful common spaces of the scholarship hall, two elements stand out. First, the scale and type of furnishings should be relative to their use. Durable chairs should have cushions low enough to slouch in but high enough to sit comfortably at a table. Tables should be large enough to scatter books and papers but not so large that an individual cannot claim the entire table for themselves. Nevertheless, there should also be larger tables for groups. The rampant use of tablet computers and small laptops mean that studying occurs in informal spaces too, therefore couches are highly desirable and, like the chairs, need to balance comfort and scale. Each piece of furniture should be maneuverable with clustering and alteration of arrangements encouraged. The ability to subdivide the large space is critical to adapting it. On that note, the second element is apparent: dividers. In the scholarship halls, the largest common space, the parlor could easily be subdivided into a music room and a living room by the use of pocket doors. Similar devices could be used in larger common spaces through the inclusion of screening devices, shelving, or modular walls. The perception of controlling the environment through adaptable shaping gives the user a sense of ownership in creating a space they feel comfortable using.

Traditions are good for retention. Within the community, the development of traditions strengthens ties between individuals and for the group to the place. This can translate to longer and stronger relations between individuals and with the institution. Designing for tradition can focus on a single element, like the inclusion of a hearth, or on the adaptability of the space to allow individuals to express themselves, like the inclusion of spaces for artwork and modification of the space. Retention and commitment to the university often translate into future funding and alumni contributions, therefore, the incubation of traditions and customs within a residence hall add value to the design process. Including specialized features within the building, such as a hearth /fireplace or programmed spaces like a theater or design shop can generate traditional events that build camaraderie among residents. Within Rieger and Krehbiel, a common practice is to hold fireside chats in the living room to discuss current events and household needs, but also for fun events like game night. The fireplace anchors the living room into a cozy space for activities ranging from the formal group discussion to informal gossip sessions and board game tournaments. As a fixture, it appears to hold a ceremonial position in the hall. The mantle, like one in a private house, holds the detritus of achievements. A casual glance displays awards, pictures, and the occasional liberated restaurant mascot. However, tradition does not require such a formalized element of design. Within Hashinger Hall, a lobby corner finished as a chalkboard appears to have similar importance as a defining fixture. Over time, the wall shows programmed messages of encouragement, incidental messages of happiness at the weather, and even a running conversation between multiple authors. Staff and residents explain that the wall holds a certain ceremonial post as a public message board feeding the egos

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of residents, creating a sort of low-tech social networking site. It holds a place of importance and expression, as good traditions do, in the lives of Hashinger residents and gives people a sense of belonging within the group that lives there.

The charrette

In using the charrette, designers of student housing and similar intentionally temporary living environments should reflect on the quality of the information and the quality of the participants. This study shows that even amongst a relatively small sample of student housing, certain common elements occur: the adaptation of space, the separation of living/ working spaces, and the reflection of reference groups and identity. In practice, designers usually face a timetable of working with stakeholders that may no longer be within the community that will ultimately use the facility they design. The product may speak to the wants and wishes of the stakeholder group but not the actual users. This outcome reflects an issue in the design of the current scholarship halls.

Specific elements of the interior design were included at the behest of stakeholders in the design process, but called out specifically by residents as uncomfortable or inconsequential to the use of the building[3]. For example, several informants in Rieger Hall are confused by the placement of framed quilts in the living room (donated by alumni); they stated that they did not enjoy them and wished for more comfortable décor. In using the charrette, designers should be cognizant of the difference between a participant's personal desire and a relevant guiding design

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[3] During interviews, staff from Treanor Architects explained the differences in interior furnishings for Rieger and Krehbiel Halls related to specific elements. Alumni donations and wishes account for the differences in these furnishings.

principle. Additionally, looking at a charrette participant's own experiences with similar environments, the practitioner may wish to adapt the design where similar patterns emerge across all participants, such as the example in this study of separating living/ working spaces. The charrette process is helpful in practice only to the extent designers use it to draw out themes, which they explore through follow up interviews or discussions. This follow-up step appears crucial to inform the design practice.

Part of any practitioner's process should be a thorough understanding of the context in which he or she is designing. In an environment where the user intentionally stays a temporary period, it may be more difficult to understand the social construction of the place. Another benefit of engaging in a charrette for temporary environments may be the ability to develop comprehension amongst the design team of social, psychological, and physical influences on the success of the design.

The dynamics of student social interactions are complex. Observation may not be enough to comprehend the importance these interactions have in the success of a housing situation. This alone may account for the diverse housing options available on campuses today, but the reality is that the practitioner must consider how social opportunities occur to design a physical environment. The charrette process generates ideas from a sampling of the student population. The use of specific activities, like the focus group/ visioning process can provide insight to the design team regarding how that particular population socializes and what shape the space may have. Even when that exact population may not use the facility, the opportunity to survey a sample of people of similar age, perception, and experience should prove valuable and increase the likelihood of creating a successful design.

Developing policy and setting agendas

As the need for a better product increases, the need for better research into that product becomes clear. This holds true in most design, however, putting the idea of a design process like a charrette into the construction agenda for student housing, or any temporary environments, may be difficult. The primary concern is fewer dollars spent on the process means more dollars spent on the actual product. The costs to host a charrette are often small relative to the significantly higher chance of success in design outcomes; therefore, would it not be valuable? This is a balance to consider carefully, but given the increased market demand for student housing and the decrease in construction budgets, doing it right the first time may mean the budget line includes some bit of research. The costs to host a focus group are relatively small compared to the potential loss of revenues from a failed building. In this study, the sample includes existing students meeting in their existing residence hall and for the price of snacks, paper, and pencils, dozens of participants provide hours of information to examine where these buildings have been successful and where they have not. Given that this type of exercise can run concurrently with schematic design, it would seem that the value of this research far outweighs the cost in the overall construction budget. In addition, it is more common than not that new construction on campuses intersects public interests, making local governments, neighborhood associations, business interests, and alumni active participants in the design process already. These groups could engage in this process with the students providing greater buy-in to the charrette within the construction agenda.

The opportunity for agenda building reflects the goal-setting nature of student housing. In general, most campus housing programs operate under a guiding mission statement that shapes the agenda and policy of its programs. However, because the constituency that these programs often deals with is chronologically limited (two-to-four years of occupancy) the way most housing departments address long-term projects must account for shifts in local/ campus and national/ organizational trends. Most campus housing officials have some relationship to a national professional organization such as the Association of College and University Housing Officers-International (ACUHO-I). This organization, as with many professional organizations, leads the industry in spotting trends and developments within college campus housing (University of Kansas Department of Student Housing 2009).

In addition to the reformation of agendas within campus housing, the lawsuits challenging student living conditions during the 1970s cast an economic model on student housing. As the push for greater amenities moved forward, colleges and universities accepted that housing within the school, as elsewhere, must be competitive and marketable. Today, students have access to greater choices in housing options, including those that are non-university-owned housing. Thus, in order to continue to house students affordably, housing officials must compete with these other options. It has become a battle of trends, amenities, and affordability where knowing who makes the rules and how to follow them means the difference between profitability and loss (Gehring and Dey 1983). Yet the 'rules' are largely informal ideas generated by organizations like ACUHO-I as a way to legitimize the role of housing officials in the economic arena. Enhanced by a few research studies suggesting the design of campus housing correlates to the social and psychological well-being of students, the acceptance of

certain types of housing for specific types of students has become institutionalized but not regulated (Chickering and Reisser 1993). The neo-institutionalism of the policies behind this programming makes it clear that housing officials who accept these ACUHO-I trends will be competitive and those who do not will fall behind.

Individual campus housing programs can vary widely, but using the University of Kansas as my primary example, I find that John Kingdon's three streams –problems, policy, and politics--works best as a theoretical model for policymaking (Kingdon 1995). The agenda in KU's Department of Student Housing focuses on the mission of "building excellent communities through individual support and respect" (University of Kansas Department of Student Housing 2009). Ties to ACUHO-I and the university regents influences policy formulation. The Director of Student Housing serves as chief implementation officer and may take the role of policy entrepreneur under the right circumstances. Changes in housing policy are implemented largely through the political stream, i.e., the university system sets goals and objectives carried out through individual policies, such as the creation of Scholarship Halls and Living-Learning Communities. Specific policy changes can occur outside of the political stream when focusing events emphasize a gap in policies, for example, underage drinking and alcohol poisoning cases have led to the implementation of mandated alcohol education programs and stricter enforcement of alcohol-related penalties for residents of campus housing. The localization of nationalized policies, like those discussed in annual meetings of ACUHO-I follow the policy selection process Kingdon likens to policy Darwinism (Kingdon 1995). Most programs generally adopt the best policies with the widest acceptance. For example, the adoption of wellness programs and policies about bias against sexual-orientation gained wide acceptance only after a set criteria for

implementation, methods of funding, and the acceptance of community norms negotiated policies set forth to administer the programs (Kingdon 1995; Winston, Anchors and Associates 1993). The creation of housing programs like Living-Learning Centers, Honors Colleges, and Scholarship Halls fall into this category as well.

The University of Kansas's chief housing officer, Dr. Diana Robertson, has the unique opportunity to be a policy entrepreneur[4]. Hovering between the political and policy streams, she can push her agenda to create better environments through the survey and study of existing ones. Dr. Robertson opened a policy window with the renovation of Hashinger Hall. Armed with the need for data on the renovation and with the support of the project's design firm, she implemented a user satisfaction survey of Hashinger Hall residents. This type of survey had not previously existed within the Department of Student Housing (DSH) at KU. However, with the data generated by the survey, DSH identified key features of the renovation to be 'successful' in terms of cost-benefit analysis and overall satisfaction by residents. Dr. Robertson uses the successes of this event to implement additional survey and student participation in construction and renovation projects undertaken in student housing on campus. By capitalizing on the renovation project, Robertson exploits the need for set policies to address construction and renovation needs as well as satisfy her own plans to garner data and research on housing at the University.

The theoretical framework of this study creates a lens through which to assess and evaluate political maneuvering and policy outcomes. For example, knowing that user surveys came through a policy window utilized by the Director of Student Housing as described by

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[4] During an informal interview with me on September 14, 2009, Dr. Robertson described her attempts to engage in a better design process for student housing construction and renovation at the University of Kansas.

Kingdon's theory makes the sudden use of this data less of a surprise to researchers who may

otherwise misread the circumstances surrounding its use and the lack of previous data. In

addition, the theory validates the basis for which future actions occur, like the inclusion of

charrette sessions and dialogue between design teams and the student constituency in future

renovations.

Researchers and participants who understand the theoretical framework behind decision-

making will also come to understand a better path to policy implementation. Seeing an

organization like ACUHO-I and its influence on the adoption of policies at a university may

seem confusing unless one uses the lens of neo-institutionalism. In this theory, knowing both the

formal and informal rules of the situation is critical. From the outside, ACUHO-I appears, as do

most professional organizations to be an advisor and forum for conversation and research.

However, research within the organization funnels into practical application, which in this

situation is to enhance the organizational policy of university housing. To be a part of the

organization is to capitalize on its resources without the formality of pledged adherence to a

certain set of rules. Schools are not required to use their research and polices, but many do,

knowing that by adhering to this known policy structure, their organization has the appearance of

greater support and legitimacy.

Knowing the theory creates certain advantages, not only from a research viewpoint but

also from a participation viewpoint as well. Awareness of how the process unfolds, identifying

the key players, and grasping the types of influences that may occur in the process, all set up the

game plan for participation in the policy game—or watching the game unfold. The type of theory

dictates how to insert oneself into the process and affect the policy agenda. Understanding a

process following Kingdon's theory makes a participant aware of how to venue shop for policies. For example, promoting the use of Scholarship Halls at the University entails noticing a policy window created by overcrowding in traditional residence halls, the economic need for reduced housing bills, or a desire to increase academic competition (all core values of this type of hall). Knowing where the opportunities exist to engage in the debate has benefit to the process.

Stakeholder issues

Prior to undertaking the focus groups and interviews, I met with designers and student housing officers to understand the issues they consider important in the design of a successful residence hall[5]. These stakeholders in the student housing design process have experience with construction, maintenance, and programming in residence halls. These issues do not comprise my main research questions, however, the study allows for two specific elements of design to play out: the use of the fireplace as a design tool to inspire community and the importance of bathroom privacy as a deciding factor in residence hall satisfaction. Truthfully, these issues have pointedly remained absent from the findings and conclusions for the simple fact they were non-issues to the residents of Hashinger, Rieger, and Krehbiel Hall. The designers of Treanor Architects decided based on anecdotal evidence that the inclusion of a fireplace in the design of the scholarship halls would enhance the community and home-like atmosphere they attempted to achieve in the buildings. Inspired by the idea of the fireside chat as a community-building exercise, designers included large fireplaces in the main living rooms of each building. Residents

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[5] Conversations with Treanor Architects were part of an ongoing project from 2009-2011. Conversations with student housing officials at the University of Kansas occurred in September 2009.

in both Rieger and Krehbiel report great happiness for the fireplace as a cozy addition to the room and indeed, each hall holds fireside chats for residents to discuss current issues and problems within the hall and campus. Comments about the fireplace include that it made the building feel like home and that it creates a warm and cozy place to study on a cold evening. However, none of the residents reports it as a primary reason for using the particular space, choosing that particular hall, or the element that enhances their associations of home with the building. In conclusion, it was a bonus feature, which adds value to the experience, but is not a deciding factor for satisfaction with the environment.

On a similar note the privacy issue with bathrooms, specifically the gang-style lavatory versus the semi-private or private bath does not appear to be as great an issue as officials believe. In current policy matters, university officials in various housing programs increasingly face the call to provide gender-neutral housing options that center on the issue of privacy in the bedroom and bathroom. Bathrooms are a design impediment to this policy that give advocates and detractors similar problems: how do we design bathrooms for gender-neutral housing without providing all en suite baths? The answer is likely far more complicated than this study can address, however each of the residents informally polled in this study relate little to no concern with privacy as an issue with the bathroom. Staff in Hashinger Hall--with gang-style baths for men and women by wing-- and Krehbiel Hall, with both gang-style and en suite baths, reports that cross-gendered use of single sex baths is a fact of life but that they experience few problems directly related to gender privacy issues. A staff member at Hashinger Hall describes experience with a trans-gendered resident as well as visitors of opposite gender using a single sex bathroom without issue. In his words, "it worked itself out" with the residents deciding their personal level

of comfort and choosing to use alternate facilities or wait until a later time[6]. The issue that is most prevalent regarding en suite versus gang-style bathrooms is maintenance. Multiple participants cite maintenance as the primary reason to choose the bathroom style they prefer. If residents show a preference, they do not want to maintain their own bathroom, as required with en suite baths or they prefer to handle their own cleaning. There were no evident links between experiences with shared bathrooms to the preference. This conclusion is not a definitive answer to the gender-neutral bathroom issue, but it does highlight the gap between policy issues and reality of experiences.

Concluding the argument

Living environments known to be temporary, that is, where the resident knowingly spends a specific amount of time, can be difficult to plan and design. The client is not an individual with predetermined wants and needs, but usually an institution or governing body with a class of users who may have varied backgrounds and living experiences. These experiences should not be discounted, but embraced to understand how elements can be introduced to inspire community and home-like spaces. This study has examined the student living environment, a place where a resident spends nine months of the year or less. The findings show that there should be less focus on the idea of creating an environment and more focus on the idea of allowing space. This idea develops from the concept that students relate more closely with the idea of 'their space' than the 'living environment' because to them, they are using space, going

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[6] The staff member in question was also a study informant from Hashinger Hall. Our conversation on the issue of bathroom privacy was part of the interview process.

to a place, but rarely do they conceive of living in an environment. Space is small, personal, and flexible; environments are large, decorated, and fixed.

In the end, the process to create student housing is about creating quality spaces to build community, but realistically the goal of the university is to educate students. Education research informs us of the benefits of housing students on campus at least the first two years and longer if possible to provide well-rounded, academically successful, and socially content people. In order to meet these needs, the basic student housing should consider the social and psychological environment created within the physical spaces of the residence hall. Creating smaller scaled residences, with flexible spaces and opportunities to interact and engage with peers advances both the academic and the social mission of the university. By putting an emphasis on building community through a little bit of research, the university housing system can frame its construction and renovation projects to stress quality spaces.

Consumers appreciate quality. A byproduct of focusing on flexible spaces is that by allowing the user to create the space, it will be inherently unique, which in turn creates a consumer driven housing product. The focus here should be on the user and not on the latest trend in design or educational philosophy. Where residents adapt spaces and use spaces in line with their needs, they create identities tied to that place. Therefore, the result is a consumer-driven product instead of a trend-driven product. Trends may attract visitors, but the quality of the project will retain users. Retention in the scholarship hall highlights an advantage to community-oriented design over the traditional residence hall. Residents in Rieger and Krehbiel report a higher likelihood that they will return to the halls than residents in Hashinger Hall.

Housing officials must make room on their agenda to discuss the place of research in the design process. A primary consideration is the budget. By focusing the argument on the benefit of research, administrators will find that money allocated for construction and renovation of student housing can actually return an investment in to student retention and success. Instead of relying on invalid trend-spotting to justify the coolest amenities, housing officials can point to research to support design features and amenities that provide students a chance to create a home and community in the residence hall. Not every student enjoys the same sense of home in a residence hall, but using evidence-based research to provide features and amenities that increase the likelihood will create a better product and provide a reasonable approach to design for student housing. A better product means higher retention of residents. It also meets the mission to provide housing and integrates a sense of community into the residence hall experience. Finally, good design in the residence hall advances the growth and personal development of students. The use of the charrette provides housing officials pragmatic solutions to construction budgeting. It supports a practical agenda with the bonus of avoiding budget guesses in the design phase. Most importantly, it provides evidence to support the choice of furnishings, finishes, and features within the building and design process.

Chapter Six: Going Beyond Student Housing

"Buildings speak—and on topics which can readily be discerned. They speak of democracy or aristocracy, openness or arrogance, welcome or threat, a sympathy for the future or a hankering for the past."

-Alain de Botton, *The Architecture of Happiness* (p. 71)

Summary of the study

Quantitative research in higher education indicates that students who reside on campus for at least the first two years of their college education self-report greater academic and social satisfaction. They also have higher retention rates and academic standing in college (Chickering and Reisser 1993). Yet students can be reluctant to participate in campus housing citing issues such as, the lack of amenities, privacy, and space—in essence, the lack of territorial qualities used to describe 'home'. In an attempt to retain greater numbers of students, these institutions focus construction dollars on design to create a greater sense of community and 'home' like atmosphere within residence halls as a way to compete with outside housing choices. Design practitioners, using standard educational and psychological theories develop approaches to the renovation and construction of residence halls they believe will create a sense of community and home, yet there is little design research to indicate that these theories and approaches work.

A greater sense of community encourages greater participation, satisfaction, and retention among students. This is obviously better for the success of the student, but it is also essential for the success of the university. In an era of increasing competition for donations and grant money, capturing and retaining the highest quality students translates to universities and colleges striving

to be competitive in the business of housing. To do this schools must create top-notch housing with cutting-edge design and amenities balanced with an environment and social culture that will make students want to live in the residence halls.

With so little research telling designers what aspects of design will foster the social and psychological behaviors in residents necessary to build relationships, how do we design a building for community? Residence halls by nature are only a temporary place to live where residents often have little to no choice in neighbors, location, and space; hence, how can the designer instill the place with the qualities that inspire a sense of home? How does the designer make the building speak the right language?

This study addresses these questions using a qualitative methodology involving the use of a design charrette, direct observations, and in-depth interviews with residents of student housing. The study examines two types of university housing, the traditionally designed residence hall, and the community-oriented scholarship hall. Residents of each building volunteered to participate in a series of focus-group activities created to elicit expressions of personal experience in past, present, and ideal living environments. Additionally, interviews and observations with residents of the buildings use the results of these activities to evaluate their experiences in the residence hall, reflect on their views of creating home and community in the student living environment, and their personal use and adaptation of the fixed environment and personal space. Techniques for interviewing ask participants to draw on past living experiences to idealize a concept of 'home' to understand how these influences affect a resident's response to the environment.

The goal of this study has been to evaluate how we understand the student's place in housing and provide a manner in which design practitioners may use research to create better housing for intentionally temporary living environments. Contributing to theory, this study takes accepted paradigms in the study of housing and proves that qualitative methods, in particular the use of design charrettes and interviews, work to investigate temporary living environments. The results of this study provide principles to encourage university housing to be competitive and current. It proves that scale matters. Both the scale of the physical environment and the social environment affect directly how well a resident builds a home and community in temporary housing. However, it also translates to other forms of housing, such as congregate and emergency housing to enable the sense of community found in traditional neighborhoods to permeate in non-traditional housing opportunities.

This study finds the physical environment to be critical to student living satisfaction, as is the importance of developing social connections to that environment. Within the environment, the separation of day-to-day activities makes a better sense of home. Similar to the childhood home, a space for sleeping should be separated from the living space. Within the living space, smaller spaces with flexible design encourage students to adapt and personalize spaces to create a unique place. This adaptation allows students to identify the place as their own, which in turn increases the sense of security and home. Along with the physical environment, the development of a social reference group is more likely to occur when the population of the living environment is small scale and creates a community within the environment. The reference-group connection to the physical environment develops a sense of community that ties directly into the sense of home.

For student living spaces, scale is important. Smaller is better. Small-scale buildings or the reduction of scale in larger buildings to create multiple smaller residences and environments is better suited for the creation of community and the sense of ease that inspires a home-like atmosphere. When students are able to develop a strong reference group, they will better surveille the environment and take a more active role in monitoring the activities and people within it, thus increasing both physical and psychological security. Within their environment, students appreciate the ability to adapt and maneuver furnishings to put a personal stamp of identity on the space. This identity develops a stronger sense of personal identity for residents and a place for the individual within the community.

Other temporary environments

The methods and findings of this study apply to other types of temporary living environments. Emergency response facilities, like fire stations, can be examined to understand the importance of building community to provide a successful living space. In the case of a fire station, the span of time is temporary on a day-to-day basis, where a typical crew spends twenty-four hours at a time living and working in the space. Design-wise, the space is set up in a manner very much like that of the student living environment with sleeping, living, eating, and training spaces comingled into a single building, and constructed socially, psychologically, and physically for a special purpose that isolates it from the adjacent neighborhood. In addition, like student housing, much effort has gone into the purpose to make these environments more comfortable and cost-efficient and to blend physically into the adjacent neighborhoods. Older, traditional-style stations are multi-story dormitory-style facilities with community lavatories and

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combined sleeping/living facilities situated over a large equipment bay, usually within a downtown or integrated environment. Newer prototype designs, like newer residence halls, have individual sleeping and washing facilities with separate living and eating spaces mostly on a single-story, designed with equipment facilities located in an accessible space away from the living quarters (RPGA Design Group, Inc. 2006). The buildings go through a prototype design process, based on design and engineering guidelines developed specifically for emergency facilities and popularized by professional organizations, to 'fit' into the surrounding environment (Emergency Response Facility Design 2006).

Unlike the student environment, the move of emergency response facilities to newer individualized living spaces within the prototype design has not been entirely positive for the community of the fire station. A brief examination of the prototype facility found two distinct differences between the effects of design changes in the fire station and the student housing environments: efficiency and camaraderie[7].

In the case of fire stations, efficiency literally translates to saving lives. Personnel have minutes to stop their activity, whether it is cooking, cleaning, paperwork, or sleep to gear up and respond to a medical or fire emergency. Therefore, in the design of fire stations, the physical distance and layout of living quarters and equipment bays is critical. Traditional facilities are multi-story with common sleeping and living quarters located directly above the truck bays. Pole

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[7] My preliminary examination includes plans, interviews, and observations of four fire stations, including a prototype design and a traditional-style facility in the City of Fort Worth, Texas and the City of Lawrence, Kansas. Both prototype designs were developed by architects to incorporate best management practices and technology recommended by professional organizations and included city staff and fire personnel in their development. The study occurred in October and November 2011.

access from the dormitory to the truck bay averages 10-seconds or less response time[8]. The prototype emergency response facilities are single story, designed with a progression of spaces from equipment and community/ public space to the common living spaces to private/ semi-private bunk and bath spaces. Most facilities feature a long-hallway design with sleeping and bath spaces located on a central hall that leads directly to the truck bays. Average response, dependent upon the size of the facility and location of the bunk is 30 seconds or less[9]. Conversations with fire personnel indicate that both designs are efficient and exceed required response times.

During my conversations with personnel, I found that most crewmembers appreciate the 'extra' amenities offered by the newer stations including specialized training facilities, weight rooms, and larger kitchens and dining rooms. Like students, firefighters want to be where the action is, so the stations with the busiest call logs are often the most sought after. Nevertheless, there is a difference amongst the personnel in the prototype and traditional fire stations and it has to do with camaraderie. In both communities, Lawrence, Kansas and Fort Worth, Texas personnel expressed a similar idea: traditional stations, with dormitory bunks seem to develop a closer camaraderie. Interviews with personnel clearly associate strong camaraderie with the strong work ethic of firefighters.

Durkheim expresses the idea that occupational solidarity creates better workers personally and professionally (Durkheim 1951). In the emergency response environment, familiarity is a positive aspect of working together. Use of the newer prototype fire station

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[8] Fire Department personnel in the City of Fort Worth and the City of Lawrence base this timing on assessments of actual emergency response.
[9] *Ibid.*

should be a cautionary tale. Striving to produce a more efficient, better run station has affected the community of the 'fire house' that crews use to ease the stress of relying on each other in an emergency. Efficiency is needed in the development of new facilities but should not be a detriment to the mission of the fire department. The effects of efficiency on developing camaraderie and community play a role in personnel satisfaction and deserve further research beyond this preliminary examination.

This lesson applies to student living and other temporary environments. Focus on the environment must equally weigh behavioral impacts with physical impacts. Isolating one element can alter satisfaction with the environment. A highly designed fixed environment may remove the user's ability to customize and adapt, but creating a highly adaptable space may put too much stress on the user to create an environment. By using research on the user as well as the environment, practitioners utilize a balanced approach to good design. The charrette is not ideal for every design project; however, research in general is good for design. Beyond understanding the context of the project, understanding the user and more importantly the user's experiences with other environments may be the key to deciphering basic elements important to the project. Design practitioners should address the effectiveness of including a charrette that evokes personal bias and group behaviors into a design project that may be used by those other than participants in the charrette. Using the biases and behavioral data can be effective if the practitioner looks at the meaning behind the bias and seeks to understand what drives the behavior. Even anecdotal evidence, like that in the fire station, can be useful to addressing future needs and drawing a balance between project goals and user needs.

Future research directions

This research creates a bridge to future topics within the study of student-housing environments, the campus agenda, and other types of temporary living environments. In recent years, more colleges and universities have adopted the student village concept to address housing needs (Strange and Banning 2001). The student village concept appears to be more than a trend because it meets functional and developmental needs for residents. Buildings within the village concept are small-scale to increase residents' ability to develop a close reference group. The form of the overall village is like a neighborhood for students and thus, develops a community identity for the village, as well as the building. Further research should examine the morphology of these villages in comparison to the larger scale traditional dormitories and their spread on campuses to understand if creating student neighborhoods has an effect on the larger university community and identity. Additional comparisons to other village-housing forms would benefit community-development principles and design for other village concepts such as senior housing.

Advances in technology will change the campus agenda, as we have already begun to see in the prevalence of online institutions of higher learning and the prolific use of online classrooms for student/ faculty interactions. Learning to create community within student housing may be a moot point if technology drives the campus online. It would be prudent to look into research regarding how campus identity and community can survive in an increased online presence. In addition, as bricks and mortar campuses look to invest wisely in campus infrastructure, research should consider how technology interfaces and enhances the development of community within housing. The interface of social networking with campus housing exists, but little research applies it to the design of better environments.

Finally, the lessons of this study apply to other living environments. Multiple environments where people stay temporarily can benefit from the personal investment of users into their community. Senior congregate housing is a growing design field. As the Baby-Boomer generation retires and seeks suitable lifestyle housing, community-oriented designs for transitional housing into full-time nursing care is big business. The research process used in this study easily applies to senior-congregate-housing styles. Housing such as senior cohousing and assisted-living could use the process to generate ideas for people moving out of the open housing market into choices with simplified maintenance in a community-oriented atmosphere. Other benefits of this research exist for populations with a different type of temporal stay. For example, emergency-response facilities house personnel on a rotation for 24-hour stays for a few days each week. The design of these facilities correlates strongly to the programmatic needs of a residence hall: sleep space, live space, and training space under one roof, in close proximity to their 'work' place but it is not their primary concept of home. By virtue of their jobs, personnel rely on the development of community ties and camaraderie with other inhabitants and seek an environment that allows them to relax and be at ease in stressful day-to-day situations. Using theories similar to Durkheim's occupational solidarity, the use of socio-physical connections to study the environment and personnel in tandem develops a strongly tied community-oriented design program. Like university housing, these facilities are multi-million dollar construction projects with long-term-planning issues that involve multiple stakeholders. The use of the charrette process and the development of design principles could assist in the design of these projects. Correlation to the social issues in the environment emphasizes the critical tie between the person, the place, and the mutual success of both.

Appendix A: Focus Group Activities

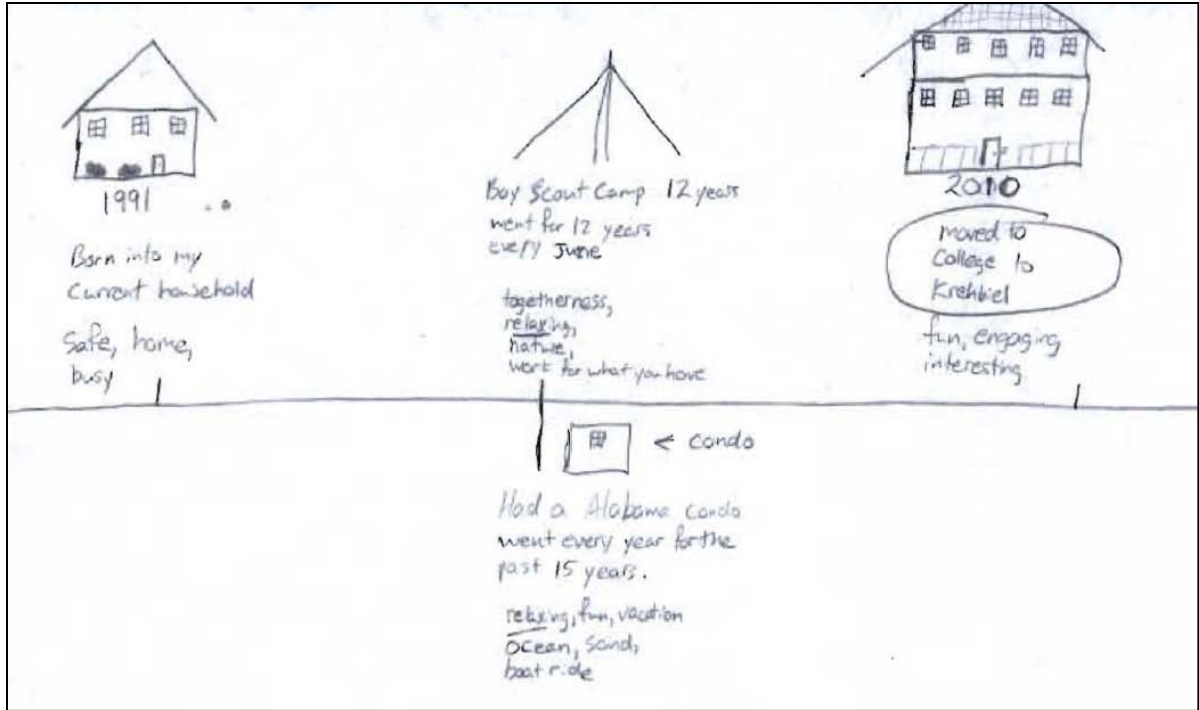The focus group activities include five 'tools' adapted from the Design Psychology Toolbox (Israel 2003).

Tool 1: Place Timeline.

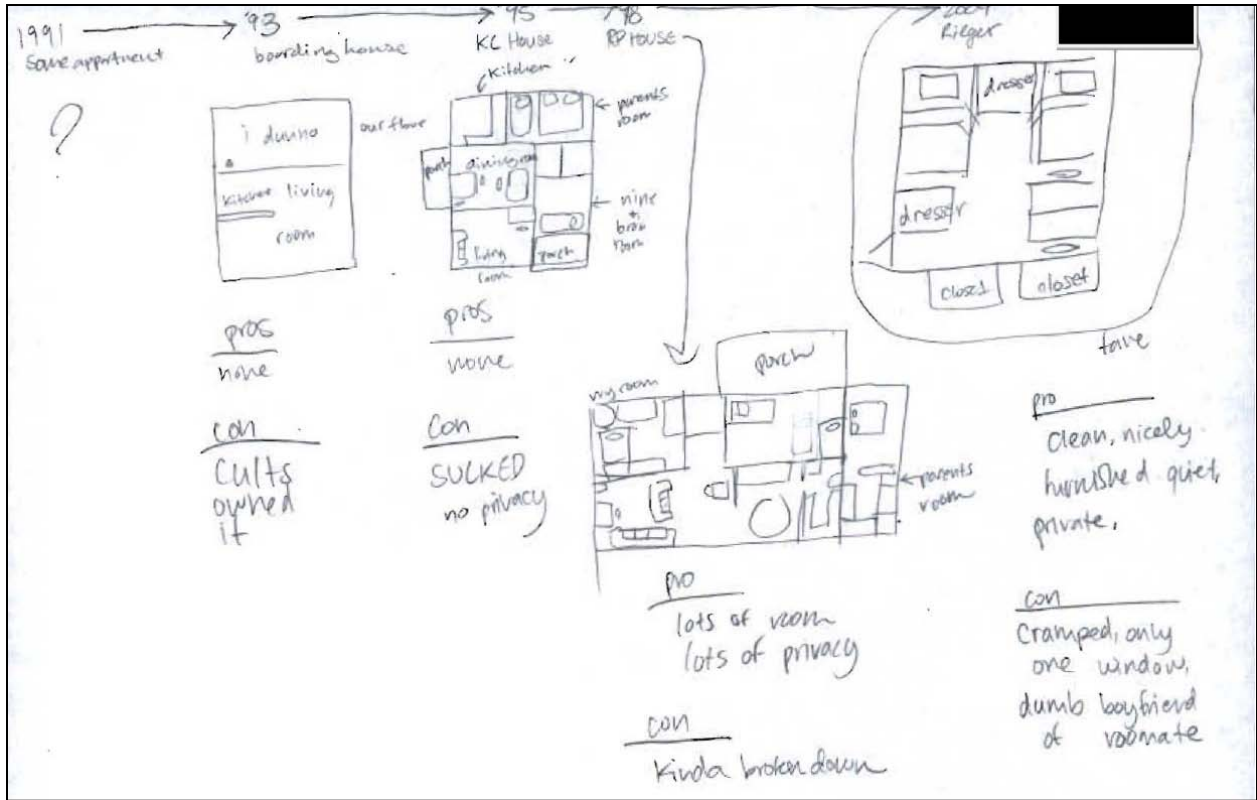1. Create a timeline of the living environments you have experienced.

Example:

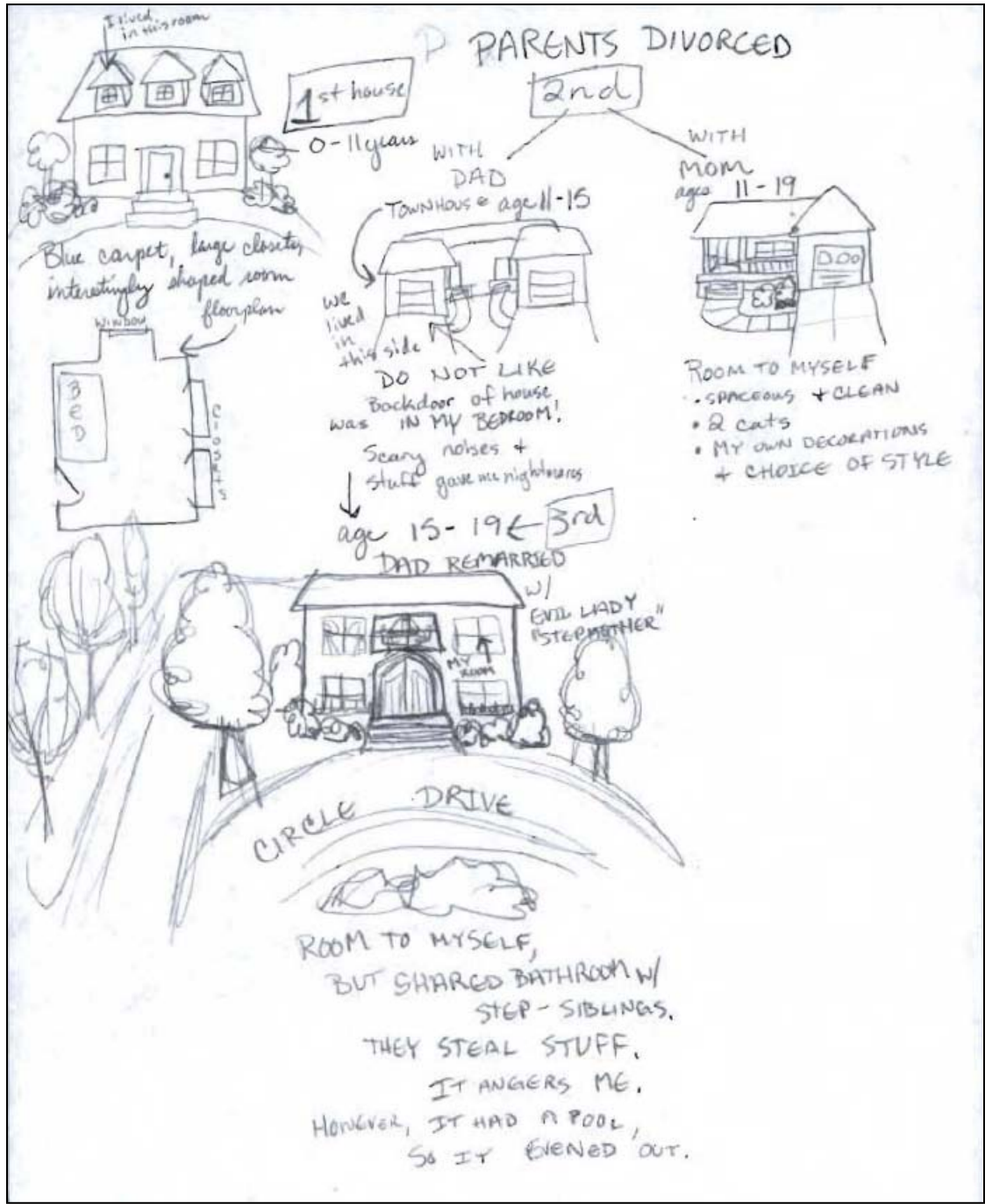| Place	Family home. Shared bedroom	Family home. Own bedroom	Shared dorm room at college	Single dorm room	Shared apartment with multiple roommates	Single apartment without roommate	Suburban house owned with husband	Urban house owned with husband	Urban house rented with husband
Age	0-10	10-18	18	19-22	22-24	25-27	27-29	29-32	32-34

2. Draw a circle around the place you like most on your timeline. Write down words describing why you liked it.
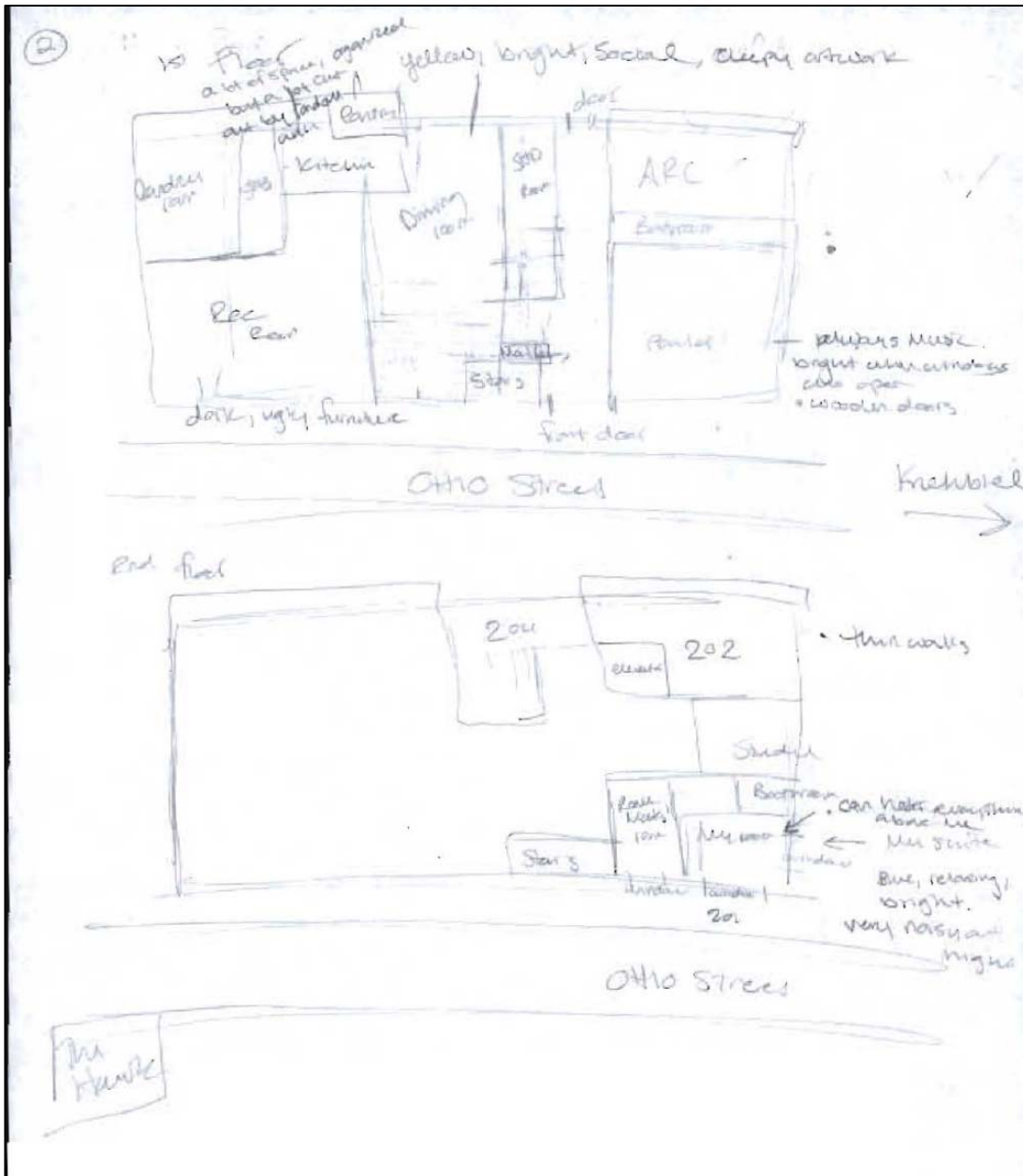
A-0-1: Informant Example, Krehbiel Hall

A-0-2: Informant Example, Rieger Hall

I lived in this room

PARENTS DIVORCED

1st house
0 - 11 years

2nd

WITH DAD
TOWNHOUSE age 11-15

WITH MOM
ages 11-19

Blue carpet, large closets, interestingly shaped room floorplan

WINDOW
BED
CLOSETS

we lived in this side

DO NOT LIKE Backdoor of house was IN MY BEDROOM!

Scary noises + stuff gave me nightmares

ROOM TO MYSELF
- SPACEOUS + CLEAN
• 2 cats
• MY OWN DECORATIONS
  + CHOICE OF STYLE

age 15-19 ← 3rd
DAD REMARRIED
w/ "EVIL LADY STEPMOTHER"

MY ROOM

CIRCLE DRIVE

ROOM TO MYSELF,
BUT SHARED BATHROOM w/
STEP-SIBLINGS.
THEY STEAL STUFF.
IT ANGERS ME.
HOWEVER, IT HAD A POOL,
SO IT EVENED OUT.

A-0-3: Informant Example, Hashinger Hall.

Tool 2: Mental Map.

1. Draw a map of your living environment. The map does not have to be perfectly drawn, exact, or accurate. Draw it as you remember and experience it, as if you were drawing this map for someone who has never been to this place and wants to visit it.

2. When you finish, go back to the map and annotate it with words that might give a visitor an accurate impression of how that setting looks and feels. For example, label the map with words that say what you like most and least about that setting. (eg. warm, cold, friendly, safe, dark)

   a. Overall, what are the most positive associations with this setting?

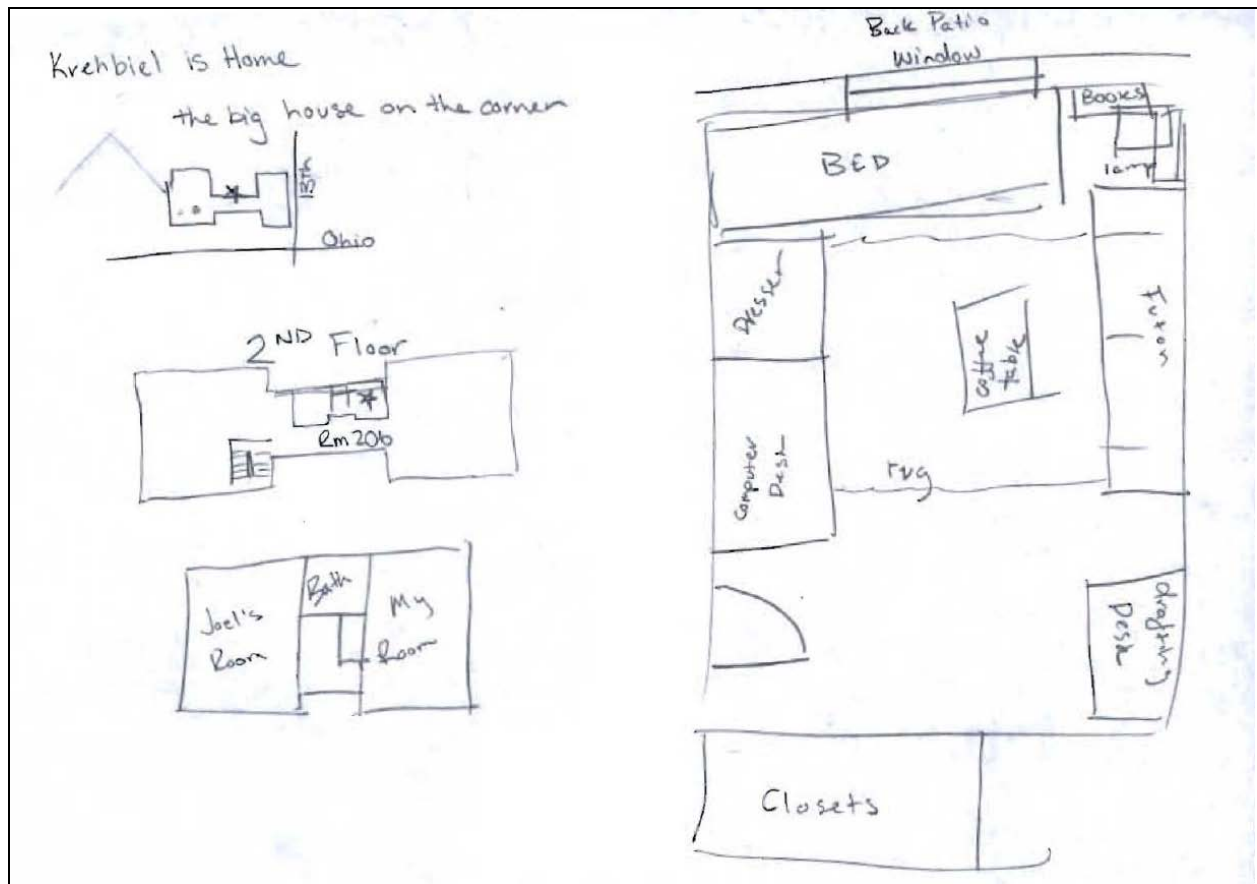   b. Are there qualities of this setting making it particularly distinctive? In what ways?

A-0-4: Informant Example, Rieger Hall

• My belongings that I've collected over the years are in my room and they make up my space.
• It's a hot mess, cluttered but it's my cluttered hot mess.
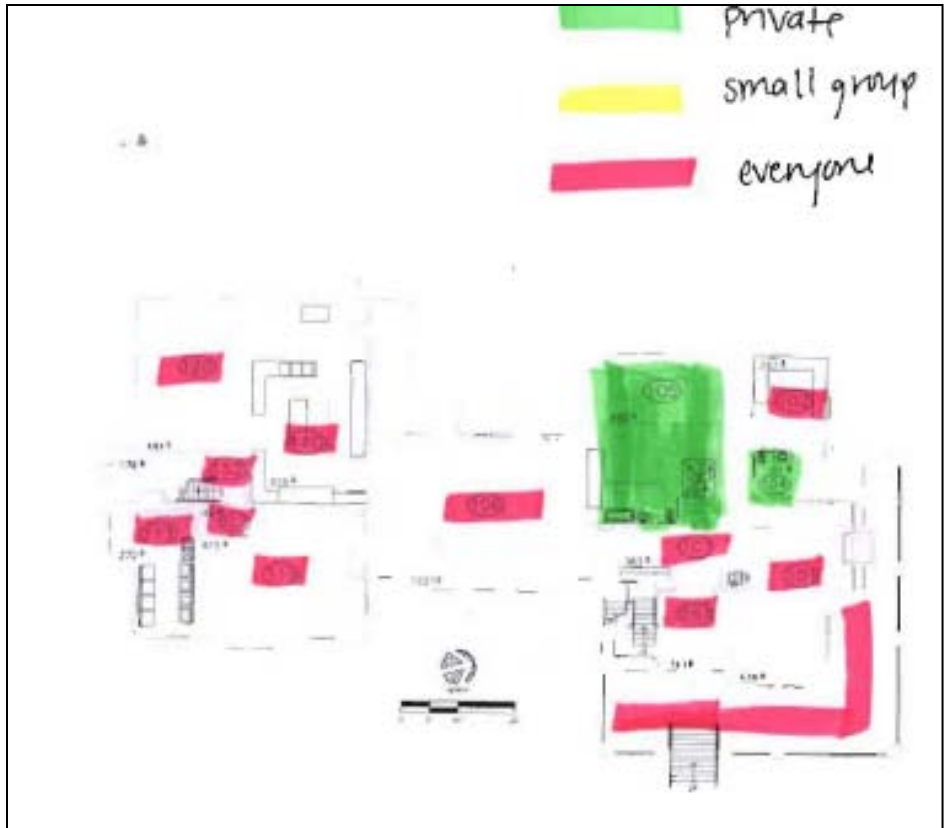

A-0-5: Informant Example, Hashinger Hall
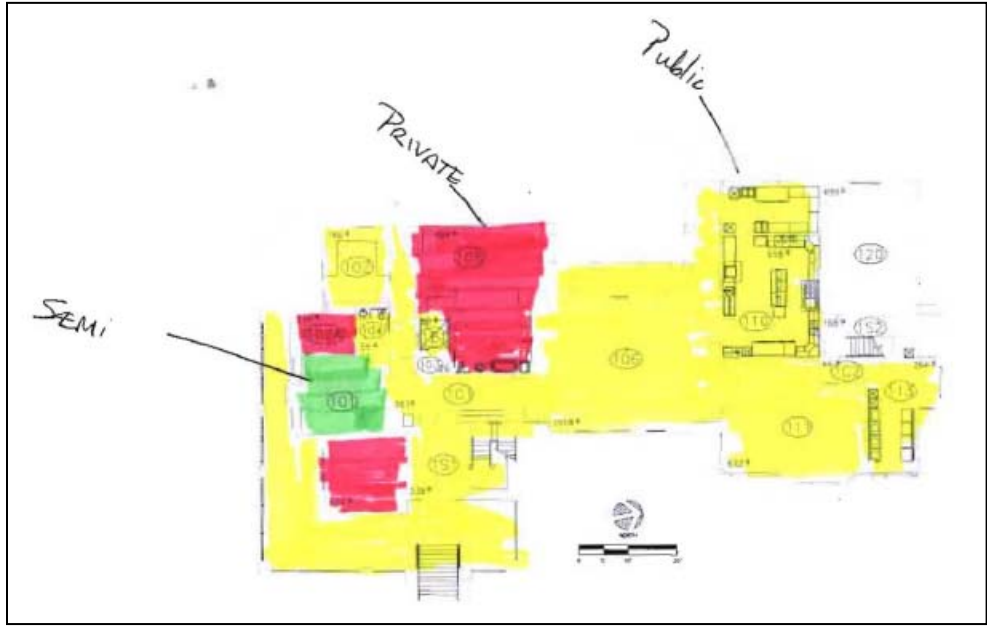
A-0-6: Informant Example, Krehbiel Hall

Tool 3: Place Sociogram.

(On a plan of the building) Use three colors to shade areas of the plan using one color for each:
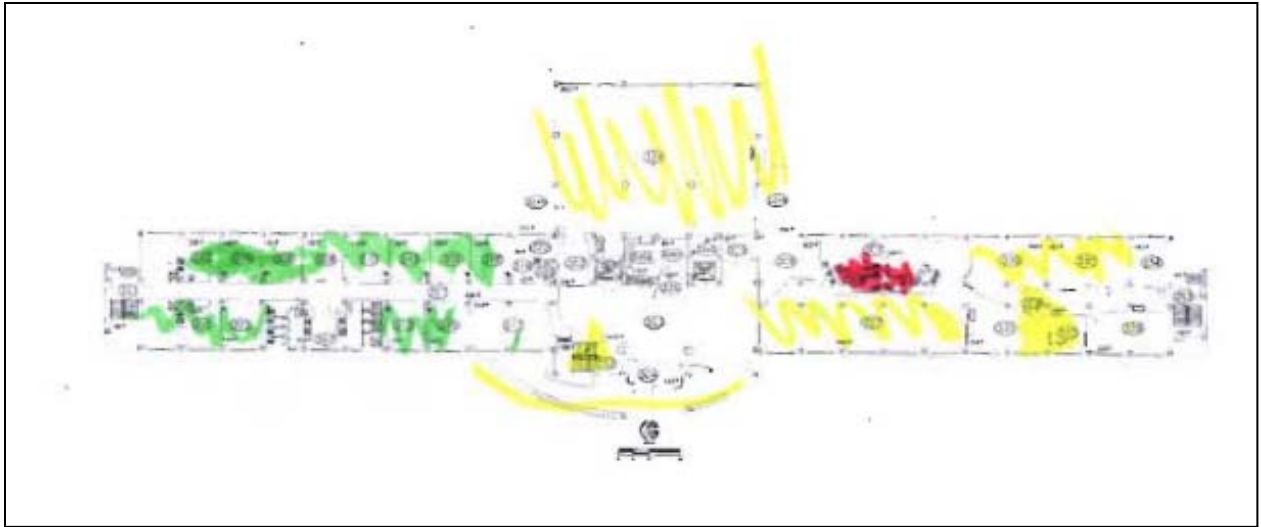
1. Public space "belonging" to all those in the place;

2. Semi-public space "belonging" to sub-groups within the place;

3. Private space "belonging" to one person only within the place.

A-0-7: Informant Example, Rieger Hall

A-0-8: Informant Example, Krehbiel Hall

A-0-9: Informant Example, Hashinger Hall

Tool 4: Place Visualization.

Read by the interviewer: *Relax. Listen to your breathing. Close your eyes make sure you are comfortable. Breathe easily and begin to imagine that you are resting comfortably on a carpet... that the carpet is small... your own special carpet.*

Feel that you are sitting on it in the middle of a huge field. Now imagine the carpet becomes magical. Let it begin to float safely upward, off the ground, moving effortlessly right into the sky, higher and higher, gently, safely... Look down as you move over the tops of trees, of buildings... see everything become smaller as you float higher... Feel relaxed, happy.

Now begin to recognize landmarks below you. See the _____ and _____. Float gently lower and see the _____. And other landmarks, other streets, whatever.... See this building... (The blanks are filled in with landmarks from the resident's mental map).

Now imagine that you see the entrance to a new (residence hall) in front of you. Float your carpet gently down and come to rest at the entrance of that place. Walk into the space and notice that everything is completely new. What do you see? Look carefully all around... Notice the colors; the shapes; the textures; the light. Look at the different things in the space.

Move on into another part of the space... Look carefully around. Notice the colors, the textures, shapes—anything that tells you that this is a student living place. What do you see as you walk towards that space? Notice what you are walking on, what is in front of you and above you.

Walk on through the new place, perhaps to the area where you will spend the most time. What do you see? Notice anything that has now made this place special.

Now walk out of your space and into another newly created part of this place... What do you see there? Look at the colors, textures, shapes...

Sit down next to someone you know. Have them say something to you... answer them... look carefully around one more time. Notice a special object you did not notice before in that place...

Then imagine that your seat is magical once again, that it is no longer a seat in the new place... It is in this room. Imagine that you are back in this interview and when you are ready, open your eyes...

Take a few minutes and draw the place you visualized. There is no right or wrong in this exercise and you do not need to be a designer to draw this. Include whatever helps you re-

create the look and feel that you imagined for the newly designed place: the shapes, color,

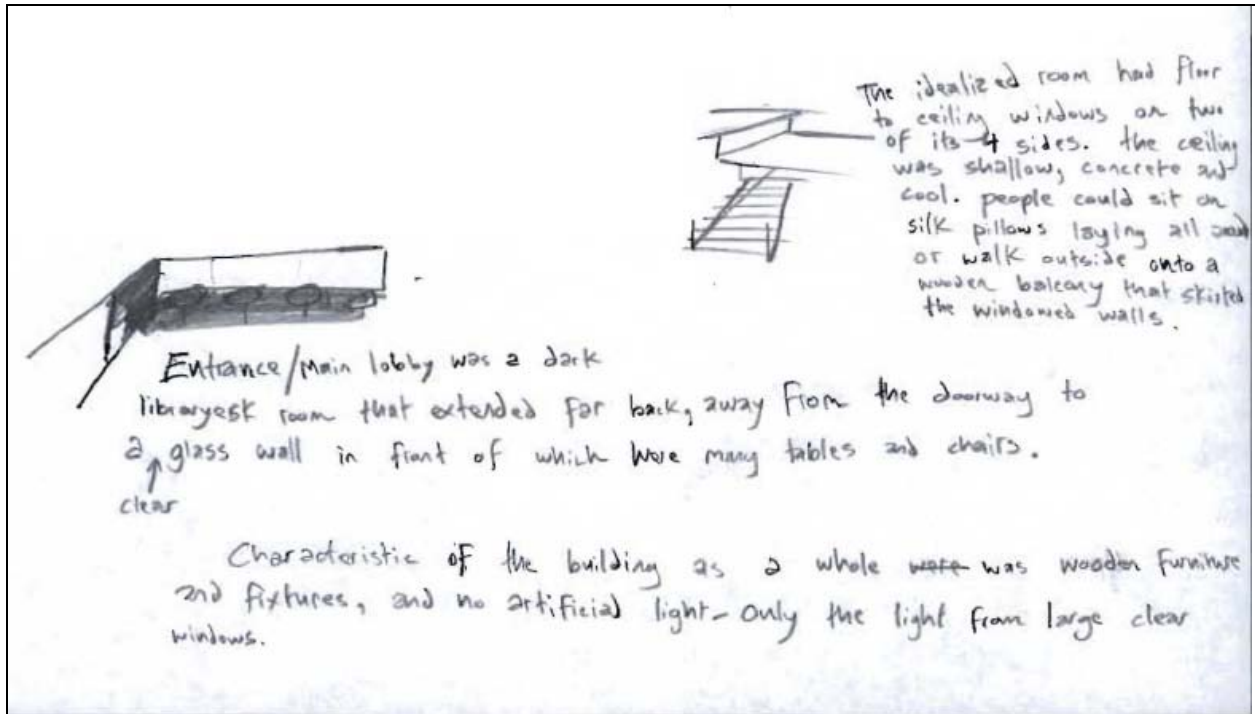textures, objects, people, etc. that you imagined.

I can't draw this so I will describe it:

I imagine this building is fairly similar to Rieger & Lichliel. It is a big, open building with lots of limiting rooms. The walls are light blue or beige in color; the wood is dark brown & the hard wood floors accent the woodwork nicely. There are lightweight curtains on all the windows, and there are lots of windows. There is enough natural light flowing through that during the day no artificial ones are necessary. The layout, the environment, the feel of the place, is just like now & all my friends are still here, the color scheme is just better, really. And the couches might be brown leather, deeper & more comfortable. In my ideal room, there are lots of windows, books & shades of blue, and I sit around a table with my 3 best friends, doing homework, talking, listening to music, & goofing off. If it is a nice day, we might move to the wrap around porch. My dorm room looks pretty much just like it does now, but the walls might be painted; periwinkle on my half & beige on Erisken's half. We've got the same quilts, photos, etc. but maybe more books — all sorts of good fiction. More windows wouldn't hurt, but it's not necessary either. I guess my ideal place is really where I am now, with the people I'm with now, just in a different color scheme.

A-0-10: Informant Example, Rieger Hall

Summary
- Multi-Story (not to tall, don't want disconnect)
- Common spaces on first Floor
- Residences / Rooms on 2-3 floors
- Clean open space - not cluttered
- Large windows - lots of natural light
- Earthy light colored tones
- Light colored walls which are soft to the touch
- Cool dark stone Floor - smooth with a little wear
- White / light ceilings reflecting light
- Minimal furniture - Open Space
   • Furniture is refined, simple, yet comfortable
   • Made with warm materials like wood to contrast the stone floor
- The recreational rooms are large + open. with large windows
   which allow indirect natural light.
   • Outside Trees provide a cooling feeling to the light
   • Recreation spaces have minimal furniture that is simple yet plush +
      comfortable
- Dinning room is large with lots of seating so people can mingle
- Rooms are open and interconnect not many doors blocking off spaces
   • Spaces overlap for various activitiess

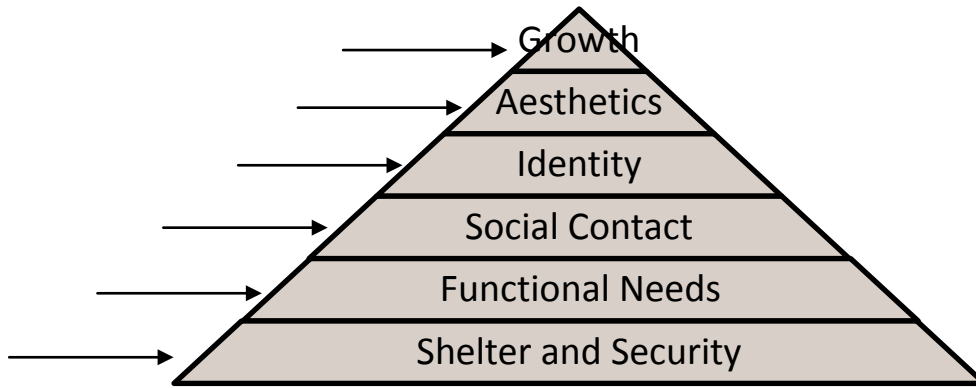**A-0-11: Informant Example, Krehbiel Hall**

The idealized room had floor to ceiling windows on two of its 4 sides. the ceiling was shallow, concrete and cool. people could sit on silk pillows laying all and or walk outside onto a wooden balcony that skirted the windowed walls.

Entrance/main lobby was a dark library-esk room that extended far back, away from the doorway to a glass wall in front of which were many tables and chairs. clear

Characteristic of the building as a whole were was wooden furniture and fixtures, and no artificial light – only the light from large clear windows.

A-0-12: Informant Example, Hashinger Hall

Tool 5: The Actualized Place

Each participant indicates with the symbols how well the present living environment meets each personal need. Indications are based on personal experiences and not programmatic or educational goals.

1. Fill in below the sentence that expressed your Whole-Place Vision.
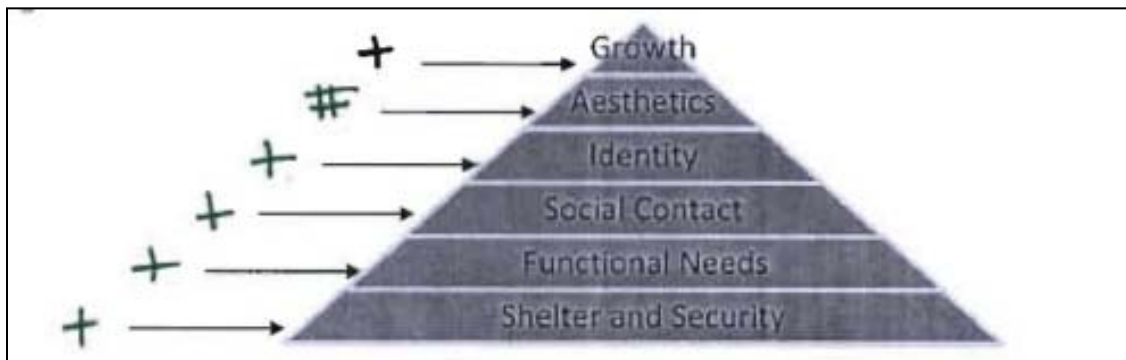
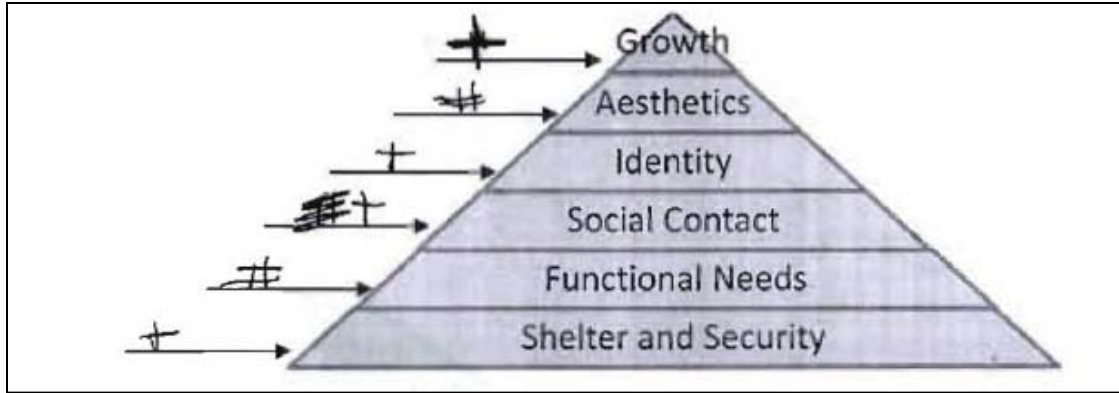+ *Fulfills this need very well; # Adequately fulfills this need; -Does not fulfill this need*

(sample chart)
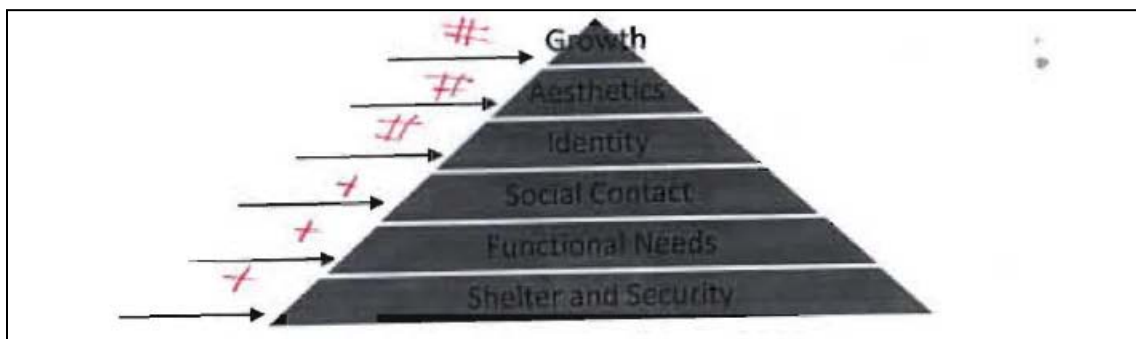
A-0-13: Informant Example, Rieger Hall

A-0-14: Informant Example, Krehbiel Hall

A-0-15: Informant Example, Hashinger Hall

Appendix B: Interview Guide

I used the following interview guide with informants who resided in one of the three study buildings. Questions were asked based on key words in each response and not based on a linear progression or research question.

Research Question	Interview Question	Initial Follow-Up Questions
I. How do the social, psychological, and physical structures of a temporary living environment create a sense of 'home?'	How do you define home? What is your home? Do you have more than one home?	What makes it home? What is it about these other places that make it home?
II. How may we design for a sense of home in a non-permanent living environment like that of a college residence hall?	What features of this residence hall feel like home to you? What are you favorite artifacts in this residence hall?	What features prevent this residence hall from feeling like home to you? What artifacts in your family home are your favorites? Did you bring any of these artifacts with you to your residence hall?
III. Can temporary living situations be considered home?	Do you consider your residence hall home?	Why or why not? If not, what would make it home to you?
IV. How can influences of a person's previous experiences be measured against the satisfaction they find in their temporary living environment?	What is your favorite place? Where have you lived that felt most like home to you? Where have you lived that felt least like home?	Why was it your favorite? What attributes made it your favorite/ least favorite? What attributes made it seem like/ not like home?
V. Where residents often have little to no choice in neighbors, location, and space, how can the designer imbue the place with the qualities that will inspire a sense of belonging and home?	Do you have any choice in your residence hall? Do you have any choice in your roommates? Do you have any choice in the décor of your room? Do you have any choice in the furnishings of your room?	Do you have any choice in your room location/ type? Do you have any choice in the arrangement of your room? Do you change your room? What artifacts in the room are your favorites? Why?

I used the following guide during a interview with Treanor Architects. Questions were asked based on key words in each response and not based on a linear progression or research question.

Research Question	Interview Question	Initial Follow-Up Questions
VI. How do the social, psychological, and physical structures of a temporary living environment create a sense of 'home?'	How do you define home?	Do you believe you can design a physical space that evokes this definition? What features would it include?
VII. How may we design for a sense of home in a non-permanent living environment like that of a college residence hall?	How do you design for home? Is it different to design a house/home and a non-house/home? Do you consider the length of time/ amount of time spent in the building in your design?	What is the process to design a home? What is the process to design a residence hall? (Discuss differences) How? How not?
VIII. Can temporary living situations be considered home?	Do you consider the need to design a home part of the program for a new residence hall?	How? Are their specific features or spaces you use? If not, why? If not, would you if asked? How would you?
IX. How can influences of a person's previous experiences be measured against the satisfaction they find in their temporary living environment?	Is space or feature recognition important in designing a residence hall?	How do you accomplish this recognition? How do you know if it is successful?
X. Where residents often have little to no choice in neighbors, location, and space, how can the designer imbue the place with the qualities that will inspire a sense of belonging and home?	Who do you consider the client to be for a new residence hall? Do you consider the idea that students are coming to the hall with little choice in the environment? Do you include the chance for personalization/ customization?	Have you/ would you consider using students as the 'client' instead of the university? Does/ How does your design reflect the lack of choice? If not, why?

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