SOCIAL SETTING ANALYSIS OF THE RETAIL MALL

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Brent D. Sheffler

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-One last thing, my son, be warned that writing books involves endless hard work, and that much study wearies the body.

Ecclesiastes 12:12

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ABSTRACT

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The present study is concerned with establishing a normative data base which can be used in comparative studies on social interaction in retail settings. The purpose of this study is to answer the following three hypotheses:

1. Social interaction in the retail mall can be described.
2. Human interactions in the mall can be described as either perfunctory, informational or social.
3. The mall represents a social shopping experience. As a result a substantial portion of interactions in the mall will be social. Additionally, people will more likely shop in social groups in social settings.

Study One involved an analysis of social interaction in Tippecanoe Mall of Lafayette, Indiana and included unobtrusive observation of the social behavior of 100 shoppers. Observational data were recorded onto reference sheets using Barker's (1968) psychological ecology approach. Data recorded included the subjects entry location, the time of entry into the mall, subject gender, and the type of

interaction observed. Three categories of interaction observed were perfunctory, informational, and social.

It was found in Study One that social interaction in the retail mall can be described by the observational and analysis methods used. A comparison of interactions of Study One with Sommer, Herrick, and Sommer's (1981) study of the farmers' market indicated that the average number of interactions per person of the retail mall more closely resembles the average number of interactions per person at the farmers' market than at the supermarket in all interaction categories except social interaction with employees.

Study Two was a naturalistic observational study and involved determining the group composition of shoppers arriving at both a downtown Lafayette, Indiana location and at the Tippecanoe Mall. Counts of individuals arriving by themselves, with another, and with several others were made.

It was found in Study Two that shoppers are more likely to shop in groups at the retail mall than at a corresponding downtown location.

CHAPTER I

INTRODUCTION

How do we explain the success of retail shopping centers? The retail mall has come to symbolize an advanced form of American retailing. The mall impresses visitors with its abundance of stores, products, bright and cheerful design and efficiency of layout. The success of malls has previously been attributed to the use of automobiles and decay of urban centers (Bucklin, 1967; Gautschi, 1981). As a result, investigations and analyses of shopping center patronage have centered on objective factors such as population densities, square footage of shopping area and traffic patterns (Gentry & Burns, 1977). It is the contention of this study that the success and failure of shopping mall and urban center retailing, may in part be socially determined. Malls preserve the "social pleasures of shopping", facilitating the exchange of gossip and opinion of the traditional marketplace (Isogami & Matsushimi, 1972). The enviable success of retail malls may result from their fostering this social interaction--a place where people meet and converse.

From this view the decline of traditional downtown retailing may be attributable to the inability of downtown shopping to faciltate social interaction. More often than not, the success of today's retailing enterprises depends on a work tempo which is inherently too fast to permit extended social interaction between clerks and customers or among customers themselves (Beckman & Nolen, 1976). As such, the mall environment may be a perfect complement to a successful retailing enterprise, creating and nurturing the social aspects of shopping while retailing is pursued.

Terminology

Because of the importance of being explicit in conducting research, a standardization of the terminology used in this thesis is in order. The vocabulary includes: built environment, behavior settings, milieu, shopping center, and social behavior.

The content of research on environment and behavior includes a number of variables within the "built environment." The built environment, as Altman (1976, p.102) points out, includes small scale objects such as furniture placement and computer unit ergonomics, as well as large scale aspects such as homes, communities, urban and regional settings. These large scale areas include corridors for pedestrians, vehicles and utilities, storage

areas, recreational facilities, plazas, squares, malls, and so forth (Eckbo, 1983).

Barker (1968) set out to describe the influence of the built environment on the behavior of the inhabitants. He described behavior settings as standing patterns of behavior which are "attached to particular constellations of non-behavioral phenomena" (p.18). In this system, behavior is viewed as an interaction among persons and environmental elements.

The word milieu is used to describe an environment which consists of a set of behavior settings (As, 1975, p.290). The words environment and milieu are used throughout this thesis and will refer to the descriptive meaning given above.

The words "shopping center", "shopping mall", "mall", "retail mall", and "pedestrian mall" are also used throughout this thesis and are to be defined as an enclosed architectural treatment of a building or buildings which provides: space for a large number of commercial establishments, interior pedestrian corridors with no vehicular traffic permitted, and on-site parking. It is also

> planned, developed, owned and managed as an operating unit related in its location, size and type of shops to the trade area that the unit serves(ULI-Shopping Center Development Handbook, 1982, p.1)

Finally, it is necessary to establish an adequate description of the term "social behavior." This term has been defined by Parrot (1983) as

> a functional relation obtaining between the responding of one person and the stimulating of another person or object. When an object serves as a source of stimulation, there is implied an historical association between this object and another person (p.548).

For the purposes of this thesis, the types of behavioral interactions studied perfunctory, informational, and social are all forms of social interaction and are referred to as behavioral interactions in order to distinguish among the sets of perfunctory, informational, and social interactions. Thus the set of social interactions analyzed as differentiated from the sets of perfunctory and informational interactions is defined as a conversation between two or more people on any topic. The conversation here inherently excludes conversations which are information oriented since information conversations are classified as informational interactions.

Problem Definition

There is a need for development of a sound data base which can be used as a starting point for studies of behavior in shopping centers. If future research is to sufficiently characterize differences within environments, normative data is essential. "Unless our theories are

based on good data, they are not so good at all" (Deaux, 1978, p.209). Thus, the proposed research is designed to begin to establish a sound data base for generating valid theories of social behavior in shopping centers.

Exploratory Research

This research is of a form known as exploratory research. Often when there is no available experimental data from which to derive hypotheses the researcher will have no formal hypotheses. The researcher has no way of knowing the nature of the relationships being investigated. In this instance the researcher's first task is to simply learn more about the relationships in question--What is happening? Such studies, called exploratory or descriptive studies, attempt to describe the relationships in detail. Given little prior research, such a step precedes the more scientifically satisfying explanatory study which attempts to explain a social phenomenon by specifying why or how it happened.

Given the inability to have a data base upon which to deduce relationships in the form of hypotheses, it is necessary in exploratory research to be satisfied with empirical generalizations. This study is to serve as an exploratory study by making an empirical generalization or a statement of a relationship that is formulated by first observing the existence of a relationship and then

generalizing to say that the observed relationship holds in most cases. Thus the exploratory study serves as a basis upon which future more specific hypotheses can be made and then verified with scientific replication.

Not only does the present research serve as an exploratory study as described, but it also serves as an initial step in a program of research on behavior in shopping centers being conducted by Dr. Richard Feinberg, Department of Consumer Sciences and Retailing, Purdue University. This will be done by:

1. Developing and assessing the feasibility of an observational procedure to understand behavior in shopping center environments.
2. Establishing base rate information between a particular shopping center and categories of behavior. The goal of the research would be to enable the development of specific hypotheses for future testing in different shopping center environments.
3. Creating an initial study designed to assess the effects of differing shopping center designs on behavior.

Justification

Proshansky (1970) referred to the then new field of Environmental Psychology (Design) as a science at a rudimentary level which attempts to make clear implicit assumptions made about people as reflected in the spaces and places designed and created for them. This field concerns itself with the potential role of information

concerning human psychological and social processes in designing physical settings. In other words the function of environmental psychology is that it seeks to provide knowledge to design professionals for a better understanding of the relationships between human behavior and experience and the built environment rather than determining what people want, expect, or are content with, in regards to their environment. Though it should be noted that the measurement of what people want, think, feel, and believe contributes to the analysis of the environment when one first determines who the respondents are, how relevant the physical setting is for them, and their awareness of events related to an existing or changing setting.

The crucial issue for Proshansky is that the architects, designers, and planners interact with, make contributions to, and use information from environmental psychology. For example, there is a great need for research about user needs, expectations, and experiences with respect to new housing as well as research on how families use their home space and the consequences for interaction with other family members. This kind of research could greatly help the professionals who design various particular environments and consequently on the users of those environments.

Thus, it is necessary to understand human reactions and responses to environmental space. "If a building is to

meet the needs of the people, the architect must look for some common ground of understanding and experience" (Portman & Barnett, 1976, p.35). The architecture and design of retail malls serves not only the physical needs of people for shelter and air while shopping, but may directly influence social behaviors which may indirectly influence social interaction. An investigation of social aspects of retail mall environments will help lay the foundation for later determination of factors important in influencing social behavior. This knowledge can eventually help architects and developers to plan practical layouts that enhance social behavior, advertisers to market particular stores through a determination of which stores attract socially inclined people and which do not, and store owners determine optimal store location and appropriate levels of interaction between employees and customers.

Objective and Scope

The purpose of this study is to describe and assess the nature and scope of social interaction in malls. The first objective of this study is to develop a procedure by which behavioral interaction in retail settings can be investigated, and the second is to lay the foundation for a series of further studies which investigate social behavior of retail malls of differing designs.

Although this study is exploratory, and one of its objectives is to develop a normative data base, a number of hypotheses can still be generated. The objective of this task is to propose some relationships which might be useful in the future to infer more specifically what are the sources of social interaction in shopping centers. It should be noted that these hypotheses are based on common knowledge and intuitive assumptions since few studies have ever assessed social behavior in the retail setting.

Hypotheses

1. Social behavior in the retail mall can be described. It is possible to obtain measurable data that expresses relationships between people and between people and their surroundings.
2. Some of the mall interactions will be perfunctory, some informational and some social.
3. A substantial proportion of informational interactions will take place between customers and employees.
4. Since a mall is a social place, shoppers are more likely to shop in social groups.

Study One - Social Ecology of the Mall

Just what happens in a mall? The purpose of the first study is to develop a methodology for measuring social interaction in a retail setting. Its goal is to develop an understanding of human reactions in the retail mall. Further, it is hoped that a normative data base will be generated whereby more specific hypotheses concerning social behavior in the retail environment can be made. The actual behavior of 100 mall customers will be assessed through an application of Barker's (1968) psychological ecology in which a trained researcher follows subjects through various settings and records their actions. These observations are unobtrusive and nonreactive, and have been successfully used by experienced researchers to study behavior in natural environments such as the supermarket environment (Sommer, Herrick & Sommer, 1981). The observer carried a stopwatch and recorded the time (in minutes) spent in stores, and the time of each interaction, while recording the type and number of interactions as well as where the interaction took place and who (customer or employee) the interaction was with. The interactions were classified into three categories, listed as follows:

1) Perfunctory - an acknowledgement of another person's presence which did not necessarily require a response--e.g., "Hello", "Excuse me", "Have a good day."

2) Informational - either asking a question or providing an answer--e.g., "Where is Penney's?", "How much is this item?".

3) Social - a conversation between two or more people on any topic.

Trained researchers, found to be reliable in pilot research studies, gathered the data.

This first study had four main objectives. The first objective was the development and testing of an observational procedure for use in understanding interaction in a retail setting. The second objective was to collect normative data upon which further studies of mall environments can be compared. Since this study is among the first of its type to be done, future studies done in retail environments will profit by having a data base with which to make comparisons. The third objective was to learn how we can determine why retail malls are successful or unsuccessful. From reliable knowledge about this, retail mall architects, developers, and managers may be able to use the variables of the retail mall environment, be they social, locational, or design characteristics, to lower the risk of retail mall failure. The fourth objective of Study One was to add to a growing body of social scientific research whose major goal is to understand consumer dynamics in retail settings.

Study Two - Number of People Arriving Alone

It was suggested in the analysis describing the rationale for Study One that a high degree of interaction in malls is social in nature. This may be because the social centers, conversational areas, and other places within the retail mall evoke positive social responses when other retail environments, such as the downtown, evoke negative social responses. Another reason might be that the social nature of the mall serves as a magnet for social groups. Thus, another index of the social nature of a mall is believed to be the number of people arriving in groups. While arriving with a group does not guarantee social interaction, it suggests a degree of focused social interaction. Further, while people who are alone can meet others, arriving alone suggests a lack of casual contacts, particularly for visits of limited duration (Sommer, Herrick & Sommer, 1981). It is hypothesized that the mall is a more socially active environment and that individuals may go to the mall in groups because the environment is supportive of that behavior.

This was an observational study of counting individuals arriving at retail environments. Counts of individuals arriving alone, with another person, and with several were made at a shopping center and a downtown retail location. The composition of shoppers as they arrived individually or with friends was noted during

identical time frames and during a systematic selection of days at both observational settings. Evening counts were not taken because many downtown stores are closed after 5:00 PM. Mall entrances and store fronts in the downtown location were selected randomly.

The study compared counts at the Tippecanoe Mall in Lafayette, Indiana with a downtown location opposite the Lafayette City Hall along Columbia Avenue between Third and Fourth Street. It suggested whether consumers shop more frequently in groups at retail malls than at downtown locations. Based on the argument developed earlier, it is hypothesized that a greater number of people will arrive at the mall in groups than at the downtown location.

Summary

This study will be used to generate reports of the frequency of particular behaviors among a given sample as well as reports of the rate of a given behavior expressed in average units per person. Its goal is to develop an understanding of human reactions and responses to environmental space, specifically of the retail environment, by generating some normative data to be used as an essential starting point for developing valid theories of social behavior.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

There is a lack of research on social behavior in the retail environment. This chapter will focus on relevant studies and articles concerning consumer behavior in retail environments. An overview of the impact of environmental design on human behavior will be given. Specific attention will be given to the retail mall setting. Attention will also be given to related literature on the nature of purchasing processes and consumer behavior and the role of subjective factors such as square footage of retail area, distance measures, and traffic patterns on store patronage. Finally, a discussion of articles which examine the role of environmental design research in the science of behavior will be given.

Environment

Recently, environmental design researchers, environmental psychologists and social psychologists have recognized the significance of the built environment in our social interactions (Altman, 1976; Vogt, 1977). In the introduction to his book Urban Land Use Planning, Chapin

(1965) states:

> ...there is a growing concern with the relation that urban form has to human behavior and the opportunities for making the structure and form of cities more responsive to activity patterns of people and their attitudes and values (introduction i).

This recognition of the potential impact of a particular setting on human behavior has led many to attempt to understand behavior as a function of the built environment. One objective of this study is to add to social scientific research by setting some groundwork to understand consumer dynamics in retail settings.

A number of articles have addressed territory and crowding when studying the relationships of environment and behavior (Altman, 1975; Freedman, 1975; Sommer & Becker, 1969). Altman (1976) provides a review of these studies. Still others have observed human spatial choice behavior which have as their goal to reach an understanding of people's decision making process in choosing one location from a number of alternatives (Bucklin, 1967; Downs, 1970; Patricios, 1979). From these articles we can see that the nature of environmental design research covers many professions and is broad in its scope (Altman, 1976).

The basic question for environmental design researchers is how do buildings and people interact (Eckbo, 1983)? The design of buildings is a formal statement that spatial organization emphasizes the movement of people

through space as well as the unique functional purpose of each individual space. The building interacts necessity, function and operation, as well as meaning, symbol, reference and association. Eckbo (1983) states that

> buildings are central in our private and social living, because they provide controlled environments for our most important and intimate activities (p.65).

He further suggests that buildings tend to cluster for social reasons and functional reasons and thus grow into multiple functioning communities.

The retail trade center has historically been the setting for cultural and social events. This setting is, by definition of its function, located where the integration of buildings and stores have collectively created a sophisticated center to shop, eat and meet friends. Stephens (1973) has stated

> People respond more spontaneously to their environment when they can carry out several activities (cultural, consumer oriented or recreational) at the same time without making several trips (p.56).

When describing the potential of shopping centers to enhance community life, Rouse (1962) states "It should be a lively meeting place as well as market place." He also points out that a center

> should recognize the obvious: that there is no natural conflict between profits and people, and that the soundest economic base for a 'main street' is to make it an indispensable servant of the community (p.105).

Morris (1969, p.48) suggested that because many suburbs offer no alternative to community activities, shopping centers provide a focus and a "sense of identity for the formless sprawl of suburbia."

It could be that the shopping center is one good example for studying how functional characteristics of buildings influence or are influenced by the people who use them. Stephens (1973) states that the shopping center "provides an efficient, safe and dynamic pedestrian environment." This atmosphere, she suggests, contributes to the success of the center because it reduces the "enforced mobility and provides ease of access to the multiplicity of functions." It should be noted, though, that modern planning theory opposes the extreme arrangement of multiplicity of functions (i.e., office buildings within regional centers) because of conflicts between office parking and parking spaces otherwise available to shoppers (Rouse, 1962).

Recently, there has been a tremendous movement away from the traditional row of stores to new enclosed malls (Rouse, 1962). An analysis of these retail environments reveals many characteristics of retailing and merchandising which have remained about the same and many which have

changed dramatically. The characteristics which have remained about the same are a variety of stores, relative close location to business and trade centers, and some form of community culture. The characteristics which have changed are an increase in the number of parking facilities, improved modernization of textures and design, and an enclosed air conditioned environment. These changes are in many ways symbolic of the social influence on the design and development of retail centers. Rouse (1962) has stated that

> if [these] shopping centers are sensitively designed with concern for people, beautifully landscaped, well maintained, and managed with a warm awareness of their potential service to the community, then the centers will help dignify and uplift the families who use them. But if a center is cold, oppressive, and inhuman, it is bound to [negatively] affect the attitudes of families exposed to the center day-in and day-out (p.105).

This also indicates the significance of a building's design when the multiplicity of a building's functions includes meeting the needs of peoples' aesthetic senses. When discussing restoration possibilities of inadequate retail facilities, Zuker (1981) states that a center's rejuvenation should be an event that brings people back into the center, and hopefully they will be persuaded to return often.

This statement implies that the persuasion to return to the center is in part based upon the aesthetics and design of the built environment. It can be said that the

space which surrounds an individual does have some influence on attitudes and behavior. This research investigates social behavior in the retail center. It is hoped that this research will lay a foundation for further study of the influence of aesthetics and design on attitudes and behavior in the retail setting.

This next section discusses research relating to social behavior in the retail environment. Stated more specifically, articles relating store image, consumer satisfaction, consumer behavior, and cognitive mapping are reviewed and comments made about their relatedness to this particular research project.

Store Image and Store Attractiveness

Several researchers (Lindquist, 1975; Mason & Mayer, 1970; Nevin & Houston, 1980; Schiffman, Dash, & Dillon, 1977) believe that store image is an important determinant of store choice. It is believed that there is some force which draws the shopper to a store besides the obvious functional factors of price, merchandise variety, location and parking (Martineau, 1958). This force may be the store personality or image. Martineau states that this image may be "defined in the shopper's mind, partly by its functional qualities and partly by an aura of psychological attributes" (p.47). He continues to suggest, however, that there is no one store image "with equal appeal for all

income groups, all social classes, all ages, all types" (p.50).

While no one store will have an appeal to all groups, a retail mall, with its conglomeration of stores, each with a different image, may possess an overall image which could attract all types of groups. This opinion is in part denied and in part confirmed by Martineau (1958). The denial, which is implied in his following paragraph, suggests that an overall image may detract from all types of groups.

> The spectacular growth of the outlying shopping center has created another problem. Very often this center has included whatever stores the real estate promoter could interest, quite without regard to how their images fitted together. As a result, the stores in many centers are pulling against each other. The smart high-fashion department stores and apparel stores find themselves in centers with drugstores, grocery stores, and a miscellaneous assortment of small shops negating their image, so that the center becomes a hodgepodge to the shopper (p.50)

The confirmation that an overall image could attract all types of groups is implied in Martineau's (1982) following statement:

> ...if most of the store images do reinforce each other - a 'shopping center mood' will result that will make these stores more successful than they could have been operating by themselves. But any stores that are out of character with the overall image will have a harder time than they would otherwise (p. 54).

Therefore, a shopping center may attract all types of groups when the conglomeration of stores shares a cohesive image through some form of unity. It may be that the mall image is an important determinant of mall choice and that if all types of consumers are attracted to a particular mall from the presence of an assortment of stores which reinforce a mall image, that mall will be more successful. This research will help determine how social interaction can indicate which stores either support or diminish a mall's image.

Consumer Satisfaction

There is reason to believe that satisfaction with a retail environment is sufficient to promote purchasing behavior (Adelberg & Shelley, 1967). They believed that the frequency and period of time an individual was in a particular setting was due to levels of satisfaction achieved through a variety of interdependent stimuli. They compared the average time spent at one dress rack by single shoppers and paired shoppers. Their results indicated that the average time spent by those accompanied by someone was four times greater than for single shoppers (70.1 sec: 16.4 sec) (Adelberg & Shelley, 1967, II). They believed that the "shopping partner reinforced a particular behavior, i.e., looking at dresses, by increasing the number of sources of stimulation" (p.536). From this view, Adelberg and Shelley

(1967, IV) presumed that interaction between shoppers may be recognized as a source of satisfaction when limited monetary resources prohibit the purchase of new items.

A number of other studies have shown that feelings of pleasure and excitement can be primary determinants of consumer behavior (Chain Store Age Executive, May, 1978, pp.31-35; Donnovan & Rossiter, 1982; Shedlock, 1983). According to Donnovan and Rossiter, the novelty and complexity of the various physical and social settings are directly related to the degree of excitement induced by the environment. They suggest that when excitement or "arousal" has become the "key mediator of intentions to spend time in the store," more highly aroused shoppers are more likely to interact with other people in the store. When this happens customers were more likely to socially interact with sales personnel, which in turn would lead to an increase in the probability of sales. In a similar way, Sommer, Herrick and Sommer (1981) believe that customer exposure to an abundance of products, brands , bright and colorful decor and efficient circulation may lead to increased excitement, but that the mere presence of stimuli does not necessarily influence social interaction. They maintain that social interaction between customers and employees and among customers themselves is restricted in supermarkets and modern retail institutions because of their emphasis on fast pace and self-service. They claim that the physical layout

of the aisles and the physical arrangement and design of objects in supermarkets, such as high shelves and shopping carts, limits friendly interaction for customers. Whereas the physical attributes of a farmers' market, such as low produce stands and hand baskets, tended to enhance social interaction. In other words, the mere abundance of store induced stimuli (a variety of products, objects, lights, etc.) does not necessarily suggest an increase in consumer satisfaction. Further, a number of functional objects may act as barriers to social interaction.

From this we can infer that consumer satisfaction is based upon a number of factors which includes: social interaction, environment induced excitement and customer exposure to an abundance of products. We can also infer that consumers may become dissatisfied when physical barriers are placed in such a way as to prohibit the opportunity to achieve satisfaction through social interaction. One objective of this research is to learn more about how the physical areas of the retail environment act as a bridge or a barrier to social interaction and thus, on the overall satisfaction or dissatisfaction of the consumer.

Consumer Behavior

There are a number of elements of the retail store which the consumer has indicated as being important

determinants in store choice. These include price, assortment, credit policies, store displays and "such intangibles as odors and colors" (Martineau, 1958, p.48).

There are also a number of purchasing processes which may be non-product related. These characteristics include location, physical attributes and styling, and store personnel and clientele. Some may initiate desires to go shopping by desires to "get out for a while," or "window shop" (Engel, Blackwell, & Kollat, 1978, p.504). Large regional shopping centers are particularly influential in initiating purchasing activity which may be unrelated to specific product needs. This may be primarily because the regional shopping centers offer food stores, theaters, special exhibits, and other amusement activities (Shedlock, 1984).

One widely studied non-product related determinant of store choice is location. In general, the more distant a particular store is from a consumer, the less likely that the consumer will purchase at that store. Several attempts have been made to use location as the explanation of the impact of cities and trading areas as determinants of store patronage. Reilly (1929) studied the "drawing power" of two cities and postulated that two cities will draw retail activity from an intermediate town (where 50 percent of the trade is attracted to each city) "in direct proportion to

their population and in inverse proportion to the square of the distances from the two cities to the intermediate town" (Engel, Blackwell, & Kollat, 1978, p.507). The "drawing power" of a retail center was also studied by Cox and Cooke (1970). Their study concluded that attractiveness was an important determinant of a consumer's willingness to drive to a shopping center.

It seems that location is important for convenience sake. Yet, a number of other factors, such as the number of parking spaces, the types of stores in the center, and the size of the center, lead to an attractiveness which results in "drawing power." These studies suggest that consumers will choose retail outlets based on a comparative analysis of the perceived characteristics of the total image of the stores. The point here is that if there is a mall image, non-product related determinants of store choice such as location, physical attributes and styling, store personnel and clientele may be manipulated and unified to attract all types of groups. These non-product related determinants also go beyond individual store product determinants such as price, assortment, credit policies, etcetera, and may help increase the overall drawing power.

Cognitive Mapping

A number of environmental researchers have directed their investigation toward an understanding of people's perceptions of the physical environment (Downs, 1970; Mazze, 1974; Sommer & Aitkens, 1982). These investigations use a range of research techniques; questionnaires, cognitive mapping, spatial imaging, map drawing, recognition and recall measures to learn people's preferences for and differentiation of locational aspects of their environment. This research area has been an active part of environmental design studies during the last decade.

Potter (1976) looked at the location of shopping centers with respect to consumer residences and investigated consumers' predisposition to choose a particular shopping center. Using a questionnaire survey, he also showed that consumers appeared to have a perceptual structuring of retailing facilities with respect to their town center. This center, Potter concludes, serves as a focal point and tends to bias consumers' perceived distance to shopping centers. In fact, Mazze (1974) pointed out, through a cognitive mapping technique, that consumers do not always patronize the nearby shopping center, and in fact, become outshoppers, leaving the community to do shopping. Olshavsky, Mackay, and Sertell (1975) explored cognitive mapping and its relevance toward understanding

consumer patronage behavior. Their findings showed that perceptual distances for a customer have a more significant relationship to shopping frequency than actual distances. One study, using a gravity-type model showed that shoppers appeared to evaluate stores in terms of time and effort costs, and that the store's location relative to the shopper's location greatly influenced the likelihood of consumer visitation (Crask, 1979). The location of a store also appeared to influence the likely occurrence of impulse stops partially as a function of the pedestrian traffic volume passing the store.

These studies indicate that store location and relative proximity influence store choice and may be part of the overall store image.

The Environmental Design Research Dilemma

What is the true nature of a building? Was a building designed with the purpose of fulfilling a need thought to carry out certain functions and promote certain behaviors or did the building promote functions and behaviors never originally intended by the designer?

The problem for environmental design researchers is a dualistic determination of cause and effect. The questions are: What factors of the built environment cause certain behaviors or does behavior cause a change in the design and workmanship of the built environment? In other words, when

a building is designed and built, do the people who use the building conform their behavior in response to the perceived dimensions of their built environment or is the building designed and built around the behavioral demands of those who use the building? In many cases function has followed form. This researcher maintains that ideally form should follow function.

The above views have led others to critically ask what assumptions we have been making about the nature of social behavior (Altman, 1976; Deaux, 1978; Thorngate, 1976, p.122). Altman (1976) argues that we have neglected the possibility of multidimensional causation between variables. He states "a relationship in which variable A produces changes in variable B does not rule out the possibility that variable B can also be a 'cause' of changes in variable A." Our assumptions, in other words, tend to lead us to make statements such that environmental factors cause behavioral variations (Altman, 1976; Deaux, 1978; Thorngate, 1976). Altman more clearly states that behavioral variations can produce environmental changes, so that environment or behavior can be reasonably viewed as either causes or effects.

Deaux (1978) and Thorngate (1978) have suggested that the necessary data base for valid theories of behavior has not been established. This may, in part, be due to strong pressures against theory development by design

practitioners who want to remain more pragmatic and less theoretical (Altman, 1976). Deaux states that "we have very little data on which to base a conclusion that our data are or are not temporally bound" (p.209). In other words, the temporal nature of our theories is based on the establishment of normative base rates for our observation. Deaux argued that a number of social psychologists observe causes of social phenomena, yet they neglect collecting the basic data consisting of information about the regularity of the social phenomena. She points out that social psychologists spend most of their time reporting "the mean level of a behavior on an arbitrary scale," yet very little time reporting either the frequency of a particular behavior or the rate of a given behavior. She also points out that a study of literature on causal attribution by Deaux and Farris (1977) revealed that "even when means are reported, they are ignored" because "the focus on differences...disguised the fact that subjects were often making no causal statements at all."

According to As (1975, p.283), all behavior implies an interaction between persons and environment. But, as implied above, the nature of the relationships being investigated must be studied with an intent to gather good data before a scientific explanatory study can take place (Deaux, 1978, p.209). In the social environment, gathering

good data is particularly difficult. The laboratory experiment is unusually weak when analyzing the social environment, yet naturalistic observation is apparently strong (Altman, 1976 ; Helmreich, 1975).

Barker (1968) demonstrated that some environmental relationships were best studied by observational techniques. Altman (1976) writes:

> Several writers (Ittelson, et al., 1974; Craik, 1973; Altman, 1976; Proshansky, 1973, 1976) state that environmental research views phenomena as complex, patterned and often not amenable to a strictly analytic approach, as represented in the terms "systems", "patterns", "networks" and "Gestalten". For example, an implicit principle is that one is usually dealing with people - environment units in which it is difficult to tear apart components. Also, the assumption is made of complex cause-effect relationships between environment and behavior, not unidirectional links between variables. As an example of this molar perspective, many believe that environmental perception is best studied through analysis of complex perceptual and cognitive processes, not only through the perception of single, molecular objects or their dimensions taken one at a time (Ittelson, 1975). Similarly, many hold the view that research on social behavior is best accomplished through an analysis of the setting as a whole, which includes the joint contributions of physical, psychological and social components (Barker, 1968; Ittelson et al., 1974) (p.99).

Barker's (1968) naturalistic ecological approach has been used by several researchers (Bechtel, 1972;Sommer, Herrick & Sommer, 1981; Willems, 1976) and is classified as psychological ecology. The behavioral episodes, under the ecological approach, lead to inferences made by the observer as to the intentions of the subject (Preiser,

1973). The study by Sommer, Herrick, and Sommer compared the rate of perfunctory, informational and social interactions both between customers, and between customers and employees at supermarkets and farmers' markets in ten California cities. Their results indicated that the farmers' market is a more "friendly" environment than the supermarket.

Another approach which has been used by Preiser (1973) is the animal ethological orientation proposed by Esser (1967; 1971). This approach is also a naturalistic observation which attempts to generalize from animal to human behavior. It has as its goal "to give an objective description of behavior patterns which can be observed systematically" (Preiser, 1973, p.288). Preiser's study (1973) analyzed stationary behavior under various levels of crowdedness and uncrowdedness at a shopping mall in the new town of Columbia, Maryland. His analysis of stationary behavior used video-tape recordings for unobtrusive observation from an upper level of the mall. His findings indicated that a "majority of bench users preferred to orient themselves toward facing the major stream of traffic" (p.298). In the present study, we have attempted to use the ecological approach to describe social behavior in the retail mall.

Summary

This literature review has revealed that there appear to be relationships between certain social variables and the built environment. A number of articles have shown that people behave differently in different surroundings and that it is possible to obtain measurable data that expresses relationships between people and people between surroundings.

A number of articles have also shown that the retail mall is a particularly unique environment which offers many amenities desired by today's modern consumer. The methodology section, which follows, describes how relationships between certain social variables and the retail environment of the mall can be and were studied.

CHAPTER III

METHODOLOGY

Introduction

The two studies of this research involved unobtrusive observation of consumers in retail environments. The first included social interaction counts of 100 individual subjects through an application of Barker's (1968) psychological ecology. Subjects were observed and their actions coded as they were followed throughout their visit at Tippecanoe Mall in Lafayette, Indiana. The second included a count of shoppers arriving at two differing retail environments. Counts of individuals arriving alone, with another, and with several were made at the above mentioned mall and a downtown location in Lafayette, Indiana.

It is important to remember that the basis of this research is to observe behavior occurring in a system within a system. In other words, this research is an attempt to study social interaction of the subsystem of the enclosed retail mall which belongs to and actively interacts with many other aspects of urban activities or

urban facilities of a larger whole system (Harris, 1970). It is also important to remember that an adequate theory of such social systems does not now exist (Harris, 1970).

The nature of the systems, as explained above, and the lack of experimental data from which to derive hypotheses, require that the following two exploratory studies be correlational in nature. Correlational research is a research strategy which measures naturally occurring phenomena and its influence on people and their interactions by collecting data from all or part of the population. These phenomena and processes cannot be manipulated in laboratory studies, but must be studied as they naturally occur. The major focus of this approach is to generalize and accurately assess the distributions of the characteristics of populations from the subset of research subjects selected to participate. In other words, the problem is to maximize external validity. External validity is the ability to draw a representative sample for which the results are what would have been found if the entire population had been studied. In this study, research subjects were chosen in a manner such that they would be representative of the broader population. This study uses a systematic random sample of subjects who are representative of the larger population.

The Setting

The Tippecanoe Mall, located in Lafayette, Indiana, was particularly suited for the study of relationships between architectural features of a shopping mall and their effect on various aspects of social behavior. It was chosen for the following reasons:

1. The design of the enclosed street-like space is representative of retail mall layouts and construction. Thus, generalizations can be made to a large population of typical retail centers and extending the findings to similar malls.

2. A wide variety of stores (65) bordering the peripheral of the central core circulation area allow opportunities for social interaction.

3. Two predominant and well-defined locations allowed for taking a sample with less bias due to a consumer's random point of entry choice if a number of equally appealing entry locations were offered.

4. The single level arrangement of stores provided for the control of multi-level distractions (see Woodward, 1978, p.55; also see ULI-Shopping Center Development Handbook, 1982, p.9).

5. The overall simplicity of design and layout of this particular mall (as compared to other major retailing centers) leaves open the possibility of studying more complex retail environments once a sound normative data base is established.

6. A large regional drawing power attracting a population of 75,000 plus people from the towns of Lafayette, and West Lafayette, Tippecanoe County, and other nearby communities in Indiana, resembles the typical drawing power of many regional centers across the nation (see ULI-Shopping Center Development Handbook, 1982, pp.5-7 and 88).

7. The location of the mall in a community neighboring Purdue University provided for the relative ease of access for researchers to engage in frequent and careful observation.

Preiser (1973) has stated that "environments with unique characteristics will only allow for limited generalizations to be drawn from analyses conducted under naturalistic rather than experimental conditions." For this reason, it is important to state specifically what environmental characteristics and features the Tippecanoe Mall offers which help to define its space and differentiate it from other environmental systems. These characteristics and features include:

- elimination of vehicular traffic throughout the central pedestrian core.
- enclosed, air-conditioned shelter.
- peripheral parking.
- minimum of psychological barriers such as storefronts and doors which inhibit shopper's movement.
- wide selection of shops, products, and shop quality.

Other factors include:

- sitting spaces such as benches surrounded by plants.
- focal points such as a water fountain or a giant exotic bird cage.
- wide hallways.

Services include:

- food and beverage shops/restaurants.
- entertainment attractions.
- public bus service.
- restroom facilities.
- regular store hours for all stores.

Subjects

The subjects for this study were users of the Tippecanoe Mall located in Lafayette, Indiana. Four types of users could be differentiated:

1. Young an older persons from the surrounding towns of Lafayette and West Lafayette and other nearby communities: a) using the mall for shopping activities and b) using the mall for leisure time activities.
2. Tourists and transients using the mall for shopping and browsing as well as amusement.
3. Employees of stores in the Tippecanoe Mall.

Only subjects arriving by themselves were included in the sample as they entered the mall. This allowed access to study specifically social aspects of the mall environment rather than social aspects of shopping with another person (e.g., going to the mall with a friend). Individuals accompanied by very young children were included as part of the sample. This was done since infants and very young children (those who appeared to be less than six years of age) are less likely than older children to have a

significant influence on the stores shopped or the individuals with whom social interaction takes place.

The first three types of users were included as subjects for the purposes of this study. The fourth, employees of stores in the Tippecanoe Mall, were excluded when it became apparent that the subject was an employee because the social activity of the employee is likely to be considerably different than a customer's social activity. In other words, an employee as a subject would bias the study because his or her choice of stores is likely to include the store where he or she is employed, and the social interactions displayed are likely to be with individuals the subject has regular, if not habitual, social interaction.

Study One

Each of 100 subjects were observed continuously from the moment of entrance into the mall until the moment of exit. Observations were made by either the author or an independently working member of a trained research team.

The research team consisted of four graduate and one undergraduate research assistants. All researchers, two male and four female, were in their twenties and had prior research experience ranging from questionnaire design, development and application through interview and survey application and analysis. Each was specially trained for

this particular study to help maintain coding consistency and help reduce bias. The training consisted of familiarity with:

1. the research project as a whole, including its goals and objectives.
2. the reference sheets used for coding, as well as the applicable coding procedures when making observations (see Appendix A).
3. both the layout of the Tippecanoe Mall and the corresponding drawing (included in the reference sheets) resembling the mall's floor plan (see Appendix D).
4. actual coding processes by walking through a mock observational situation and coding the two-page reference sheets.

Trial tests were run by all team members to assure that little or no ambiguity remained about what exactly was to be observed, what was to be recorded, and how that was to be designated on the reference sheets. There was a high degree of agreement among the research team.

Prior to observation, one of the two main entrances of the mall was randomly selected. These main entrances consisted of the main entrance located at the front center of the mall and the entrance located adjacent to J.C. Penny, which, when facing the front side again, is located to the left of the main entrance. The entrance selected was to remain active for the duration of the study during each entire observational period. The observation periods consisted of three time blocks for each day of Monday,

Tuesday, Wednesday, Thursday, Friday, and Saturday. Sunday was not included in the study since the mall was closed on Sunday mornings. The three time blocks were designated as 1) morning, the hours between 10:00 A.M. and 11:59 A.M.; 2) afternoon, the hours between 12:00 noon and 5:59 P.M.; and 3) evening, the hours between 6:00 P.M. and 9:00 P.M.

Once the entrance was determined, an arbitrary sequential sample of subjects from the population was chosen. The selection of subjects from the population is described as follows:

1. The watches of all active researchers were synchronized.

2. It was determined in advance that every third single individual to walk through the entrance door after each 10 minute interval on the clock was to be the subject for one research assistant at a time. For instance, if the observation period was to begin at 12:00 noon, a count of individuals arriving by themselves began at exactly 12:00 noon. Once the third unaccompanied individual passed through the entrance door, the observation began for one research assistant. The sixth individual passing through the door would be the subject for another research assistant. This process continued until all assistants were expired on duty. The reader should note that the first subject chosen could walk through the door 21 minutes after the observation period began. Patience, in this case, was quite important in order to maintain sequential selection.

3. If a researcher's subject left before the observational period was over, the researcher would wait until the next 10 minute interval on the clock. Once that interval arrived, a count of individuals arriving by themselves began again and the third unaccompanied individual to pass through the entrance door would then be selected for observation.

It is believed that this sequential selection of subjects from the population resulted in a representative selection of the larger population since all subjects in the population, by definition, have an equal chance of being included.

Observational data were recorded unobtrusively onto reference sheets (see Appendix A) using Barker's 1968 psychological ecology. The researchers would remain unobtrusive to the subject through various settings or would discontinue observation. Data recorded included the subjects entry location, the time of entry into the mall, gender, and the type of interaction. the type of social interactions recorded are identical to those used in a study of behavior by Sommer, Herrick and Sommer (1981) and are classified into three categories.

1. Perfunctory - an acknowledgement of another person's presence which did not necessarily require a response--e.g., "Hello", "Excuse me", "Have a good day."

2. Informational - either asking a question or providing an answer--e.g., "Where is Penney's?", "How much is this item?".

3. Social - a conversation between two or more people on any topic.

Also, the role-identity (employee, customer) of the party social interaction took place with was recorded as well as where the store the interaction took place.

Stopwatches and second hands were used to measure the time for each informational and social interaction. Also, each store visited was numbered in chronological order and the total time spent in each store was recorded.

Finally, the exit used and the time each subject exited was recorded.

Study Two

Study Two was also a naturalistic observational study, yet unlike Study One where observation included following subjects throughout the mall, counts of individuals arriving at two diverse retail environments were made. These retail settings included the Tippecanoe Mall as described in Study One and a downtown location opposite the Lafayette City Hall along Columbia Avenue between Third and Fourth Street in Lafayette, Indiana. This downtown location features nearby parking, seating facilities, and landscaping.

Subjects

The subjects in this study included two sets: 1) individuals counted at the retail mall and 2) individuals counted at the downtown retailing environment of Lafayette, Indiana. Those individuals counted at the retail mall were identical in their definition to those subjects in Study One. Individuals counted at the downtown retailing environment of Lafayette, Indiana are differentiated only

by geographic location. Four types of uses could be differentiated:

1. Young and older persons from the surrounding town of Lafayette and West Lafayette and other nearby communities using the downtown center for shopping activities.

2. The above type persons using the downtown center for leisure time activities.

3. Tourists and transients using the downtown center as a pastime or point of interest.

4. Employees of shops and businesses in the downtown area.

Like Study One, observational data were recorded unobtrusively onto reference sheets (see Appendix B).

Counts of individuals arriving alone, with another person, and with several were made as they entered either the mall or one of the stores in the downtown study area. Counts were made by either the author or an independently working member of a trained research team. Individuals accompanied by very young children were classified as single and were included as such in the sample. This was done for the same reason as in Study One. All types of users were included in the counts for the purposes of this study, since it is impossible to differentiate all downtown employees from customers.

The composition of shoppers as they arrived individually or with friends was noted during identical time frames and during a systematic selection of days at both

observational settings. The researchers also noted the gender of the customer if alone, as well as the gender make up of groups of customers.

In this study, the research team consisted of three graduate students and one undergraduate student. Each had prior research experience and each, again, were specially trained for this particular study to help maintain coding consistency and help reduce bias. The training consisted of steps one and two of Study One and included the following:

-familiarity with the entrance locations of Tippecanoe Mall (as described in Study One).

-familiarity with the downtown location.

-actual coding processes by observing a mock situation and coding the one-page reference sheet.

Counts were taken during each of a morning and afternoon as customers arrived. Evening counts were not taken because many downtown stores are closed after 5:00 P.M.

Tests

The information gathered from the reference sheets was hand coded and the data were transfered to computer cards for entry into a data file. Tests for statistical inference available through the Statistical Package for the Social

Sciences (SPSS) were used for tabulation and analysis. This was then analyzed using a chi-square distribution and analysis of means.

CHAPTER IV

RESULTS

This chapter will present the comparative results of observations of three types of behavioral interactions: perfunctory, informational, and social in the retail mall. This chapter will also present a comparative analysis of findings from this study and findings of Sommer, Herrick, and Sommer's (1981) study of "The Behavioral Ecology of Supermarkets and Farmers' Markets."

Description of Observational Bias

Since this study was a naturalistic observational study, no subject was aware that he or she was being observed. If subjects were to have been aware of being tested or observed, their behavior was likely to be atypical and testing bias would result.

The evidence that the subjects who participated in the study were not aware of being tested is based on their lack of reaction to the observer. If any subject displayed any apparent knowledge of being observed or showed any signs of being suspicious, the observation of that subject was

discontinued. This procedure also helped maintain confidentiality of the study in that rumors about a "study taking place in the mall" would not be started.

Only three subjects out of 103 observational attempts in Study One appeared to have knowledge of being observed and were thus not included in the sample. The probable cause of their apparent knowledge of being observed could have been because the nature of the observational procedures required maintaining close proximity to the subjects among a number of settings. The alert subject could easily become uncomfortable when seeing another individual in just three settings and when the observer is close to the subject's personal space (Sommer & Becker, 1969).

Finally, in order to remain unobtrusive to the subjects, the observer was required to discontinue observation if a subject met others and continued into other stores with those others. The purpose for this procedure also included the possible error which would result if the others had influenced store choice of the subject or had directed social interaction of the subject to themselves. In this study, three subjects met others and their observation was discontinued. The information gathered up to the time of the subject leaving with another was retained. There is a possibility that this limits the conclusions that can be drawn from the representative sample.

Study One

Social Interaction

The behavioral interactions in Study One (perfunctory, informational, and social) represent an all-inclusive form of personal social interaction between two people. The majority of individuals observed in this study (N=100) displayed at least one type of the above mentioned forms of behavioral interaction. Table 1 shows that 60 perfunctory, 132 informational, and 60 social interactions took place. This indicates that social interaction accounted for approximately 1/4 of all interaction types observed.

Approximately 96 percent of all informational interactions were with an employee of stores (see Table 1). It should be noted here that 132 total informational interactions took place, yet 134 interactions were with employees. This is because one informational interaction of the subject could take place among the subject and two or more other employees. In other words, some interactions may total more than the interaction category total due to one interaction taking place with two employees or, as in more frequent cases, two customers (i.e., one social interaction among the subject and two other customers). Also, although 252 total interactions took place, some individuals displayed no social interaction. The following sections describe the respective results of each type of interaction.

Description of Perfunctory, Informational and Social Interaction by Subject Gender

Perfunctory Interaction by Subject Gender. Perfunctory interaction represents an acknowledgement of another person's presence which did not necessarily require a response -- e.g., "Hello," "Excuse me," "Have a nice day." It was expected that some observed interactions would be perfunctory on both the part of males and females. This did occur. From Table 1 we can see that of the 60 perfunctory interactions observed, 43 were from female subjects and 17 were from male subjects.

Table 2 shows that the average number of perfunctory interactions of women (0.77) is almost twice that of men (0.39). Women subjects were observed to have perfunctory interactions more frequently (0.48) with employees than were men (0.09).

However, a chi-square test of gender and participation in perfunctory interaction indicated that gender is not related to participation in perfunctory interaction, $x^2=1.54$, $p>0.05$. However, a significant chi-square test $x^2=7.82$, $p\leq 0.05$ indicated that there were gender differences in whether perfunctory interaction took place with a customer or employee. Females were more likely to have perfunctory interactions with employees than men were.

Informational Interaction by Subject Gender. Informational interaction represents verbal interaction by the subject either asking a question or providing an answer -- e.g., "Where is Penney's?", or "How much is this item?" It was expected that some observed interactions would be informational on the part of both males and females. This did occur. From Table 1, we can see that of the 132 informational interaction observed, 87 were from female subjects and 17 were from male subjects.

Table 3 shows that the average number of informational interactions of both men and women (1.02 and 1.55 respectively) are almost identical with informational interactions with an employee (1.02 and 1.59 respectively).

A chi-square test, $x^2=0.1820$, $p>0.05$, showed that gender is unrelated to informational interactions. A chi-square $x^2=1.50$, $p>0.05$, also showed gender to be unrelated to whether an informational interaction occurred with a customer or an employee. In other words, whether the subject participates in informational interactions in the retail mall with a customer or an employee is not dependent upon whether the subject is male or female.

Social Interaction by Subject Gender. Social interaction represents a conversation between two or more people on any topic. It was expected that both males and females would have some interactions. This did occur. From Table 1, we

can see that of the 60 social interactions observed, 33 were from female subjects and 27 were from male subjects.

Table 4 shows that the average number of social interactions of men (0.61) is almost identical to the average number of social interactions of women (0.59). The Tippecanoe Mall customer was three times as likely to have a social encounter with another customer (51) than with an employee (17).

A chi-square, $x^2=3.23$, $p>0.05$ indicated that gender is unrelated to participation in social interactions. The evidence suggests that there is no difference between whether the subject was male or female and whether the subject participates in social interaction. In other words, whether the subject participates in social interaction in the retail mall is not dependent upon whether the subject is male or female. Moreover,a nonsignificant chi-square,$x^2=0$, $p>0.05$, showed that gender was independent of whether the social interaction took place with a customer or an employee.

Description of Perfunctory, Informational, and Social Interaction by Time of Day

A description of perfunctory, informational and social interactions by time of day can help determine if consumers tend to be more or less social during particular hours of the day. This knowledge can help store managers adapt their personal service hours to the hours which meet their

functional image. For instance, restaurant managers may desire high social times and low perfunctory times, while department store managers may desire low social times and high informational times. Thus, the restaurant manager will increase his personal service staff during high social times and the department store manager will increase his personal service staff during high informational times.

The hours used in the analysis are defined as follows:

Morning hours include the times from 10:00 AM-11:59 AM

Afternoon hours include the times from 12:00 N-5:59 PM

Evening hours include the times from 6:00 PM-9:00 PM

Perfunctory Interaction by Time of Day. Table 5 indicates that there is a greater likelihood of perfunctory interactions during the morning hours (mean=0.72) than during either the afternoon (mean=.49) or evening hours (mean=0.43) (see Appendix E).

Informational Interaction by Time of Day. Table 5 indicates that there is a greater likelihood of informational interactions during the evening hours (mean=1.57) than during either the afternoon (mean=1.40) or morning hours (mean=1.22). A comparison of informational interactions with customers and informational interactions with employees (Table 5) reveals that informational interactions are more likely to occur between a subject and an employee than a subject and a customer (see Appendix F).

Social Interaction by Time of Day. Table 5 indicates that there is a greater likelihood of social interactions during the morning hours (mean=0.76) than during either the afternoon (mean=0.49) or evening hours (mean=.14) (see Appemdix G).

Description of Perfunctory, Informational, and Social Interaction by Day of Week

This information can help determine if consumers tend to be more or less social during particular days of the week. Again, this knowledge can help store managers adapt their personal service hours to the days which meet their social functional image. In this case, for example, a store manager of stereo components may want to increase his personal service staff (specifically, members of the staff with high product knowledge) during days of high informational interaction. Similarly, if a store manager wants to attract individuals to his or her particular store for social reasons, such as a high fashion store or a store displaying new innovations and trends, the store manager may want to advertise specials to take place during the days of high social interaction.

Perfunctory Interaction by Day of Week. Table 6 shows Tuesday, Wednesday and Friday with larger averages of perfunctory interactions (means=0.88,0.88, and 0.75 respectively) than Monday, Thursday, or Saturday

(means=0.60, 0.44, and 0.41 respectively). The average number of perfunctory interactions with customers is greatest on Wednesday (mean=0.50) while the average number of perfunctory interactions with employees is greatest on Tuesday, Wednesday and Friday (means=0.59, 0.50, and 0.75 respectively) (see Appendix H).

Informational Interaction by Day of Week. Table 6 shows Tuesday, Thursday, and Friday with larger averages of informational interactions (means=1.59, 1.56, and 1.50 respectively) than Monday, Wednesday or Saturday (means=0.70, 1.38, and 1.38 respectively). The average number of informational interactions with employees is greatest on Thursday and Friday (means=1.67 and 1.63 respectively), and is lowest on Monday and Wednesday (means=0.55 and 1.50 respectively) (see Appendix I).

Social Interaction by Day of Week. Table 6 shows Monday and Wednesday with larger averages of social interactions (means=0.75 and 1.13 respectively) than Tuesday, Thursday, Friday or Saturday (means=0.59, 0.22, 0.63, and 0.59 respectively). The average number of social interactions with employees is greatest on Tuesday and Friday (means=0.35 and 0.38 respectively) while the average number of social interactions with customers is greatest on Monday and Wednesday (means=0.90 and 0.75 respectively) (see Appendix J).

Description of Consumer Time Factor

The consumer time factor represents the average total minutes the consumer spent shopping (including browsing, walking, sitting and talking) while inside the retail mall.

An analysis of consumer shopping time (Table 7) shows that women average about eight minutes more shopping time (26.4 minutes) than men, whose average total is 18.5 minutes. The average consumer time walking (Table 8) in the pedestrian core of the mall is about the same for both men and women subjects (6.41 and 6.79 respectively).

This information indicates that there may be differences between the amount of time a female shopper spends in the retail mall and the amount of time a male shopper spends in the retail mall. The number of stores in the Tippecanoe Mall (where this study was done) which cater primarily to women or primarily to men can provide some clues to this difference. For instance, eighteen of the 68 stores at Tippecanoe Mall are directed predominately to the female shopper. Yet, only three of these 68 stores are directed predominately to men.

Social Interaction Comparison with Sommer's Study

The average number of interactions per person in each type of interaction in the retail mall were compared with the data of Sommer, Herrick and Sommer's (1981) study of interactions in the supermarket and the farmers' market.

This comparison was made because Sommer, Herrick, and Sommer (1981) used Barker's 1968 psychological ecology approach when recording observational data of the farmers' market. Like this study, they observed perfunctory, informational, and social interactions. In addition, the types of retail environments (the retail mall, the farmers' market and the supermarket) observed and compared can give us clues to what aspects of each particular environment enhance or restrict social interaction.

Some of the design characteristics which unite and diversify the three retail settings and which may play a major role in whether or not interaction takes place are as follows:

1. The farmers' market and the retail mall environments provide many conversational areas, chairs, benches, and secluded corners out of the traffic flow where people can rest and interact.

2. The farmers' market is out of doors and the retail mall environment often offers open airy surroundings.

3. The arrangement of tables and goods of the farmers' market is often haphazard as is often the arrangement of stores within the retail mall.

4. The linear design and high shelves of the supermarket is similar to many retail mall stores which put a major emphasis on efficient circulation and exposure to a wide range of goods.

5. Employees of the supermarket are often out of view whereas employees of the farmers' market are often readily visible.

It is the contention of this researcher that the retail mall is like the farmers' market with regard to perfunctory,

informational and social interaction when human behavioral interaction data is compared. It is believed that because of inherent design characteristics of the retail mall, the farmers' market, and the supermarket, the following assumptions are made:

1. Perfunctory customer and employee interactions of the retail mall are like the farmers' market.
2. Informational customer and employee interactions of the retail mall are like the farmers' market.
3. Social customer interactions of the retail mall are like the farmers' market.
4. Social employee interactions of the retail mall are like the supermarket.

The comparison (Table 9) indicates that the average number of perfunctory customer interactions per person of the retail mall more closely resembles the average number of perfunctory customer interactions per person of the farmers' market (means=0.30 and 0.26 respectively) than of the supermarket (mean=0.05). The comparison also indicates that the average number of perfunctory employee interactions per person of the retail mall more closely resembles the average number of perfunctory employee interactions per person of the farmers' market (means=0.31 and 0.35 respectively) than of the supermarket (mean=0.50).

The comparison of informational interactions indicates that the average number of informational interactions per person is approximately the same for the retail mall, the

supermarket and the farmers' market (means=0.05, 0.06 and 0.02 respectively). The comparison also indicates that the average number of informational interactions per person of the retail mall more closely resembles the average number of informational employee interactions of the farmers' market (means=1.35 and 1.98 respectively) than of the supermarket (mean=0.53).

Finally, the comparison of social interactions indicates that the average number of customer social interactions per person of the retail mall more closely resembles the average number of customer social interactions per person of the farmers' market (means=0.51 and 0.63 respectively) than of the supermarket (mean=0.09). Yet this data comparison also indicates that the average number of social interactions per person (social column) with employees of the retail mall more closely resembles the average number of social interactions per person with employees of the supermarket (means=0.17 and 0.14 respectively) than of the farmers' market (mean=0.42).

We can say that the farmers' market is inherently more social with the employees being the sole profit-makers, whereas many retail mall and supermarket employees are just employees who need only do their job without having to be friendly and who are occasionally encouraged to be seen and not heard. This information begs the questions, "Why are there these social differences among different shopping

environments?", and "How do these social differences affect the success or failure of the particular market?" It is hoped that these questions can be answered.

Summary of Findings of Study One

It was found in Study One that social interaction in the retail mall can be described by the observational and analysis methods used. All types of interactions, perfunctory, informational, and social were observed. Informational interaction accounted for approximately 1/2 of all interactions observed while perfunctory and social interactions accounted for the other half with approximately 1/4 interest each. Almost all of the informational interactions observed were between the subject customer and an employee and were more likely to occur during the evening hours than during either the morning or afternoon hours. Data from Study One also indicated that both perfunctory and social interactions were more likely to occur during the morning hours than either the afternoon or evening hours. Females were found to be more likely to have perfunctory interactions with employees than men and were also found to average about eight minutes more shopping time than men.

A comparison of social interaction of Study One with Sommer, Herrick, and Sommer's (1981) study indicated that the average number of interactions per person of the retail

mall closely resembles the average number of interactions per person of the farmers' market for perfunctory customer interactions, perfunctory interactions with employees, informational interactions with employees, and social customer interactions, than of the supermarket. The comparison also revealed that the average number of interactions per person of the retail mall closely resembles the average number of interactions per person of the supermarket for social interactions with employees than of the farmers' market.

Study Two

Shopper Composition

Tables 10 and 11 display the distribution of group composition of individuals and groups arriving at the Tippecanoe Mall and downtown Lafayette, Indiana. A chi-square, $x^2=24.30$, $p\leq 0.05$, indicated that there are differences between the two environments of downtown and the retail mall and whether people arrive in small groups or large groups. In other words, the size of the group is dependent upon location such that large groups are to be found at retail malls.

CHAPTER V

DISCUSSION AND CONCLUSION

This section discusses the fit of each hypothesis to the findings. This chapter will also present a review of relevant information gained from the findings which may be of use in future studies.

The first hypothesis was that social behavior in the retail mall can be described. The findings indicate that it is possible to obtain reliable data that describes relationships between people and between people and their surroundings in retail settings.

The second hypothesis was that some of the mall interactions will be perfunctory, some informational and some social. The findings show that each of these types of social behavior were observed with approximately 1/4 of all interactions observed being perfunctory, 1/2 of all interactions observed being informational and approximately 1/4 of all interactions observed being social. This comprehensive breakdown of interactions is approximately the same as that of the farmers' market (Sommer, Herrick, and

Sommer, 1981). Approximately 1/6 of all interactions observed at the farmers' market were perfunctory, 1/2 were international, and 1/3 social. Yet approximately 2/5 of all interactions observed at the supermarket were perfunctory, 2/5 informational, and 1/5 social. This comparison indicated that there may be some similarities between the retail mall and the farmers' market which enhance interaction between customers and customers and employees.

The third hypothesis was that a substantial proportion of informational interactions will take place between customers and employees. The findings indicated that approximately 96 percent of all informational interactions with either a customer or an employee were with an employee. In Sommer, Herrick, and Sommer's (1981) study approximately 99 percent of all informational interactions in the farmers' market with either a customer or an employee were with an employee. In the same study almost 90 percent of all informational interactions in the supermarket with either a customer or an employee were with an employee. Again these findings indicated that the interaction of the retail mall closely resembles the interaction of the farmers' market.

The fourth hypothesis was that the mall is a more socially active environment and that individuals may go to the mall in groups because the environment is supportive of social behavior. The findings of Study Two indicated that the retail mall is a social center more likely attracting large

groups than a corresponding downtown retail area. In other words, shoppers are more likely to shop in social groups at the retail mall than at a corresponding downtown location.

Limitations

The limitations of this study were as follows:

1. Because of the complex nature of the shopping center, the environmental effects on social interaction can only be inferred indirectly. The retail mall has many variable which cannot be controlled and which may greatly affect the type of behavior on the part of all participants within its system.
2. The lack of technical means for manipulating the many variables in the retail environment have compounded the limitations of causality. Thus, there may be a great deal of bias when making descriptive statements about associations and correlations between events.

Without further research, we cannot say that the social interaction observed in the retail mall described in this study is characteristic of other retail malls in the nation. But, the applied projection of this research seems a reasonable assumption since the enclosed physical form and

organization of stores within most retail malls are similar throughout the nation.

Conclusions

The major objective of this thesis research was the development of an instrument which describes social interaction in the retail mall. Its subsequent objective was to develop an understanding of human reactions and responses to environmental space, specifically of the retail environment, by generating some normative data to be used as a data base for developing valid theories of social behavior.

The study of social behavior in this research project has provided insight into some probable multi-directional causation among variables in the retail mall. I have argued that sound descriptive, normative, baseline data about human social behavior is necessary before we can make causal statements about relationships between environment and behavior (Altman, 1976, p.110). The multi-directional causation has typically assumed a one-way relationship between behavior and environment when there is no real basis for determining the actual direction of effect (Altman, 1976, p.110).

I have suggested that the nature of science, when studying social functions, calls for the establishment of a normative data base upon which theories can be built. It is

hoped that the information and the knowledge gained from this research can be used to develop a social index to compare various retail environments. This knowledge can help architects, planners, store owners and retail store managers to refine their complete environment to meet the needs and demands of the shopper.

Measurement of Social Behavior

It is suggested that future studies look at how the retail mall may evoke positive social responses through its use of conversational areas when other retail environments, such as downtown, evoke negative social responses through its use of conversational barriers, i.e. doors.

Also, it is suggested that future studies refine the method used in this study by seeking successful and unsuccessful malls and retail environments and testing the method. Similarly, attempts should be made to refine the method used in this study by studying architecturally diverse retail environments as well as retail environments with diverse functional images.It is hoped that the speculative formulations presented in this study will be supported by careful observations and measurements which, if repeated, will confirm their value and validity and ultimately become part of the continuum of basic knowledge of environmental design analysis.

A tested measurement of integrating environmental features of the retail mall, store types, and social behavior would be of value to architects, interior designers, shopping center managers and store managers. The exploratory information discussed in this thesis research suggests that the concept of social behavior has validity as a central element in retail mall functions. Thus, the development of a reliable and validated social behavior measurement represents a worthwhile long term basic research project.

Table 1

Total Number of Interactions According to Type of Interaction, Gender of Subject and Who Interaction Takes Place With

	Perfunctory	Informational	Social	Total
# of Interactions	60	132	60	232
Male Sbjects (N=44)	17	45	27	89
Female Subjects (N=56)	43	87	33	163
Interaction with Customer	31	5	51	87
Interaction with Employee	31	134	17	182

Table 2

Distribution of Perfunctory Interactions by Subject Gender

	SUBJECTS				
	Male (N=44)		Female (N=56)		
	Sum	Mean	Sum	Mean	Total
Interactions	17	.39	43	.77	60
With Customer	14	.32	17	.30	31
With Employee	4	.09	27	.48	31

Table 3

Distribution of Informational Interactions by Subject Gender

	SUBJECTS				
	Male (44)		Female (56)		
	Sum	Mean	Sum	Mean	Total
Interactions	45	.02	87	1.55	132
With Customer	3	.07	2	.04	5
With Employee	45	1.02	89	1.59	134

Table 4

Distribution of Social Interactions by Subject Gender

	SUBJECTS				
	Male (44)		Female (56)		
	Sum	Mean	Sum	Mean	Total
Interactions	27	.61	33	.59	60
With Customer	21	.48	30	.54	51
With Employee	7	.16	10	.18	17

Table 5

Distribution of Interactions by Time of Day

	Time Period						
	1 (N=50) 10:00-11:59 AM		2 (N=43) 12:00-5:59 PM		3 (N=7) 6:00-9:00 PM		
	Sum	Mean	Sum	Mean	Sum	Mean	Total
Perfunctory	36.0	.72	21.0	.49	3.0	.43	60
Informational	61.0	1.22	60.0	1.40	11.0	1.57	132
Social	38.0	.76	21.0	.49	1.0	.14	60

Table 6

Distribution of Interactions by Day of the Week

	Day of the Week												
	Mon (N=20)		Tue (N=17)		Wed (N=8)		Thu (N=18)		Fri (N=8)		Sat (N=29)		
	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Total
Perfunctory	15.0	.75	10.0	.59	9.0	1.13	4.0	.22	5.0	.63	17.0	.59	60
Informational	18.0	.90	4.0	.24	6.0	.75	6.0	.33	3.0	.38	14.0	.48	51
Social	1.0	.05	6.0	.35	2.0	.25	0	0	3.0	.38	5.0	.17	17

Table 7

Consumer Shopping Time

	SUBJECTS				
	Male (42)		Female (55)		
	Sum	Mean	Sum	Mean	Total
Time in Minutes	776.0	18.48	145.40	26.44	2230.0

Table 8

Consumer Time Walking in Pedestrian Core of Mall

	SUBJECTS				
	Male (44)		Female (56)		
	Sum	Mean	Sum	Mean	Total
Time in Minutes	282.0	6.41	380	6.79	662.0

Table 9

Average Number of Interactions Per Person in Each Setting According to Type of Interaction and Recipient

	Number of Observations	Perfunctory Interactions With		Informational Interactions With		Social Interactions With	
		Cust.	Emp.	Cust.	Emp.	Cust.	Emp.
Retail Mall	100	0.30	0.31	0.05	1.34	0.51	0.17
Super-market	128	0.05	0.50	0.06	0.53	0.09	0.14
Farmer's Market	43	0.26	0.35	0.02	1.98	0.63	0.42

Table 10

Distribution of Group Composition at the Retail Mall and Downtown Lafayette, Indiana

Location	Groups Consisting of-		
	1 & 2	3 or More	Total
Retail Mall	873	82	955
Downtown	363	11	374
Total	1236	93	1329

Table 11

Distribution of Group Composition at the Retail Mall and Downtown Lafayette, Indiana

Location	Groups Consisting of-		
	2	3 or More	Total
Retail Mall	141	82	223
Downtown	94	11	105
Total	235	93	328

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APPENDIX A

Coding Sheet for Study One

Subject #_____ Sex: M F

APPENDICES

APPENDIX A

Coding Sheet for Study One

Subject #_____ Sex: M F

Time Start _____

end _____

Behavioral episodes - (Put # of episode and correspond to cognitive map.) After episode # put a C (customer) and E (employee) role class of other

1. Perfunctory usually shopping related - (acknowledgement of other person's presence which did not necessarily require a response - e.g., "Excuse me", "Have a good day")

2. Informational usually shopping related - (asking a question/providing an answer - "Where is Penney's", "How much is this item")

3. Social - (a conversation between two or more people on any topic) - (put time of interaction next to episode #)

4. Time shopping (in store - put # of store and time)

5. Walking in mall (total time - time in store - social

APPENDIX B

Coding Sheet for Study Two

Mall Study 2

Date _____

Time of Observation _____

Name _____

Place (circle one) mall: main entrance Penneys entrance
downtown

Instructions - Observe all people entering the mall entrance and mark with an X (penney's entrance with a 1) if at the mall and individuals entering any of the retail establishments (if downtown with a 1), in the proper column. Observe the sex composition of each group and mark it down. For example - mall entrance a group of 3 with 2 females can be marked X(2F); or a Penney's group of 5 with 3 males is X(3M).

Alone	2 people	3 people	4 people	5 people	over 5

young children (under 6) count as 0

APPENDIX C

News Releases on Tippecanoe Mall

HERE

Major renovations to mall to modernize shopping area

As one major space-user looks at the former Montgomery Wards store, Tippecanoe Mall is undergoing major renovations.

Ted Fraterick, the Melvin Simon and Associates leasing agent for the Mall, said Thursday, "We are negotiating with a major space-user."

The interested business is reportedly Kohl's, a department store out of Brookfield, Wis. a representative of that firm refused to confirm the move. "I don't have anything final at this time," she said Thursday.

Fraterick said remodeling is already underway at Tippecanoe Mall.

"Nothing of this magnitude has been done since its opening," he said. Tippecanoe Mall opened in 1973.

"We are completely renovation and updating to give it a totally new look," he said. "We are bringing the mall up to date, into the '80s."

Melvin Simon and Associates is modernizing several malls the company owns throughout Indiana. He said, "Others are targeted for renovation and expansion."

The major change at Tippecanoe Mall will be "pop-out" bulkheads on each tenants storefront. Each will stick out about three feet into the mall.

"I believe the fountains will stay, but the whole area will be renovated," he said.

He said the renovations would cost well over $1 million.

Purdue Exponent 6/18/84

Developer announces Tippecanoe Mall renovations

Plans for renovation of Tippecanoe Mall in Lafayette have been announced by by mall developer Melvin Simon and Associates, Inc.

The mall will take on a "totally modern and new-fashioned look," Dan Paris, assistant vice presicent of development, says.

There will be new flooring, potted trees and a new park bench seating area, Denise Schenck, marketing director of Tippecanoe Mall, says. The walls will be painted in neutral tones. There will also be mirrored tiles and five areas in the Center Court with skylights.

Tippecanoe Mall currently has 65 retail and service stores, with the two largest being J.C. Penney and W.H. Block Co. New tenant spaces are available, according to Schenck.

J.C. Penney is planning to do extensive remodeling and will add about 20,000 square feet of selling space, Schenck says. Blocks will extend about 28 feet into the Center Court of the mall, although it just recently underwent remodeling after suffering storm damage in February.

Two additional stores will be added on either side of Blocks.

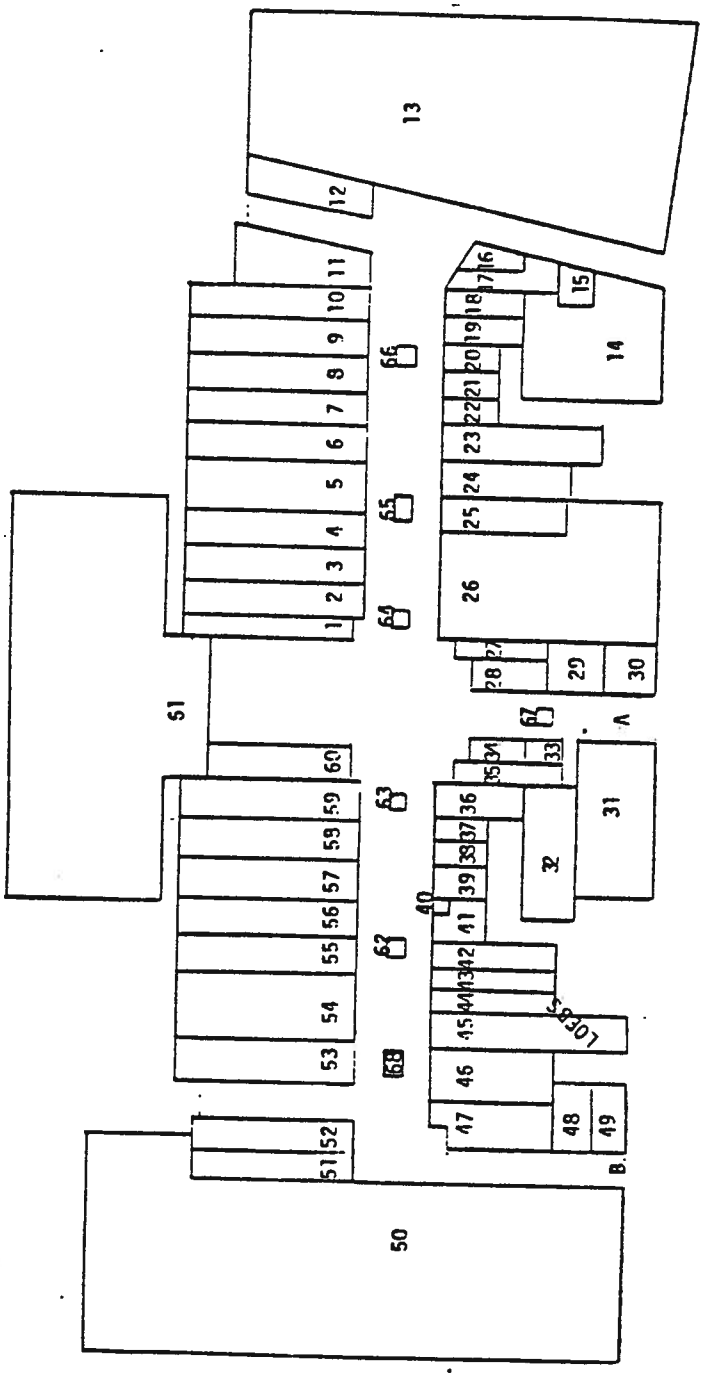
The renovation should be completed by the end of October, Schenck says. A grand opening will be held at a later date.

The fronts of the retail stores will "pop-out" in order to create a highlighting effect, she says. This will enable customers to see the store names, which are currently not in plain view.

Purdue Exponent 7/2/84

APPENDIX D

Tippecanoe Mall Store Layout and Corresponding Store Designation



A	Main Entrance
B	Entrance Adjacent of J.C. Penney
1	Card and Gift Gallery
2	Englin's Fine Footwear
3	Nobil Shoes
4	The Singer Company/Jo-Ann Fabrics
5	Stuarts
6	Rapps Sire Shop
7	The Limited
8	Richman Brothers
9	Sycamore Shop
10	Kay-Bee Toy and Hobby Shop
11	The Athletic Department
12	Hickory Farms of Ohio
13	Montgomery Wards
14	Mall Cinemas 1, 2, 3, and 4
15	The Put On T-Shirts
16	Service Optical
17	Hi-Fi Buys
18	Merle Norman Cosmetics
19	Motherhood Maternity
20	Lowry Organ
21	Hot Sam
22	Foxmoore Casuals
23	Lerner's
24	Butlers Shoes
25	Spencer Gifts
26	Osco Drug
27	Tiffany's Bakery
28	Shifrin Willens Jewelers
29	Aladdin's Castle
30	Purdue National Bank
31	Cambridge Inn Cafeteria
32	Mall Offices/Restrooms
33	Bressler's 33 Flavors Ice Cream Shop
34	Connie Shoes
35	Susie's Casuals
36	Thom McAn Shoes
37	General Nutrition Center
38	Orange Bowl
39	Claire's Boutiques
40	Karmel Korn Shoppe
41	Musicland
42	The Bottom Half
43	The Athlete's Foot
44	Loebs
45	Loebs
46	Just Pants
47	Wags Restaurant
48	Gloria Marshall Salon
49	Command Performance

50 J.C. Penney
51 GTE Phonemart
52 Nu Vision
53 Radio Shack
54 Paul Harris
55 The Lemon Tree
56 Walden Book Store
57 Evenson's Card Shop
58 Brook's Fashions
59 Kinney Shoes
60 Zales Jewelers
61 Blocks
62 H & R Block Income Tax
63 Things Remembered
63 Children's Photographer
65 Wallpaper Store
66 The Earring Tree
67 Fruits and Nuts
68 Century 21 Homes Realty

APPENDIX E

Distribution of Perfunctory Interactions by Time of Day

	Time Period						
	1 (N=50)		2 (N=43)		3(N=7)		
	Sum	Mean	Sum	Mean	Sum	Mean	Total
Interactions	36.0	.72	21.0	.49	3.0	.43	60
With Customer	16.0	.65	15.0	.35	0	0	31
With Employer	21.0	.42	7.0	.16	3.0	.43	31

APPENDIX F

Distribution of Informational Interactions by Time of Day

	Time Period						
	1 (N=50) 10:00-11:59AM		2 (N=43) 12:00-5:59PM		3 (N=7) 6:00-9:00PM		
	Sum	Mean	Sum	Mean	Sum	Mean	Total
Interactions	61.0	1.22	60.0	1.40	11.0	1.57	132
With Customer	4.0	.08	1.0	.0	0	0	5
With Employee	59.0	1.18	64.0	1.49	11.0	1.57	134

APPENDIX G

Distribution of Social Interactions by Time of Day

	Time Period						
	1 (N=50) 10:00-11:59 AM		2 (N=43) 12:00-5:59 PM		3 (N=7) 6:00-9:00 PM		
	Sum	Mean	Sum	Mean	Sum	Mean	Total
Interactions	38.0	.76	21.0	.49	1.0	.14	60
With Customer	32.0	.64	19.0	.44	0	0	51
With Employee	10.0	.20	6.0	.14	1.0	.14	17

APPENDIX H

Distribution of Perfunctory Interactions by Day of the Week

	Day of the Week												
	Mon (N=20)		Tue (N=17)		Wed (N=8)		Thu (N=18)		Fri (N=8)		Sat (N=29)		
	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Total
Interactions	12.0	.60	15.0	.88	7.0	.88	8.0	.44	6.0	.75	12.0	.41	60
With Customers	6.0	.30	5.0	.29	4.0	.50	5.0	.28	0	0	11.0	.38	31
With Employees	6.0	.30	10.0	.59	4.0	.50	3.0	.17	6.0	.75	2.0	.07	31

APPENDIX I

Distribution of Informational Interactions by Day of the Week

	Day of the Week												
	Mon (N=20)		Tue (N=17)		Wed (N=8)		Thu (N=18)		Fri (N=8)		Sat (N=29)		
	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Total
Interactions	14.0	.70	27.0	1.59	11.0	1.38	28.0	1.56	12.0	1.50	40.0	1.38	132
With Customer	3.0	.15	1.0	.06	0	0	0	0	0	0	1.0	.03	5
With Employee	11.0	.55	26.0	1.53	12.0	1.5	30.0	1.67	13.0	1.63	42.0	1.45	134

APPENDIX J.

Distribution of Social Interactions by Day of the Week

	Day of the Week												
	Mon (N=20)		Tue (N=17)		Wed (N=8)		Thu (N=18)		Fri (N=8)		Sat (N=29)		
	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean	Total
Interactions	15.0	.75	10.0	.59	9.0	1.13	4.0	.22	5.0	.63	17.0	.59	60
With Customer	18.0	.90	4.0	.24	6.0	.75	6.0	.33	3.0	.38	14.0	.48	51
With Employee	1.0	.05	6.0	.35	2.0	.25	0	0	3.0	.38	5.0	.17	17