

TERRITORIAL BEHAVIOR
IN
A UNIVERSITY APARTMENT COMPLEX

by

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Taiwan, R.O.C. 1974

A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

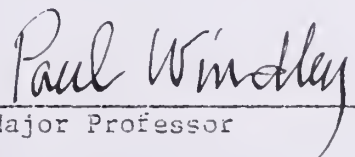
MASTER OF ARCHITECTURE

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Manhattan, Kansas

1979

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TABLE OF CONTENTS

Chapter		Page
1.	TERRITORIAL BEHAVIOR	1
	Introduction	
	Definitions of Territorial Behavior	
	Review of Literature	
	Summary	
2.	THE RELATIONSHIP BETWEEN TERRITORIAL BEHAVIOR AND SELECTED ENVIRONMENTAL AND SOCIAL FACTORS	7
	Specific Research Objectives	
	Dependent Variables	
	Independent Variables	
3.	LOCATION AND STUDY SAMPLE	10
	Specific Location of the Study	
	Characteristics of the Sample	
4.	RESEARCH DESIGN AND FINDINGS	17
	Research Strategy	
	Variables and Methodology	
	Methods of Analysis	
	Measures of Territorial Behavior	
	Results of the Survey	
5.	CONCLUSION	30
	Discussion of the Results of the T-Tests	
	Discussion of the Conceptual Framework	
	Future Research Direction	
	Design Implications	
	REFERENCES	37
	APPENDIX	38
	Survey Questionnaire	

LIST OF FIGURES

Figure	Page
1. Site Plan of Jardine Terrace	11
2. Locations of Individual Units and Stairs	12
3. Floor Plan of Two-Bedroom Apartments of Jardine Terrace	13
4. Floor Plan of One-Bedroom Apartments of Jardine Terrace	14
5. Noise Irritation and Visibility from Outside in Single and Double-loaded Apartments.	35

LIST OF TABLES

Table	Page
1. Indexes of Territorial Behavior with Identifying Information	18
2. Item--Total Score Correlation for Four Territorial Behavior Indexes	
3. Coefficient Alpha for each Index of Territorial Behavior	21
4. Means and Standard Deviation of the Items	21
5. T-Test for Four Indexes of Territorial Behavior	24

ACKNOWLEDGEMENTS

I would like to thank all those who assisted me during my study, especially my advisory committee -- Professors Paul Windley, Eugene Kremer, and Gene Ernst of the Department of Architecture. Grateful acknowledgment is particularly due to Dr. Windley, my major professor, whose patience, guidance and concern contributed invaluable help in the completion of this thesis.

Appreciation and thanks are also due to my friend, David Hein, for his assistance in the writing of this thesis and solving the statistical problems, Russell Hultgren for his editing of the thesis, and my husband, Sha-Shu, for his help with the computer analysis.

Chapter 1

TERRITORIAL BEHAVIOR

INTRODUCTION

This thesis will study territorial behavior under specific social, personal and environmental situations in a student apartment complex at Kansas State University.

There has been a steady stream of research done about human territorial behavior in specific environments (such as hospitals, day wards, nursing homes, or libraries) for specific kinds of people (such as patients, the elderly, or university students). Very little research has dealt with the territorial behavior in families. However, one may well ask whether territorial behavior exists in the family too, and if so, in what form, and kinds of situations are associated with territorial behavior. This thesis will discuss answers to these questions and investigate their implications toward environmental design for student housing.

DEFINITIONS OF TERRITORIAL BEHAVIOR

This chapter will review the literature of definitions and research in the field of territorial behavior. The concept of territorial behavior originated in animal studies, and some researchers tried to propose its use for humans. Altman (1970) suggests that human response is more versatile and complex than animal behavior. He states a definitional framework for human territoriality which considers these complexities:

"Human territoriality encompasses temporally durable preventive and reactive behaviors including perceptions, use, and defense of places, people, objects, and ideas

by means of verbal, self-marker and environmental prop behaviors in response to the actual or implied presence of others and in response to properties of the environment, and is geared to satisfying certain primary and secondary motivational states of individuals and groups."

This framework covers the modes of response, including subjective perceptions and feelings, verbal reports, self-marker and use of environmental props; functional characteristics of the response, including ownership, use or defense of space, objects and ideas; and situational factors, covering social, environmental and personal factors. The social factors cover a broad range of conditions, such as interpersonal compatibility, role relations, and social power. The environmental factors elucidate the degree of crowdedness, confinement, design, arrangement of space, and locations of space. Personal factors refer to past experience, individual tendency for privacy, sex, race and other factors.

Edney argues that territoriality in humans is a continuous association of a person or persons with a specific place. He suggests that territoriality applies to at least three levels: the community level, the small group level, and the individual level. He also mentions three requirements for territoriality: "... (a) a stable set of physical objects or milieu which does not fluctuate randomly itself, (b) behaviors which can become patterned, (c) one or a number of factors which cause patterning in behaviors." (Edney, 1976).

REVIEW OF LITERATURE

Much research dealing with social factors and their effect on territorial behavior has been done. Altman and Haythorn (1967) indicated that subject incompatibility on affiliation and need dominance were espe-

cially prone to territorial behavior. In a study examining the effects of interpersonal compatibility on territorial behavior, three floor plans of a two-chamber capsule were presented to subjects who thought they had been selected for assignment to a two-man undersea vehicle with a confederate. These three floor plans were: (1) a "separate territory" plan in which each man had his own compartment and work equipment, (2) a "joint territory" plan in which the two men lived in one room and worked in the other; each man's equipment and furniture was in a different part of the room clearly identified as his area, (3) a "joint random" room layout with the men living together and working in another room, but with the furniture and equipment arranged in a way that did not give each man a distinct area. Altman, Taylor and Sorrentino (1968) found that only 4 percent of the subjects preferred the joint random arrangement. Those in negative interpersonal situations preferred the separate territorial plan, whereas those in positive conditions favored the joint territorial plan.

Results of research on a day ward showed that patients high in interpersonal dominance had no fixed territory but were able to move about the whole area freely without interference, patients of intermediate dominance seemed to develop territories, and those at the bottom of the hierarchy had places in secluded, undesirable areas. (Esser, Ampara, Chamberlain, Chapple, and Klein, 1964; Esser, 1965).

Churchill (1961) discovered that special emotional leaders tended to select centrally located side positions around tables, whereas task leaders tended to prefer end positions.

Research also has dealt with the relations between environmental factors and territorial behaviors. Colman (1963) suggests that, similar to observed animal behavior, some aspects of human behavior may vary as

a function of whether they occur at home or elsewhere. Most individuals are capable of maintaining reasonable appropriate and consistent behavior in a majority of environments and interpersonal situations. Yet for some who find personal relationships particularly difficult, territoriality and idiosyncratic territorial structuring provide useful personality support.

In a study of "Chairs as Territory," Lipman (1967) found that occupancy of chairs which were arranged side-by-side along perimeter walls and termed "custodial" seating patterns was very fixed, with almost two-thirds of the chairs in use being occupied by the same person more than 90% of the time. Residents persisted in their fixed occupation of seats even when the physical situations were poor. Lipman suggested that the elimination of these "custodial" seating arrangements might help to alleviate some problems such as passive acceptance of poor physical conditions and lack of aural privacy, and "improve not only the social lives of patients, but also their mental and physical health."

In a study of "sociofugal space" in a university library, Sommer (1967) found that end chairs at tables were overwhelmingly chosen by students who wanted to sit by themselves away from others, and middle chairs at tables were chosen by students who wanted to keep others away from tables.

In a study of university dorms at Berkeley, Sim Van Der Ryn (1968) found the designs of the dormitories were not satisfactory to the residents in terms of privacy needed, kinds of space needed, facilities, and the need for change (i.e., personalizing rooms according to the residents' own tastes and needs). He found that roommates in double-occupancy units in dormitories have a stronger desire to create personal territory than to

share space with a roommate (around 94% of the sample showed this desire). He also found that roommates try to achieve privacy by using furniture arrangement in their rooms. Residents also favored the freedom to personalize their rooms.

A theory of defensible space was presented in Newman's book, Defensible Space (1972). He pointed out that a zone of transition can become a potent form of territorial expression (for example, a transition from a public street to semi-public grounds and then to private units). He mentioned that using the real barriers (such as high walls, fences, and locked gates) and symbolic barriers (such as open gate ways, a short run of steps, and changes in the texture of the walking surface) can define the zones of transition so as to create defensible space, the sense of territoriality of the residents.

As for effects of personal conditions, it was found that seating position or the establishment of relatively defined territories was related to the personality of the participants (Edney, 1976). People also tended to decorate or modify their environments by different gardening or other forms of exterior for expression of self identity (Mautz II and Kaplan, 1973). A person's attitude about the social and physical functions of a room may be the result of past experience in the same or a similar room. The need for privacy may also be a reason to establish territory and to preserve space. (Heimstra and McFarling).

SUMMARY

This chapter has presented the past literature about definitions and research in the field of territorial behavior. In the area of definition, Altman stated a definitional framework which covered the modes

of response, the functional characteristics of the response, and situational factors. Edney states that territoriality in humans is a continuous association of a person or persons with a specific place, and also suggested three levels to which territoriality applies as well as three requirements for territoriality.

Research dealing with social factors, environmental factors, and personal factors and their effects on territoriality has been presented. Social factors, such as incompatibility of affiliation, negative interpersonal situations, and the hierarchy of interpersonal dominance had definite effects on territorial behavior. Environmental factors, such as different locations, the arrangement of furniture, and the specific positions people choose in seating all had influences on territorial behavior. Personal factors, such as the personality of participants, different preferences in decorating and individuals' past experiences also had effects on establishing territoriality.

It is necessary to further define and identify territorial behavior by ordinary people in specific situations, and to examine the relations between this behavior and the situations. These items will be discussed in the next chapter.

Chapter 2

THE RELATIONSHIP BETWEEN TERRITORIAL BEHAVIOR AND SELECTED ENVIRONMENTAL AND SOCIAL FACTORS

SPECIFIC RESEARCH OBJECTIVES

The specific objectives of this thesis are: (1) to identify the territorial behaviors existing among the residents of Jardine Terrace, a student housing complex, (2) to identify the effects of personal, social, and environmental factors on territorial behavior; (3) to assess the usefulness of this study for future investigation and implications for environmental design and planning.

DEPENDENT VARIABLES

Several similar types of spatial behavior which have been grouped together under the general heading "territoriality" will be studied in this thesis: (1) defending behavior, (2) possessing behavior, (3) personalizing behavior and (4) feeling of territory.

Defending Behavior

Defending behavior is that behavior which one exhibits when defending specific space or objects against intruders. People who are not welcome find it difficult to participate in the space. In terms of preventive behavior, people express their defending behavior by asking others to leave, facing walls when studying, or using environmental props (such as venetian blinds, doors, or other barriers) to keep other people out. In the sense of reactive behavior, people may also express defending behavior by arguing with others about using specific space, or by showing unhappiness.

The modes of behavior include verbal communicative mechanisms -- argument, discussion, plea, and other forms of verbal behavior -- as well as non-verbal behavior such as gestures and facial expressions, and the use of environmental props (objects and arrangement of objects in the space).

The situations which relate to defending behavior may be personal, social, or environmental factors (as described previously). It is hoped that this study will show which factors are related to defending behavior.

Possessing Behavior

Possessing behavior is behavior in which people always use specific environmental objects or spaces to perform specific work to achieve a specific purpose, and does not necessarily oppose intruders. The modes of this kind of behavior are the uses of environmental props: objects (such as books, furniture, equipment or other personal items), spaces or the arrangement of objects in spaces.

There are also factors related to this behavior and these will be studied in this thesis.

Personalizing Behavior

Personalizing behavior is a behavior in which people express themselves or their interests by decorating specific areas and possibly by including others in decorating the same place. This behavior is a special kind of possessing behavior. One of the characteristics of this behavior is that it can change the characteristics of the environment where other possessing or defending behavior may occur. Personalizing behavior is not necessary as some possessing behavior for maintaining daily life for most people. People can live without having personalizing behavior but cannot live without possessing behavior.

The modes of personalizing behavior include putting, hanging or pasting personal, interesting things on some portion of space.

Feeling of Territoriality

The feeling of territoriality is a psychological identification with specific places. For example, in some specific public area, although it is shared with other people, one feels that he is free and has the right to use it. It is not always certain that one would have this feeling in one's own places. In this thesis, this feeling of territoriality refers only to the places which are not owned by any specific individual.

INDEPENDENT VARIABLES

Several variables are thought to be related to territorial behavior. In Altman's framework of territorial behavior, three categories of factors are mentioned: personal, social, and environmental.

In this study, personal factors are sex, domestic vs. foreign status, preference for privacy, and past ownership status. Social factors include: student vs. non-student status, and the degree of social contact with neighbors. Environmental factors include: furnished apartments vs. unfurnished apartments, number of bedrooms, nearness to street, floor location, and proximity to stairway.

Chapter 3

LOCATION AND STUDY SAMPLE

SPECIFIC LOCATION OF THE STUDY

Jardine Terrace of Kansas State University, a university apartment complex for married students, was chosen for this study (Figure 1 and 2). It has 24 two-story buildings. Grass areas surround the buildings and parking lots are adjacent to the roads which are located close to the buildings (Figure 1). Each building has two wings, each wing has 12 units including 4 units of two-bedroom apartments in the center of the wings and 8 units of one-bedroom apartments at the sides of the wings. The stairs are located on the sides of the wings and a long corridor is in front of each unit (Figure 2).

Six apartments in each building were selected for a total of 60 apartments. These apartments were selected because they vary along five dimensions: (1) closeness to busy traffic (apartments range from those close to the busiest road to those near the least busy road), (2) three apartments in each building were on the bottom floor, and three apartments were on the top floor, (3) two-bedroom apartments and one-bedroom apartments were available (Figure 3 and 4), (4) apartments located at the ends of wings and in the center of wings were available, (5) furnished and unfurnished apartments were available. Based on these dimensions, apartments #3, #5, #6, #23, #25, and #26 in each building were selected so that the influence of these five environmental dimensions on the territorial behaviors of the residents could be studied.

Figure 1
SITE PLAN OF JARDINE TERRACE

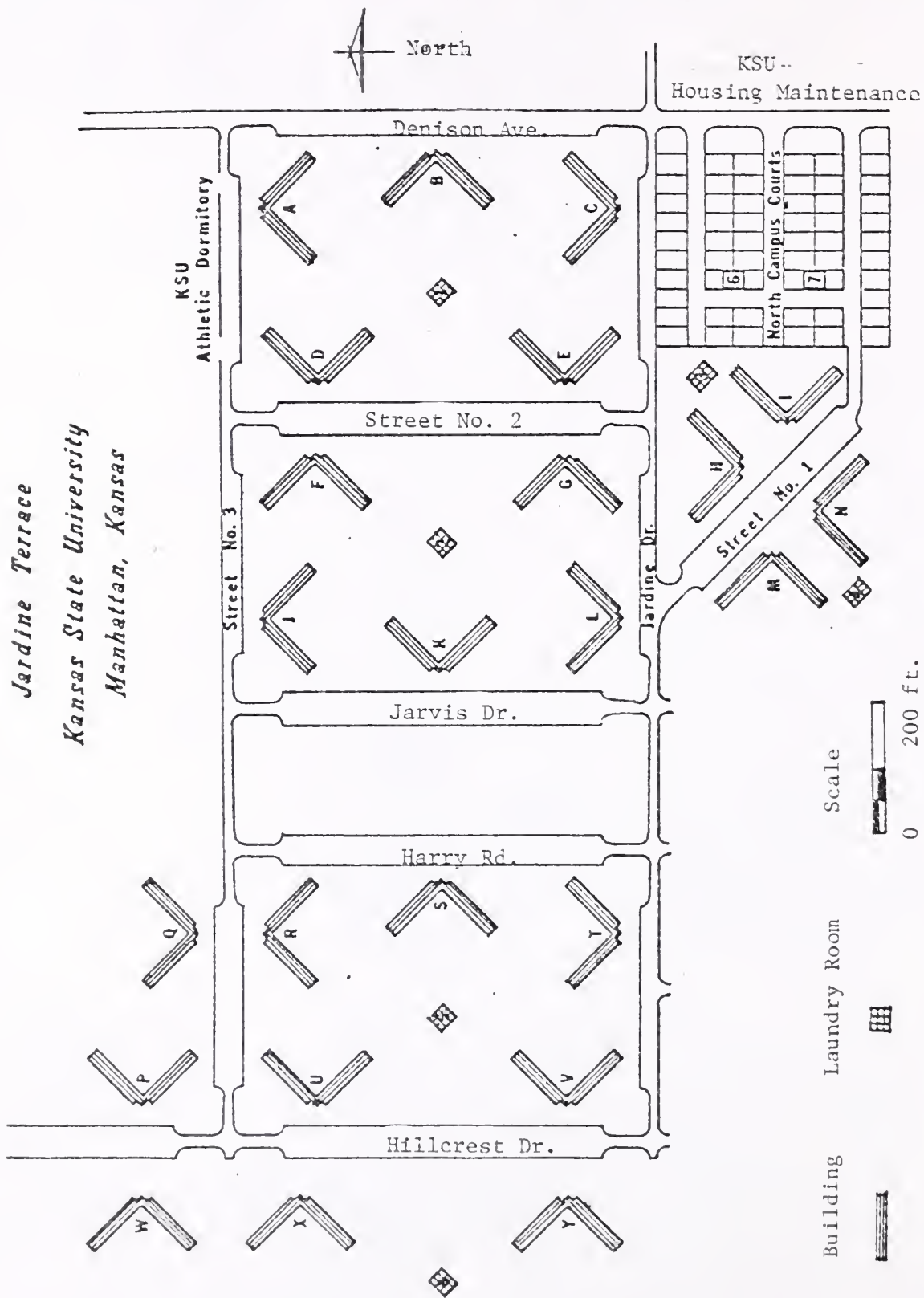


Figure 2

LOCATIONS OF INDIVIDUAL UNITS AND STAIRS

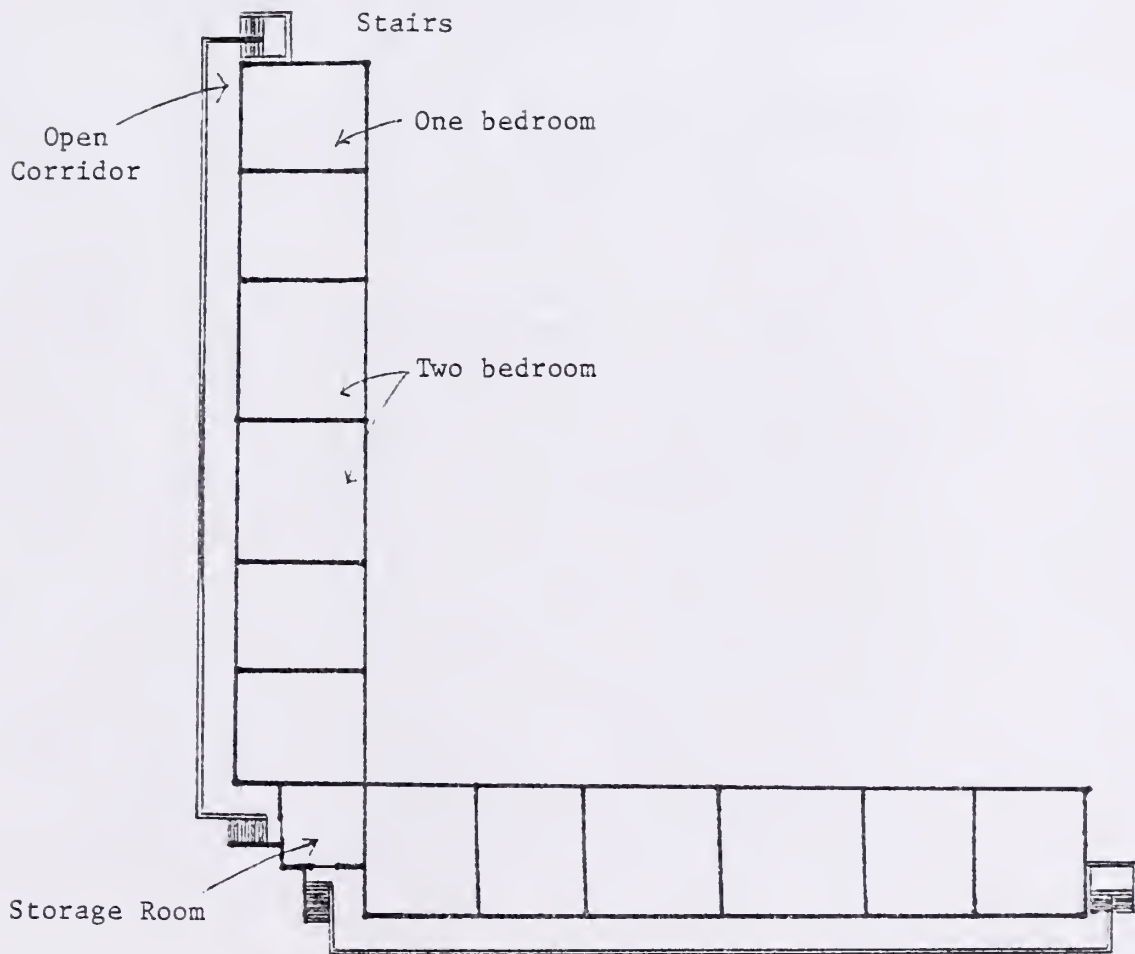
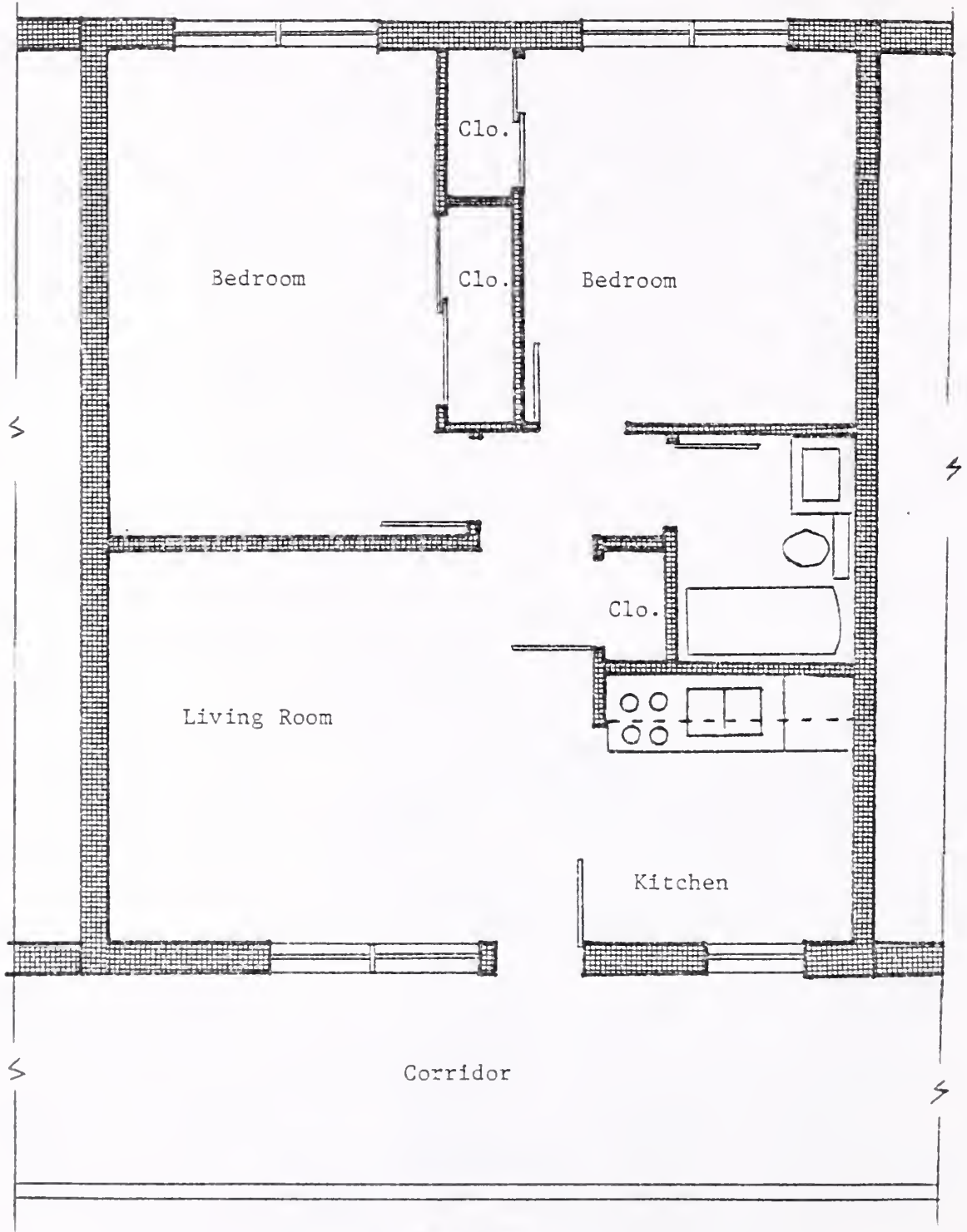
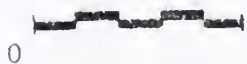


Figure 3

FLOOR PLAN OF TWO-BEDROOM APARTMENTS OF JARDINE TERRACE



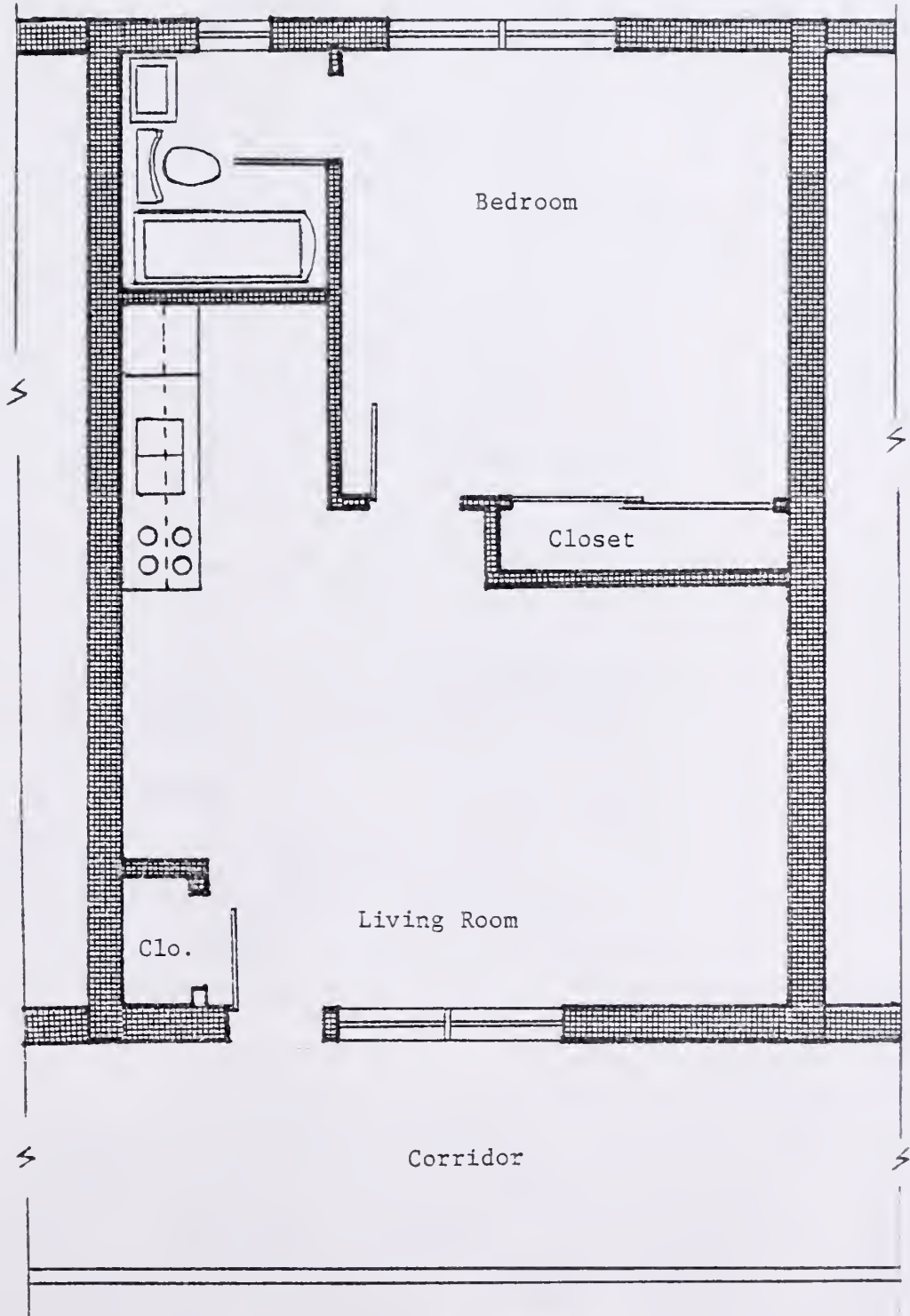
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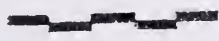
Figure 4

FLOOR PLAN OF ONE-BEDROOM APARTMENT OF JARDINE TERRACE



SCALE

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5 ft.

Social and personal dimensions of Jardine residents were controlled through measurement by questionnaire (See Appendix A).

CHARACTERISTICS OF THE SAMPLE

This study used four combinations of residents -- couples, couples with children, single parents with one child, and single students who were accepted only when apartments were available. Usually a single parent with one child is assigned to a two-bedroom apartment. Married couples are in the majority.

It has been mentioned that residents of sixty apartments were selected as the sample for this study. Seventy-four residents of the sample responded to the questionnaire (N = 74).

From the findings, we know that among seventy-four respondents, fifty-three are domestic residents and twenty-one are foreigners. Thirty of fifty-three domestic residents (57%) live in unfurnished apartments and twenty-three of 53 domestic residents (43%) live in furnished apartments. All the foreigners (21 residents) live in furnished apartments.

Within the sample of 74, forty respondents are males, and thirty-four respondents are females. Thirty-six of forty male respondents (90%) are students. Nineteen of thirty-four female respondents (55%) are students.

Among forty-four one-bedroom apartments surveyed, there are 28 furnished (64%) and 16 unfurnished (36%). Among thirty two-bedroom apartments, eighteen are unfurnished (60%) and twelve are furnished (40%). It can be seen that over half of the one-bedroom apartments are furnished, but over half of the two-bedroom apartments are unfurnished.

Seventy percent of the respondents in furnished apartments have added bookshelves.

Most respondents (more than 80% of the 74 respondents) socialize very seldom or a few times each month with their neighbors.

These characteristics of the respondents have some effect on their territorial behavior, and this will be discussed in Chapter 5.

Chapter 4

RESEARCH DESIGN AND FINDINGS

RESEARCH STRATEGY

One of the objectives of this study is to contribute to an information base on the residents' territorial behavior and the impact of independent variables on these behaviors.

The research strategy is (1) to investigate the relationships between social, personal, and environmental factors and territorial behaviors by collecting and analyzing information which seems to be potentially relevant to the objectives of this study, (2) to express the findings in a form that provides a starting point for further probing, and (3) to provide some tentative information for use by planners and/or designers.

VARIABLES AND METHODOLOGY

This study attempts to specify four indexes of territorial behaviors (dependent variables) in the apartment complex and the related independent variables. In Chapter 2 we described all the variables. In Chapter 3 we mentioned that a questionnaire was used to measure the social, personal, and environmental factors (See Appendix A). The four indexes of territorial behavior were also measured by the questionnaire and can be found on page 38. Table 1 lists these indexes by name plus other identifying information.

Table 1

INDEXES OF TERRITORIAL BEHAVIOR
WITH IDENTIFYING INFORMATION

Indexes	Representative Questions and Statement
Defending Behavior	What is your reaction when others occupy places you usually use, such as a desk or sofa?
Possessing Behavior	When you watch T.V., do you always sit in the same place?
Personalizing Behavior	I decorate the apartment more often than my spouse does.
Feeling of Territory	When other people (not including guests) play or chat in the corridor which is in front of your apartment, how do you feel?

METHOD OF ANALYSIS

Two statistical analyses were applied to the data resulting from the survey -- the Pearson product moment correlation and the T-Test. The former was used to assess the reliability of each index, the latter was served to test for significant differences in territorial behavior by effects of independent variables.

MEASURES OF TERRITORIAL BEHAVIOR

One of the objectives of this thesis is to identify the territorial behavior existing among the residents of Jardine Terrace. The territorial behavior will be measured by the following items. Table 2

describes the items used for each index of territorial behavior and the correlation coefficient between each item and the total score for each respective index. These correlations suggest an acceptable level of item homogeneity. The items that are not homogeneous with the index are not listed in the table and are not used.

Table 2

ITEM - TOTAL SCORE CORRELATION FOR FOUR TERRITORIAL
BEHAVIOR INDEXES (N = 74)

DEFENDING BEHAVIOR

- #14.* How often do you ask your family to leave your books, notes, or personal important things alone in Jardine Terrace? (0.34)**
- #17. How do you indicate to your family that you do not want to be disturbed when you are sleeping or studying in the bedroom at Jardine Terrace? (0.33)**
- #20. What is your reaction when others occupy places you usually use, such as desk and sofa? (0.41)**
- #22. When you use the desk for study in your apartment, where do you prefer to face? (0.50)**
- #23. When you are at home during the day and don't want to be disturbed by neighbors or friends, what do you do? (0.45)**
- #24. When you don't want your child(ren) to mess up your clothes, books or personal important things, what do you do? (0.50)**
- #25. When you study at home and are bothered by noise, what do you do? (0.63)**

POSSESSING BEHAVIOR

- #18. How adequate is the amount of space in your apartment? (0.45)**
- #19. When you have meals, do you always sit in the same place? (0.40)**
- #21. When you watch TV, do you always sit in the same place? (0.26)***

Table 2 Continued

-
-
- #29. Do you study in the same area each time? (0.44)**
- #20. Do you have bookshelves for your books in this apartment?
(0.25)***

PERSONALIZING BEHAVIOR

- #11. I decorate the apartment more often than my spouse does.
(0.32)**
- #15. How often do you hang photographs or favorite pictures
on walls in this apartment? (0.02)
- #31. Do you have plants in your apartment? (0.15)

FEELING OF TERRITORY

- #26. When other people play or chat in the corridor which is
in front of your apartment, how do you feel? (0.31)**
- #32. Do you feel the corridor in front of your apartment is
an extension of your apartment? (0.38)**
- #33. Do you put bikes, chairs, toys, etc. in the corridor?
(0.20)
- #27. When people not living in your building (not including
guests) play in the grass area which is near the apart-
ment, how do you feel? (0.55)**
- #28. If you parked your car in the parking lot which is in
front of another building, how would you feel? (0.42)**
-
-

- * Indicate the item number shown on the final instrument
- ** $p < 0.01$
- *** $p < 0.05$

The value of Coefficient Alpha for each index is in Table 3. These values are the true variance, and these figures suggest the items' repeatability.

From the correlation coefficients (Table 2) and the Coefficient Alpha (Table 3), we know the items are reliable in testing territorial behaviors.

Table 3
COEFFICIENT ALPHA FOR FOUR TERRITORIAL
BEHAVIOR INDEXES (N = 74)

Index	Coefficient Alpha
1 (Defending Behavior)	.82
2 (Possessing Behavior)	.76
3 (Personalizing Behavior)	.75
4 (Feeling of Territory)	.73

RESULTS OF THE SURVEY

In this section, results of the survey tests will be shown. The results include the means and standard deviations for each item of the questionnaire, and the values from the T-Tests.

Table 4
MEANS AND STANDARD DEVIATION FOR ALL ITEMS

Item	Mean	S.D.
#14**	1.42	.62
#17**	2.46	.69
#20**	1.65	.81
#22**	2.34	.83

Table 4 Continued

Item	Mean	S.D.
#23**	2.27	.71
#24**	1.85	.87
#25**	2.32	.79
#18* (kit.)	1.35	.77
(Din.)	1.31	.85
(bed.)	2.16	.97
(liv.)	1.82	.98
#19*	2.19	.99
#21*	1.49	.86
#29*	1.81	.98
#30*	2.54	.84
#15**	2.23	.92
#31*	2.51	.93
#26**	1.59	.72
#32*	2.35	.94
#33*	2.19	.98
#27**	1.35	.63
#28**	2.31	.77

** In these items, the respondents have the score choices of '3', '2', or '1'.

* In these items, respondents have the score choices of '3' or '1'. In both cases, the larger the score, the more obvious the territorial behavior.

In item 14 of Table 4, the mean is 1.42, which indicates respondents seldom use verbal expressions to defend their books, notes, or personal things. However, the use of verbal expressions as well as bedroom doors is found in defending sleeping or studying activities in bedrooms, as shown by a mean value of 2.46 in item 17.

The mean value of item 20 shows that respondents did not defend places they usually use but shared them with others.

In item 22, the mean value is 2.34, which indicates that respondents have a preventive defending attitude when studying in their apartments (i.e., they prefer facing a wall or an open space where others would seldom pass by). The mean value of item 23 shows that the respondents close the door to prevent disturbance by neighbors and also close the door or blinds in reaction to noise (item 25, with mean 2.32).

The mean value of item 24 is 1.85. It seems that on the average, respondents did not prevent their children from disturbing their objects. However, the parents with children did use a lot of verbal expressions and environmental props to prevent children's disturbing behavior. Nevertheless, many families of this survey did not have children (about 22 families of the 37 total families) and as a result, the mean is less than average.

The mean value of item 18 shows that most respondents feel the space in the kitchen and dining room is not sufficient, that the space of the bedroom is adequate (mean 2.16), and that the space of the living room is a little less than enough (mean 1.82).

In item 19, the mean value is 2.19. This indicates that many respondents always sit in the same place when they have dinner but do not always sit in the same place when watching TV (mean value of 1.49). They also do not always study in the same area in their apartments (mean value of 1.81). Many families have their own bookshelves (mean value of 2.54).

In items 15 and 31, the means show that on the average, respondents have personalizing behavior in terms of decorating their apartments by hanging pictures or by having plants.

Most respondents (about 67%) consider the corridor as an extension of their apartments by putting some of their objects in the corridor (mean 2.19, in item 33, mean 2.35, in item 32). Thirty-eight percent of the respondents prefer not to have strangers play or chat in their corridors, but 50% of the respondents did not mind. As to the grass area in front of the buildings, most of the respondents tend not to mind if others not living in the buildings play there (mean 1.35, in item 27). Fifty percent of the respondents feel they occupy others' parking space if they park their cars in the lots which are in front of other buildings (mean 2.31, in item 28).

Table 5 (5-1 to 5-10)

T-TESTS FOR FOUR INDEXES OF TERRITORIAL BEHAVIOR

Table 5-1

(1) STUDENTS VS. (2) NON-STUDENTS

Index	Mean (1)	Mean (2)	S.D. (1)	S.D. (2)	T-Test	SL
1 (Defending)	15.42	14.91	1.20	2.94	0.37	---
2 (Possessing)	16.32	14.41	1.27	1.48	2.07	0.05
3 (Personalizing)	4.76	5.14	0.97	0.92	0.34	---
4 (Feelings)	8.61	7.98	1.32	1.71	0.63	---

Table 5-2

(1) ONE BEDROOM APARTMENTS VS.
 (2) TWO BEDROOM APARTMENTS (N = 30)

Index	Mean (1)	Mean (2)	S.D. (1)	S.D. (2)	T-Test	SL
1 (Defending)	14.96	15.82	2.67	2.12	-1.18	0.25
2 (Possessing)	16.52	15.70	1.98	2.19	0.83	0.5
3 (Personalizing)	4.84	5.07	0.92	0.84	-1.20	0.25
4 (Feelings)	8.83	8.75	1.62	1.71	0.28	----

Table 5-3

(1) FURNISHED APARTMENTS VS.
 (2) UNFURNISHED APARTMENTS (N = 30)

Index	Mean (1)	Mean (2)	S.D. (1)	S.D. (2)	T-Test	SL
1 (Defending)	14.31	14.20	2.76	2.01	0.14	----
2 (Possessing)	16.08	18.48	1.41	1.54	-0.49	0.5
3 (Personalizing)	4.28	4.99	0.93	0.96	-0.78	0.5
4 (Feelings)	7.62	8.67	1.73	1.32	-2.02	0.05

Table 5-4

(1) DOMESTIC RESIDENTS VS. (2) FOREIGNERS (N = 24)

Index	Mean (1)	Mean (2)	S.D. (1)	S.D. (2)	T-Test	SL
1 (Defending)	14.73	16.81	2.21	1.36	2.57	0.025
2 (Possessing)	16.47	16.23	1.23	2.24	0.21	-----
3 (Personalizing)	5.12	4.97	0.94	0.90	0.19	-----
4 (Feelings)	8.57	7.48	1.72	1.54	1.71	0.1

Table 5-5

(1) CLOSE TO BUILDING STAIRS VS.
(2) A TWO-APARTMENT DISTANCE TO THE STAIRS (N = 18)

Index	Mean (1)	Mean (2)	S.D. (1)	S.D. (2)	T-Test	SL
1 (Defending)	14.62	15.71	2.20	1.32	-0.84	0.5
2 (Possessing)	16.81	14.36	1.54	1.13	2.82	0.01
3 (Personalizing)	4.83	4.39	0.97	0.81	0.34	----
4 (Feelings)	7.64	8.27	1.42	1.90	-0.78	0.50

Table 5-6

(1) MALES VS. (2) FEMALES (N = 32)

Index	Mean (1)	Mean (2)	S.D. (1)	S.D. (2)	T-Test	SL
1 (Defending)	15.52	15.04	1.39	2.13	0.32	----
2 (Possessing)	16.41	15.70	1.34	1.30	1.17	0.25
3 (Personalizing)	4.48	5.39	0.92	0.97	-1.38	0.25
4 (Feelings)	7.97	8.34	1.74	1.55	-0.43	----

Table 5-7

(1) FREQUENT SOCIAL ACTIVITIES VS.
(2) INFREQUENT SOCIAL ACTIVITIES (N = 15)

Index	Mean (1)	Mean (2)	S.D. (1)	S.D. (2)	T-Test	SL
1 (Defending)	14.99	13.63	2.54	1.69	-1.21	0.25
2 (Possessing)	16.63	15.38	1.59	1.14	1.69	0.1
3 (Personalizing)	4.58	4.89	0.90	0.81	-0.29	----
4 (Feelings)	8.14	7.75	1.39	1.51	0.48	----

Table 5-8

(1) BOTTOM FLOOR APARTMENTS VS.
 (2) TOP FLOOR APARTMENTS (N = 30)

Index	Mean (1)	Mean (2)	S.D. (1)	S.D. (2)	T-Test	SL
1 (Defending)	14.99	13.63	2.54	1.69	-1.21	0.25
2 (Possessing)	16.63	15.38	1.59	1.14	1.69	0.1
3 (Personalizing)	4.58	4.89	0.90	0.81	-0.29	----
4 (Feelings)	8.14	7.75	1.39	1.51	0.48	----

Table 5-9

(1) CLOSE TO DENISON AVE. VS.
 (2) NOT CLOSE TO DENISON AVE. (N = 18)

Index	Mean (1)	Mean (2)	S.D. (1)	S.D. (2)	T-Test	SL
1 (Defending)	14.78	16.72	2.45	1.40	-1.45	0.25
2 (Possessing)	15.82	16.97	1.62	1.98	-1.28	0.25
3 (Personalizing)	4.73	5.32	0.94	0.87	-0.36	----
4 (Feelings)	7.84	7.58	1.44	1.52	0.58	----

Table 5-10

(1) LOW TENDENCY OF PRIVACY NEEDS VS.
 (2) HIGH TENDENCY OF PRIVACY NEEDS (N = 28)

Index	Mean (1)	Mean (2)	S.D. (1)	S.D. (2)	T-Test	SL
1 (Defending)	15.50	15.42	2.12	1.09	0.03	---
2 (Possessing)	16.38	16.69	1.41	1.60	-0.35	---
3 (Personalizing)	4.88	4.81	0.99	0.81	0.10	---
4 (Feelings)	7.72	8.64	1.68	1.52	-1.42	0.1

From the preceding tables, we can easily notice that only four groups have significant differences at the level of 0.05 and greater. These are: students vs. non-students in the index of possessing behavior, residents in furnished apartments vs. those in unfurnished apartments in the index of feeling of territoriality, native Americans vs. foreigners in the index of defending behavior, and residents in apartments with different distances to the building stairs.

Chapter 5

CONCLUSION

DISCUSSION OF THE RESULTS OF THE T-TESTS

Independent Variable: students vs. non-students.

This variable made a difference at the significance level of 0.05. In the items on the index of possessing behavior, there are two -- item 29 and item 30 -- which are most related to the role of students. In the survey, respondents who get high scores on these two items are mostly students. Also, the apartments are primarily for students' families. Thus, it can be understood that students have stronger possessing behavior in the role related areas. This result was predicted at the beginning of the study. We can conjecture that the more important the role in a family is, the stronger will be the possessing behavior in that role related area.

Independent Variable: furnished apartments vs. unfurnished ones.

In the index of feeling of territoriality, the significant difference was at the level of 0.05. The residents of unfurnished apartments were more related to the index. The reason might be that the residents of unfurnished apartments tend to buy furniture and other needed items more frequently, so they might have more things to store in the corridors. Also, buying furniture for themselves may make them feel closer to the apartments and outside areas.

Independent Variable: domestic residents vs. foreign residents.

Foreign residents had a greater tendency toward defending behavior than domestic residents, with a significance level of 0.025. The reason might be that the foreigners are not so familiar with Americans and thereby tend to use blinds or doors more often to defend the apartments. It may also be that there are more children (on the average) in foreign families in Jardine Terrace, so that they might use verbal expressions for defending purposes more often.

Independent Variable: close to building's stairs vs. a two-apartment distance to the stairs.

This variable had a significance level of 0.01 on the possessing behavior of residents. The apartments in the middle part of the wings were more related to the possessing behavior. It is difficult to explain this effect in terms of different distances to the stairs.

DISCUSSION OF THE CONCEPTUAL FRAMEWORK

The theoretical formulation of territorial behavior -- defending behavior, possessing behavior, personalizing behavior, and feeling of territoriality can be applied to most of the spatial behaviors in human beings. In Sim Van Der Ryn's study of Berkeley dormitories, he found the designs of the dormitories to be unsatisfactory to the residents in terms of privacy needed, kinds of space needed, facilities, and the need for change, (i.e., personalizing the rooms according to the residents' own tastes and needs). Actually, we can say this Berkeley dorms study is an evaluation study of territorial behaviors. In comparison to the

conceptual framework of this thesis, we can identify the privacy needed as a kind of defending behavior, the needs of facilities and proper kinds of space as a type of possessing behavior, and the need for change as a personalizing behavior. The study of Berkeley dorms (1967) did not deal with the outside areas of the dormitories, so we cannot relate the concept of feeling of territoriality to students' spatial behavior.

In the book Defensible Space (Oscar Newman, 1972), emphasis is made on the space outside the units -- how the defensible space works for crime prevention, for example, and how to create the defensible space. Newman mentions that using real barriers (such as high walls, fences, and locked gates) and symbolic barriers (such as open gate ways, a short run of steps, and changes in the texture of the walking surface) can define the zones of transition so as to create the defensible space, i.e., the sense of territoriality of the residents. Newman's sense of territoriality is parallel to the feeling of territoriality, which is part of the conceptual framework of this thesis.

The Jardine Terrace complex was designed with transition zones from public streets to semi-public areas (using symbolic barriers such as grass area and corridors) and from there to the entrance of each unit. According to Newman's viewpoint, residents of Jardine Terrace should have a strong feeling of territoriality toward the outside space, but the survey showed that this feeling only occurred relative to corridors. The reason may be due to the students' role and lifestyle and the safety of the area, which is not like the apartments in urban downtown areas with complex neighborhoods and surroundings where one may need a clear territory to protect oneself from crime.

FUTURE RESEARCH DIRECTION

One of the major objectives of this study was to assess the usefulness of this study for future investigation into the effects of social, personal and environmental factors on the territorial behavior of residents of a university apartment complex. It is suggested that more comprehensive studies be called for and that these include the following objectives: (1) the identification of social, personal, and environmental factors of other apartment complexes in other universities and their contributions to territorial behavior, (2) the investigation of a possible existence of different responses among different apartment complexes in urban or rural areas, (3) examination of the different effects of apartment characteristics upon different groups of people, (4) the identification of environmental support systems needed in different types of apartments, such as apartments for singles, couples, large families, or elderly people. There have been some studies that document the territorial behaviors of certain groups of people in certain environments. The range of the documentation should be enlarged to discover more about territorial behaviors under several environments.

It is also important to study human behavior and environments to provide needed directions for environmental programmers and designers to plan suitable environments.

DESIGN IMPLICATIONS

The results from this study provide background information about the residents' territorial behaviors and the related independent variables. When designers design an apartment complex in a university, they should take these behaviors into consideration. Whether designers design environ-

ments to prevent or encourage specific behavior, they must consider many other factors and make trade-offs, such as for regulations and economic reasons.

From this study and other research in the field of territorial behavior, some ideas are thought of for environmental designers:

(1) In apartment buildings, there is a need to use soundproof materials in exterior walls, walls between units, and walls in rooms where residents sleep or study. The materials for main entrance doors should also be soundproof. Curtains for windows are usually needed to reduce outside visibility.

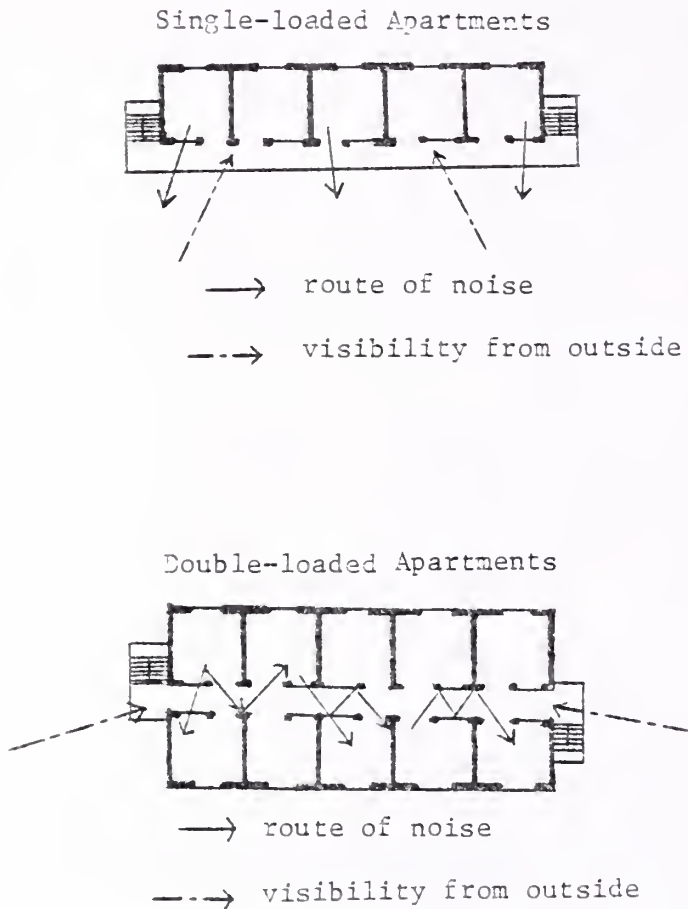
(2) Single-loaded apartments are better than double-loaded apartments in respect to reducing noise irritation and criminal events. In Figure 5, we can see the noise from units can go out through doors and windows into the open air more easily in single-loaded apartments, thus reducing noise irritation; and, the visibility of the corridors from outside can reduce the possibility of crime occurring in single-loaded apartments. This notion is supported by Van Der Ryn (1967) and Newman (1972).

(3) For student apartments at universities, whether the students are married or single, it is best to have bookshelves provided or at least have space provided for bookshelves. This was supported in the T-Test of Table 5-1. Students were significantly related to the possessing behavior, especially in bookshelves.

In broadening this implication, designers usually think of specific areas for major roles or specific job statuses of the family, such as for students, draftpersons, seamstresses or crafters, etc. When the space of a specific kind of apartment is not enough, it would seem that job-related space needs to have a higher priority. If there is enough space,

each member can then have his own needed space.

Figure 5: Noise Irritation and Visibility from Outside in Single and Double-loaded Apartments



(4) Shared spaces or areas such as the laundry room and playground that are designed for residents are better in the proximity of the apartments or at least should be easily accessible by them so they can make a lot of use of the spaces. For example, the corridors in Jardine Terrace as well as the apartments Newman mentioned were thought to be extensions of their units.

The facilities or areas which are juxtaposed with the apartments can also decrease the possibility of crime owing to the residents' frequent usage and visual surveillance.

(5) From the T-Test result of Table 4-2 (for the independent variable of one-bedroom apartments vs. two-bedroom apartments), it can be suggested that the apartments designed for couples with children need to have lockable doors and storage space or higher cabinets in kitchens, living rooms or study areas to reduce children's disturbance.

(6) Providing activity programs and more facilities for recreational needs, such as volleyball nets and sitting benches in grass areas, may encourage residents to use the areas more often (Newman, 1972).

(7) In order to keep the apartments in good condition, the housing office has to set up regulations and fines for damages. Residents, on the other hand, like to personalize their units by tacking, painting, or hanging decorations on the wall surfaces. To accommodate both parties, it is suggested that movable wall-surface panels be installed and removed without complicated tools or great expense (Van Der Ryn, 1967).

Also, providing a greater choice of furniture (in terms of colors and types) for residents of finished apartments may help them to personalize their units.

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APPENDIX A

Final Survey Questionnaire

Dear residents:

This questionnaire is used to test how residents use the spaces in their apartments and around Jardine Terrace. The data collected by the questionnaire will remain confidential and will be used for a master's thesis by a graduate student in the Department of Architecture.

We would appreciate your answering and returning the questionnaire. Please return it to Ms. Hui-Chun Chen, 1226 Manzano Way, Sunnyvale, California 94036. A stamped envelope is enclosed.

Please mark only one answer for each of the following questions.

Thank you very much.

Note: Husband and wife answer separately.

QUESTIONNAIRE

1. Sex: Male female
2. I came from: America Asia Europe
 Other _____ (specify)
3. I am: a student not a student
4. I am earning money for the family's living expenses.
 yes no
5. I live in a furnished apartment.
 an unfurnished apartment.
6. I live in a one-bedroom apartment.
 a two-bedroom apartment.
7. The building name of my apartment is in the category of
 building A, B, or C
 building E, G, L, T, V, or Y
 other _____

8. My apartment is on the:
- bottom floor. top floor.
9. I am a more private person than most.
- agree undecided disagree
10. I do not feel that I have real privacy unless I am completely away from people.
- agree undecided disagree
11. I decorate the apartment more often than my spouse does.
- agree undecided disagree
12. How often do you use the grass area in front of your apartment for recreational activities or for just sitting and watching, etc.
- almost every day a few times each month
- seldom or never
13. How often do you get together with your neighbors in Jardine Terrace?
- almost every day a few times each month
- seldom or never
14. How often do you ask your family to leave your books, notes, or personal important things alone in Jardine?
- almost every day a few times each month
- seldom or never
15. How often do you hang photographs or favorite pictures on walls?
- almost all the time a few times each month
- seldom or never
16. How many apartments are between your apartment and the nearest stairway of the building?
- zero one two
17. How do you indicate to your family that you do not want to be disturbed when you are sleeping or studying in the bedroom?
- tell them close the bedroom door
- Other _____

18. How adequate is the amount of space in your apartment?
- a. about the right amount of space in the
 - kitchen dining room bedroom living room
 - b. not enough space in the
 - kitchen dining room bedroom living room
19. When you have meals, do you always sit in the same place?
- yes no
20. What is your reaction when others occupy places you usually use, such as desk and sofa?
- ask them to leave or argue with them
 - share the space with them
 - go to another place
21. When you watch TV, do you always sit in the same place?
- yes no
22. When you use the desk for study in your apartment, where do you prefer to face?
- a wall
 - an open space where others will seldom pass by
 - other _____
23. When you are at home during the day and don't want to be disturbed by neighbors or friends, what do you do?
- close the living room door, and draw down the blinds or curtains
 - close the door only
 - other _____
24. When you don't want your child(ren) to disturb your clothes, books, or personal important things, etc., what do you do?
- tell them or explain to them
 - put things higher or add barriers, so that they cannot reach them
 - other _____

25. When you study at home and are bothered by noise, what do you do?
- close the door or draw down the curtains or blinds
 - feel unhappy, but continue to study
 - quit studying
26. When other people (not including guests) play or chat in the corridor in front of your apartment, how do you feel?
- don't like it
 - prefer they wouldn't
 - don't mind
27. When people not living in your building (not including guests) play in the grass area near the apartment, how do you feel?
- don't like it
 - prefer they wouldn't
 - don't mind
28. If you parked your car in the parking lot in front of another building, how would you feel?
- feel I am occupying others' space
 - feel free and have the right to do so
 - other _____
29. Do you study in the same area each time in the apartment?
- yes
 - no
30. Do you have bookshelves for your books in this apartment?
- yes
 - no
31. Do you have plants in your apartment?
- yes
 - no
32. Do you feel the corridor in front of your apartment is an extension of your apartment?
- yes
 - no
33. Do you put bikes, chairs, toys, etc. in the corridor?
- yes
 - no

TERRITORIAL BEHAVIOR
IN
A UNIVERSITY APARTMENT COMPLEX

by

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B. Arch, Cheng-Kung National University,
Taiwan, R.O.C. 1974

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARCHITECTURE

Department of Architecture

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1979

ABSTRACT

This thesis examines territorial behavior among residents in a student apartment complex (Jardine Terrace) at Kansas State University.

There has been considerable research done on human territorial behavior in specific environments for specific kinds of people; however, there has been little research concerning territorial behavior within families. Even less has been done toward the classification of territorial behavior and related variables in all environments.

Four types of territorial behavior are investigated in this thesis as dependent variables: defending behavior, possessing behavior, personalizing behavior, and feeling of territoriality. Independent variables include personal, social, and environmental factors.

Reliable scales were developed for each dimension of territoriality and T-Tests were used to study significant differences between all independent variables on all dimensions of territoriality.

The results of T-Tests showed three significant differences: (1) in the index of possessing behavior, a significant difference between the status of students and non-students at a significance level of 0.05 was recorded, (2) in the index of feeling of territoriality, residents in unfurnished apartments differ significantly from residents in furnished apartments at a significance level of 0.05, (3) in the index of defending behavior, foreigners differ significantly from domestic residents at a significant level of 0.025.

Some future research directions and design implications were proposed.