UNIVERSITI PUTRA MALAYSIA

PREFERENCES FOR INTERIOR PUBLIC SPACES IN KUALA LUMPUR SHOPPING MALLS

FAZILAH BINTI FAZLE MOULA

FRSB 2009 2
PREFERENCES FOR INTERIOR PUBLIC SPACES IN KUALA LUMPUR SHOPPING MALLS

By

FAZILAH BINTI FAZLE MOULA

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Master of Science

July 2009
Dedicated to

My family,

My husband, Rusli bin Haji Tahir,

My son, Muhammad Aele Shafri Bin Rusli, and

My daughter, Nor Aelessya Shakira Binti Rusli
Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

PREFERENCES FOR INTERIOR PUBLIC SPACES IN KUALA LUMPUR SHOPPING MALLS

By

FAZILAH BINTI FAZLE MOULA

July 2009

Chairman: Suhardi bin Maulan, PhD

Faculty: Design and Architecture

As users of shopping malls, people’s needs play an important role in designing shopping malls, as it is not only for the quality of its shops and hospitality that matter, but also the interior public space it provides. People carry out various activities in interior public spaces whereby these spaces are crucial for the comfort of the customers who come to the malls. Unfortunately, the trend in the Malaysian malls’ interior public spaces have not been as public spaces, as they are rather designed specifically for business spaces.

It is therefore suggested that the interior public spaces at shopping malls be designed according to people’s needs and preferences. Thus, this study was carried out to investigate preferences of the Kuala Lumpur residents towards interior public spaces at shopping malls. For this, a survey was conducted on among 240 participants in Bukit Bintang, MidValley and Jalan Tunku Abdul Rahman in Kuala Lumpur. The
major part of the survey was the photo-questionnaire of the interior public spaces at malls. Besides photo questionnaire, the survey also consists of questions to gauge the participants’ perceived importance of the interior landscape elements at the public spaces in malls.

The results from the analysis indicated that interior public spaces at malls could be categorized into three dimensions, namely Business, Green and Seating Dimensions. Green Dimension refers to the dimension, which has the highest mean preference rating while Business Dimension is the dimension with the lowest mean preference rating. The analysis also revealed that seating places, public clocks, plants and water features are perceived as important interior landscape elements at the public spaces provided while artificial plants and business entities are perceived as less important than other interior landscape elements involved in this study. Based on the people’s preferences, the study also showed five significant findings: the interior space at shopping malls as a place for public to spend time, to utilize and to relax, people preferred green interior and water features, while coherence and legibility are two important preference factors for the interior public spaces at shopping malls. The fourth and final significant findings are the rejection of business entities at public spaces in malls and that the age of the people who visited these places did matter in designing these spaces.
Abstrak tesis yang dikemukan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

‘PREFERENCES’ PENDUDUK KUALA LUMPUR TERHADAP RUANG AWAM DALAMAN KOMPLEKS MEMBELI-BELAH

Oleh

FAZILAH BINTI FAZLE MOULA

Julai 2009

Pengerusi: Suhardi bin Maulan, PhD

Fakulti: Rekabentuk dan Senibina


ACKNOWLEDGEMENTS

I would like to take this great opportunity to show my gratitude to all those who had made this study possible. This would not have been a complete without the assistance, guidance and kind hearted people. First and utmost special thanks and heartfelt appreciation is expressed to the chairperson of my committee, Dr. Suhardi Bin Maulan for has offered continual feedback, support, supervision, suggestion, assistance and kindness throughout this that has enable me to make this study a reality.

Apart from that, my further gratitude and deep appreciation are also extended to members of the supervisory committee, En. Muhammad Nasir bin Baharuddin and En. Asraf bin Abdul Rahman for their tireless guidance, practical comments, valuable feedback and supervision. As for En. Nasir particularly, thank you for your support and constructive idea that was flowing in since the initial stage of the research.

Special thanks are conveyed to Ministry of Education for sponsoring my study and offering me an opportunity to broaden my knowledge. Last but not least, special thanks go to my beloved family and friends for their moral support, patience, sacrifices and encouragement from day one until today. Without all of you and those who I might have forgotten to mention unintentionally, this study would not have possible.

Thank you for everything.
I certify that a Thesis Examination Committee has met on 14 July 2009 to conduct the final examination of Fazilah binti Fazle Moula on her thesis entitled “Preferences for Interior Public Spaces in Kuala Lumpur Shopping Malls” in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

Members of the Thesis Examination Committee were as follows:

**Kamariah Dola, PhD**
Lecturer
Faculty of Design and Architecture
Universiti Putra Malaysia
(Chairman)

**Norsidah Ujang, PhD**
Associate Professor
Faculty of Design and Architecture
Universiti Putra Malaysia
(Internal Examiner)

**Manohar Mariapan, PhD**
Lecturer
Faculty of Forestry
Universiti Putra Malaysia
(Internal Examiner)

**Ismail Said, PhD**
Associate Professor
Faculty of Built Environment
Universiti Teknologi Malaysia
Johor, Malaysia
(External Examiner)

____________________________________
BUJANG KIM HUAT, PhD
Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 17 September 2009
This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

**Suhardi Maulan, PhD**  
Department of Landscape Architecture  
Faculty of Design and Architecture  
Universiti Putra Malaysia  
(Chairman)

**Mohd. Nasir bin Baharuddin**  
Department of Architecture  
Faculty of Design and Architecture  
Universiti Putra Malaysia  
(Member)

**Asraf bin Abdul Rahman**  
Department of Landscape Architecture  
Faculty of Design and Architecture  
Universiti Putra Malaysia  
(Member)

__________________________  
HASANAH MOHD GHAZALI, PhD  
Professor and Dean  
School of Graduate Studies  
Universiti Putra Malaysia

Date: 16 October 2009
DECLARATION

I declare that the thesis is my original work except for quotations and citations which have been dully acknowledged. I also declare that it has not been previously, and is not currently, submitted for any other degree at Universiti Putra Malaysia or any other institution.

_____________________________
FAZILAH BINTI FAZLE MOULA

Date: 28 August 2009
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>ABSTRACT</th>
<th>iii</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRAK</td>
<td>v</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>vii</td>
</tr>
<tr>
<td>APPROVAL</td>
<td>viii</td>
</tr>
<tr>
<td>DECLARATION</td>
<td>x</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xv</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xvii</td>
</tr>
<tr>
<td>LIST OF APPENDICES</td>
<td>xviii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>xix</td>
</tr>
</tbody>
</table>

## CHAPTER

1 **INTRODUCTION**

1.0 Background of the Study 1  
1.1 Problem Statement 4  
1.2 Significance of the Study 7  
1.3 Research Questions 9  
1.4 Research Goal and Objectives 10  
1.5 Scope and Limitation of the Study 10  
1.6 Organization of the Dissertation 11

2 **LITERATURE REVIEW**

2.1 Terminologies Used in this Research 13  
2.1.1 Definition of Shopping Malls or Malls 13  
2.1.2 Definition of Public Spaces 14  
2.1.3 Definition of Interior Landscape 15  
2.1.4 Definition of Preference and Perception 17  
2.2 Landscape Assessment Approach 19  
2.3 Theories Related to the Preference for the Environment 21  
2.3.1 Environmental Affordance Theory 22  
2.3.2 Information Processing Theory 23  
2.3.3 Prospect-Refuge Theory 27  
2.4 Previous Research on Preferences 29  
2.4.1 People’s Preferences towards the Environment 29  
2.4.2 People’s Preferences towards Business Environment 32  
2.5 Factors which Influence People’s Preference towards a Particular Landscape 39  
2.5.1 Age 41  
2.5.2 Gender 42  
2.5.3 Ethnicity 43
2.5.4 Income Level 44
2.5.5 Current Housing Types 45

2.6 Review on the Methodology Used in Previous Studies 47
2.6.1 The Use of Stimuli in Representing the Environment 47
2.6.2 The use of Different Model in Studies Involving People’s Preferences 51
2.6.3 The Use of Content or Category – Identifying Methodology in Preference Studies 54

2.7 The Overall Conclusion on the Literature Review 55

3 RESEARCH METHODOLOGY 57
3.1 Study Design 57
3.2 The Design and Content of the Questionnaire 57
  3.2.1 Questionnaire Related to People’s Opinion towards Interior Landscape Elements 58
  3.2.2 Photo-questionnaires 60
  3.2.3 Background Information 65
3.3 Pre-testing 65
3.4 Research Population and Sampling 69
3.5 Survey Procedures 71
3.6 Study Location and Time 73
3.7 Data Analysis 75
  3.7.1 Analysis of the Participants’ Background Information 76
  3.7.2 Analysis of the Preference Dimensions for Interior Public Spaces at Shopping Malls 76
  3.7.3 Analysis of Interior Landscape Elements Perceived as Important 77
  3.7.4 Analyses of the Factors that Affecting People’s Visual Preferences towards Interior Public Spaces at Shopping Malls 78
3.8 Conclusion 80

4 RESULTS AND DISCUSSION 81
4.1 Participants’ Profile and Backgrounds 81
4.2 Preference of Interior Public Spaces at Shopping Malls 84
  4.2.1 Analysis of the Most and the Least Preferred Scenes 84
  4.2.2 Preferences Dimension Analysis 89
  4.2.3 Content Analysis of Each Dimension 94
  4.2.4 Preference Dimension Ranking 101
4.3 Perceived Importance of Interior Landscape Elements 103
  4.3.1 Ranking of the Perceived Importance of Interior Landscape Elements (Individual Elements) 104
  4.3.2 Analysis of Perceived Importance of Interior Landscape Elements in Groups 105
  4.3.3 Content Analysis of Participants’ Suggestions 107
on Interior Landscape Elements in Public Spaces at Malls

4.4 Factors Influencing Participants’ Preferences

4.4.1 Relationship Between Visual Preference and Participants’ Perceived Importance of Interior Landscape Elements

4.4.2 Effect of Participants’ Background on Visual Preference in Each Dimension

4.5 Conclusion of the Major Findings

5 SIGNIFICANT FINDINGS, IMPLICATIONS OF THE STUDY, RECOMMENDATION FOR FUTURE STUDIES AND CONCLUSION

5.1 Significant Findings and Evidence

5.1.1 Mall’s Indoor Space as a Place for Public to Spend Time, to Utilize and to Relax

5.1.2 People Preferred Green Interior and Water Features

5.1.3 Coherence and Legibility are Two Important Factors for the Interior Public Space at Shopping Malls

5.1.4 Rejection of Business Entities in Public Spaces at Shopping Malls

5.1.5 People’s Age Matters

5.2 Implication of Study in the Redevelopment of Existing Mall and the Development of New Mall

5.2.1 Implication for Future Mall Designs

5.2.2 Implication for Malls’ Management

5.2.3 Implication for Policy Makers

5.3 Discussion on Findings in Relation to the Previous Findings and Theoretical Framework

5.3.1 Relationship with the Previous Findings

5.3.2 Relation with the Theoretical Explanations in Environmental Preference

5.4 Evaluation of the Research Method and Recommendations for Future Studies

5.5 Conclusion of the Study

REFERENCES

APPENDICES

A Questionnaire Form

B Sample Booklet

C Analysis of Participants Background

D Visual Preference Analysis

E Perceived Importance of Interior Landscape Elements

F Monte Carlo PCA for Parallel Analysis

G Assumption of Normality
H Assumption of Singularity and Multicollinearity 184
I Normal Probability Plot for Regression Standardized Residuals 187
J Residuals Scatterplot 188

BIODATA OF STUDENT 190
LIST OF TABLES

Table 1  Result of the reliability obtained from the pre-test (before and after the correction)  68
Table 2  Distribution of participants  83
Table 3  Mean visual preference score of interior public spaces at malls presented in photographs  85
Table 4  KMO value and Bartlett's test  91
Table 5  Comparison of eigenvalues from PCA and criterion values from parallel analysis  93
Table 6  Rotated component matrix after rotation with Varimax with Kaiser Normalization  94
Table 7  Mean preference scores for each dimension  103
Table 8  Mean score for perceived importance of interior landscape elements  105
Table 9  Item-Total Statistics for plants category  106
Table 10 Ranking of the perceived importance of interior landscape elements for item in-group and without group  107
Table 11 Classification of interior landscape elements should be added in public spaces at malls (based on participants’ opinion)  108
Table 12 Category of interior landscape elements should be eliminated from interior public spaces at malls (based on participants’ opinion)  109
Table 13 Correlation between preference and perceived importance of interior landscape elements  112
Table 14 Results of multiple regressions (standardised beta value)  116
Table 15 Results of independent t-test to show effect of gender on visual preferences  118
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Results of ANOVA to identify effect of age on visual preferences</td>
<td>120</td>
</tr>
<tr>
<td>17</td>
<td>Results of ANOVA to identify impact of ethnic groups on visual preferences</td>
<td>121</td>
</tr>
<tr>
<td>18</td>
<td>Results of ANOVA test to identify the impact of monthly income on visual preferences</td>
<td>123</td>
</tr>
<tr>
<td>19</td>
<td>Results of ANOVA identify the impact of current housing types on visual preferences</td>
<td>125</td>
</tr>
<tr>
<td>20</td>
<td>Results of ANOVA to identify the impact of usual time spent in the mall on visual preferences</td>
<td>128</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Condition at an atrium of a mall Kuala Lumpur</td>
<td>6</td>
</tr>
<tr>
<td>Figure 2</td>
<td>The same atrium (as figure 1) but with some of the business elements changed.</td>
<td>6</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Preference matrix table by Kaplan et al. (1998: 13)</td>
<td>25</td>
</tr>
<tr>
<td>Figure 4</td>
<td>The study location in Kuala Lumpur; the location of three selected malls where participants were drawn from (Modified from Kuala Lumpur Structure Plan 2020)</td>
<td>74</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Group of five most preferred scenes</td>
<td>86</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Group of five least preferred scenes</td>
<td>88</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Screeplot that shows the breaking point</td>
<td>92</td>
</tr>
<tr>
<td>Figure 8</td>
<td>The First dimension (Business Dimension)</td>
<td>96</td>
</tr>
<tr>
<td>Figure 9</td>
<td>The Second dimension (Green Dimension)</td>
<td>98</td>
</tr>
<tr>
<td>Figure 10</td>
<td>A group of scenes in Third dimension (Seating Dimension)</td>
<td>100</td>
</tr>
</tbody>
</table>
LIST OF APPENDICES

A  Questionnaire Form 165
B  Sample Booklet 176
C  Analysis of Participants Background 178
D  Visual Preference Analysis 180
E  Perceived Importance of Interior Landscape Elements 181
F  Monte Carlo PCA for Parallel Analysis 182
G  Assumption of Normality 183
H  Assumption of Singularity and Multicollinearity 184
I  Normal Probability Plot for Regression Standardized Residuals 187
J  Residuals Scatterplot 188
LIST OF ABBREVIATIONS

a.c.f   As cited from
ANOVA   Analysis of Variance
CIM     Content or Category-Identifying Methodology
dpi     Depth per inches
DVs     Dependent variables
f       Frequency
HSD     Honestly Significant Differences
ibid    Come from Latin word (ibidem) that give meaning repetition
         from same author that has mention in previous sentence
ICLUST  Hierarchical Cluster Analysis
IVs     Independent variables
KLCC    Kuala Lumpur City Centre
KMO     Kaiser-Meyer-Olkin
m       Mean
PCA     Principal Component Analysis
R       Regression coefficient
r       Correlation coefficient
s.d     Standard deviation
sig     Significant value
SMC     Squared Multiple Correlation
SPSS    Statistical Packages for Social Science
SSA III The Guttman-Lingoes Smallest Space Analysis
UPM     Universiti Putra Malaysia
USA     United States of America
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIF</td>
<td>Variance Inflation Factor</td>
</tr>
<tr>
<td>$\alpha$</td>
<td>Alpha</td>
</tr>
<tr>
<td>$\beta$</td>
<td>Standardised beta value</td>
</tr>
<tr>
<td>$p$</td>
<td>Significant value</td>
</tr>
</tbody>
</table>
CHAPTER 1

1.0 Background of the Study

Kuala Lumpur had undergone a rapid urbanization which reached 100% (Lim, Nurwati, B and Ghafar, A, 2003). This condition has transformed the early shop houses to big departmental stores and finally to large malls (Bunnell, Barter and Morshidi, S, 2002), which has led to these giant business premise to become increasingly popular among Malaysians. Malls are the symbol of successful cities and they contribute to the economic growth of a country. Even though they are apparently viewed as enclosed buildings which consist of many smaller shops, this kind of environment plays an essential role to people. These malls also serve to accommodate for various functions for the people with special needs and preferences.

Uzzell (1995, p. 300), in his research conducted in Guilford, United Kingdom, states that “Shopping malls should not be regarded simply as a particular kind of architectural retail outlet, but as places providing a complex array of commercial, community and leisure facilities and satisfying many psychological need and preferences.” He found that users perceived shopping malls as places where they could accomplish their social, psychological, and spatial needs rather than the mall’s reputation as merely as a retail setting. In addition to this, the mall area that plays a vital role in affecting people’s judgement of the quality of the mall is a central area, which Uzzell calls as ‘social area’. Throughout the world, malls are not just places for activities related to selling and buying, but they are also for a wide range of activities from passive movement such as sitting and relaxing (Ozdemir, 2000; Anthony, 1995;
Uzzell, 1995) to active movement such as ‘mall walking’ (Ozdemir, 2000; Anthony, 1995). A study conducted in Malaysia by Lim et al. (2003) revealed that the major activities by the public during their trips to malls were such as buying daily their necessities, followed by outing with friends and family, window-shopping and recreation. The finding by Lim et al. (2003) also showed that Malaysians were also involved in a wide range of activities at shopping malls.

Based on the discussion above, shopping environment must also serve as a multi-functional building. Most importantly, malls should cater for shopping, leisure, relaxation, meeting friends and various activities just like the outdoor environment. In addition, malls are designed to resemble the characteristics of a city, which is complete with circulation areas including walkways, atriums and corridors. According to Cybriwsky (1999), these kinds of areas can be classified as public spaces which allow for passages, social interaction and relaxation. Moreover, any atrium in shopping malls should actually be designed the main purpose, i.e. for it to function as central public spaces, with business outlets set around it (Mohd. Hamdan, A & Mohamad Tajuddin, M.R, 2000).

Unfortunately, most of the interior public spaces available at most of the malls in Kuala Lumpur are fully occupied by business entities. This phenomenon is more rampant in the areas where public gather at a large, such as the main atrium floor spaces, corridors and walkways. Besides that, the transformation of public spaces into business areas and the extension of business activities in these areas at the malls

______________________________

1 Atrium refers to a large high open space in the malls or other buildings (Longman Dictionary of contemporary English, 2001) and can be visible from other levels.

2 Public spaces in this study refer to the areas in the malls such as the walkways, corridors and atrium.
in Kuala Lumpur cause other interior landscape elements (such as seating places, plants, water features, public clocks and sculptures), which should be in the public spaces, to always be neglected and forgotten.

A number of studies have documented that people have special needs and preferences towards shopping environment (e.g. Wolf, 2004; Lekagul, 2002; Uzzell, 1995). Most importantly, in the case of shopping malls, the principle used in designing a mall enables designers to come up with varieties of space for people who emphasize on place for relaxation (Carpenter, Walker and Lanphhear, 1975). This is particularly because some people may want to take a short break while shopping, change location from one part to another, rest and think before buying extra things (ibid). In addition, Casazza and Spink (1985) suggested that the major areas of a mall are designed to give impression on its public space and its anchor shops which are linked by plenty of retail stores, with common areas and a chain of public spaces (a.c.f. Lekagul, 2002).

In the context of malls in Kuala Lumpur, most of their interior public spaces have been changed into business areas and this leads to the change in the role of these public spaces, which have caused them to lose their viability and not becoming public spaces anymore. As a result, public spaces in malls turn to assimilate other shops where people can only browse and buy merchandises. If malls, as public places, do not provide amenities, which can be used by people to fulfil their physical and physiological needs and preferences, this means that they are merely the place for people to spend their money, while other purposes are ignored. For that reason, the