بسم الله الرحمن الرحيم



سورة يوسف الاية (76)

Dedication

To my parents **Shihab** and **Amal**, Every time I was ready to quit, you did not let me and I am forever grateful, this thesis stands as a testament to your unconditional love and encouragement, also to my sister **Zeinab** and my brothers **Ahmed** & **Amjed** for providing me with unfailing support throughout my years of study and through the process of researching and writing this thesis.

To my friends **Hind & Eman** who have supported me. I will always appreciate all they have done.

This accomplishment would not have been possible without them. Thank you.

Acknowledgements

I am grateful to the God for the good health and wellbeing that were necessary to complete this thesis.

I would like to express my sincere gratitude and respect to my ideal supervisor **Dr. Awad Saad Hassan** for His sage advice, insightful criticisms, and patient encouragement aided the writing of this thesis in innumerable way.

Thank you very much for this prominent castle so great scientific edifice (Sudan University of Science & Technology).

Abstract:

Human behavior, experiences and social interactions in public spaces are believed to be the result of the mind processes influenced by the different features of these spaces. These features may be physical, social, cultural or sensory but what they share in common is the power to affect people's behavior in the public realm.

The purpose of this study is to explore how public spaces influence human behavior in order to gain an appreciation of the significant role that public spaces play in the daily lives of people. This will enable built environment professionals and public authorities to comprehend the effects that planning, design and development decisions are capable of having on the social, psychological and emotional wellbeing of people.

The methodology of the study is taking (alqsr & altabya intersection) as a case study in a descriptive analytical method in order to gather observations and list the exact description of the human behavior at this place, then take this observation and make considerations and recommendations for the design. The observation will be conducted in two phases Data collection: aims to document the physical environment (components), the users and their activities in different times in the day. Data analysis: a subjective reading of how people use the space and the impact of the physical environment on the way that users use their space.

This thesis has emphasized the importance of attaining a meaningful understanding of the practical implications of design and development decisions, from an environmental psychology perspective. It is considered that a deeper appreciation and understanding of the application of environmental psychology to public spaces will ultimately improve the quality of the built environment.

المستخلص:

السلوك البشري ، والتجارب والتفاعلات الاجتماعية في الأماكن العامة هي نتيجة لعمليات العقل التي تتأثر بالميزات المختلفة لهذه المساحات. قد تكون هذه الميزات اجتماعية أو ثقافية أو حسية ، جميعها لها القدرة على التأثير في سلوك الأشخاص في الاماكن العامة.

الغرض من هذه الدراسة هو استكشاف كيفية تأثير الأماكن العامة على السلوك الانساني من أجل الحصول على تقدير للدور الهام الذي تلعبه الأماكن العامة في الحياة اليومية للناس. وسيمكن ذلك المصمين والسلطات المختصة من إدراك الأثار التي يمكن أن تؤثر عليها قرارات التخطيط والتصميم والتطوير على الرفاهية الاجتماعية والنفسية للناس.

تأخذ منهجية الدراسة عقدة (تقاطع شارع القصر مع شارع الطابية) كدراسة حالة بطريقة وصفية تحليلية من أجل جمع المعلومات وإجراء الوصف الدقيق للسلوك الانساني في هذا المكان ، ثم أخذ هذه الملاحظة وإجراء الاعتبارات والتوصيات التصميم. سيتم إجراء المراقبة على مرحلتين . جمع البيانات: تهدف إلى توثيق البيئة المادية (المكونات) والمستخدمين وأنشطتهم في أوقات مختلفة من اليوم بإستخدام تسجيل فيديو. تحليل البيانات: قراءة ذاتية لكيفية استخدام الناس للفضاء وتأثير البيئة المادية على طريقة استخدام المساحات. تهدف المكان مستخدام النابي التنبؤ بما يجعل المكان مستخدام المادية على المريقة المحادام المساحات. تهدف الملاحظة إلى التنبؤ بما يجعل المكان مستخدماً أستخداماً صحيحاً.

أكدت هذه الدراسة على أهمية الوصول إلى فهم هادف للأثار العملية لقرارات التصميم والتطوير ، من منظور علم النفس البيئي. ويعتبر أن زيادة تقدير وفهم تطبيق علم النفس البيئي للأماكن العامة سيؤدي في إلى تحسين جودة البيئة المبنية.

NO	SUBJECT	PAGE
	Ayah	i
	Deedication	ii
	Aknowledgment	iii
	Abstract	iv
	Arabic Abstract	v
	List of Contents	vi
	List of Figures	ix
	List of Graphs	xi
	List of Tables	xii
	Chapter One - Introduction	1
1.1	General Introduction:	1
1.1	The Problem of the thesis:	2
1.2	Research Question:	3
1.3	Objectives of the Study:	3
1.4		4
1.5	Significance of this Topic: Research Methodology:	4
1.0		5
1.7	Scope and Limitations of the Study: Structure of the thesis:	5
1.0		7
2.1	Chapter two – literature Review:	7
	The public realm - Introduction:	7
2.1.1	Concept of public spaces:	
2.1.2	The significance of public spaces:	8
2.1.3	How public spaces are made:	8
2.1.4	Conception and Significance of "Quality Cities"	9
2.1.5	Evaluation of public spaces:	10
2.1.6	Users and the Urban Image of Public Spaces	13
2.1.7	Users in Search for Quality Urban Spaces	15
2.1.8	The Relationship between Public Spaces and Behavior	15
2.1.9	Invisible Elements of Spatial Ambience Design Cultural Studies:	16
2.1.10	Findings:	18

2.2	Intersection Design	19
2.2.1	Introduction	19
2.2.2	Intersection Users:	19
2.2.3	Definitions and Key Elements:	20
2.3	The Nature of Human Behavior:	23
2.3.1	An Examination of the Behavioral Sciences:	23
2.3.2	Environmental Psychology:	23
2.3.3	Theories of Human Behavior	24
2.3.4	The Arousal Theory:	25
2.3.5	The Stimulus Load Theory:	26
2.3.6	The Behavior Constraint Theory:	27
2.3.7	The Adaptation Level Theory:	28
2.3.8	The Environment Stress Theory:	28
2.3.9	The Perception or Cognition Theory:	29
2.4	The Ambient Environment:	30
2.5	The Temperature of Spaces:	31
2.6	The Sound of Spaces:	32
2.7	The Smell of Spaces	33
2.8	The Illumination of Spaces	34
2.9	The Physical Environment	34
2.10	Conclusion	36
	Chapter Three – Methodology	38
3.1	Case Study - Introduction:	38
3.1.1	Historical background:	38
3.1.2	About AlQasr & Altabya intersection:	38
3.1.3	Street typology:	40
3.1.4	The urban design elements of the intersection:	41
3.2	Methodology	42
3.2.1	Data collection - Document the Physical Objects About the physical environment:	42
3.2.2	Data analysis - study what is the impact of the physical environment has on the way people use the space.	44

3.2.3	Studying the physical components of the intersection:	44
3.2.4	Studying the user's activities within the intersection:	45
	Chapter Four: Results and Discution	48
4.1	The physical components of the intersection results:	48
4.1.1	Transportation during the day:	48
4.1.2	Street density vs. time:	49
4.1.3	Circulation & crossing street map:	49
4.1.4	Connectivity and legibility:	50
4.2	The user's activities within the intersection results:	51
4.2.1	Users, activity and components matrixes:	53
4.2.2	The impact of components on users activities	55
4.3	Findings and Recommendations for the intersect urban design	57
4.4	Other Considerations	58
	Chapter Five - conclusion and Recommendations:	61
5.1	Conclusion:	61
5.2	Recommendations:	62
	List of References	64

	List of Figures	
Figure 1-1	life, space, buildings (Source: Pinterest)	1
Figure 1-2	user experience and design difference (Source: Google pictures)	2
Figure 2-1	how public spaces are made (Source: Google images)	9
Figure 2-2	Research Detailed Scope (Source: The researcher, 2018)	10
Figure 2-3	Schematic Diagram for Quality of Physical Environment in Relation to Activities Types (Source: the author, after (Therakomen 2002), based on (Gehl and Gemzøe, Public Spaces, Public Life. 1996)	13
Figure 2-4	User's Levels of Space: Intimate, Personal, Social, and Public (Source: the researcher based on (Hall 1966)	14
Figure 2-5	Schematic Diagram of Urban Design Qualities (Source: the researcher after (Ewing and Handy 2009)	15
Figure 2-6	intersection terminology (Source: Adapted from A Policy on the Geometric Design of Streets and Highways, AASHTO, 2004)	21
Figure 2-7	Figure 2-1 psychological factors	24
Figure 2-8	Yerkes Dodson Law – arousal above the optimal leads to	25
Figure 2-9	The Arousal Theory	26
Figure 2-10	Examples of environmental stimuli in the streets of Hong Kong in the form of buildings, streets, buses, signs, colors, signs, images and other people (Christopher DeWolf 2007).	27
Figure 2-11	thinking process (source: google images)	30
Figure 2-12	elements of the city (Source: image of the city book)	35
Figure 3-1	medicine school (source: google pictures)	38
Figure 3-2	map represent the location (streetmap)	39
Figure 3-3	the land use (source: by researcher)	39
Figure 3-4	street leveling (source: by researcher)	40
Figure 3-5	the figures clarify the physical elements of the district which includes edges, Node, Paths and Landmarks.	41
Figure 3-6	activities in the intersection. (source: by researcher)	42
Figure 3-7	activities in the intersection(source: by researcher)	42
Figure 3-8	the section represent the area usage (sourse: by researcher)	43
Figure 3-9	camera fix and location (source: by reasercher)	43
Figure 3-10	physical components of the intersection	45

Figure 4-1	represent the circulation of people through the street, from our observation.	50
Figure 4-2	Connectivity and legibility (source: by reasercher)	51
Figure 4-3	The impact of components on activities (source: by reasercher)	56
Figure 4-4	The key characteristics of the street that influence its sense of place. A safe, attractive and comfortable pedestrian environment requires all of these elements.	58

	List of Grphs	
Graph 4-1	the transportation capacity.	48
Graph 4-2	street density VS time	49
Graph 4-3	is represent the gender, age and number of people in different activates.	52
Graph 4-4	matrix (10:30 - 11:00am)	53
Graph 4-5	matrix (12:00-1:30pm)	53
Graph 4-6	matrix (2:00-3:30pm)	54
Graph 4-7	matrix (4:00-5:30pm)	54

List of Tables		
2-1	Activities Types Comparison according to Necessity Occurring (Source: the researcher 2018, after Gehl, Gemzøe, and Kirknæs et al. 2006)	12
Table 3-1	time of estimation (10:30 - 11:00 am)	46
Table 3-2	time of estimation (12:00 - 1:30 pm)	46
Table 3-3	time of estimation $(2:00 - 3:30 \text{ pm})$.	47
Table 3-4	time of estimation $(4:00 - 5:30 \text{ pm})$.	47