

URBAN PUBLIC SPACES, A CONSIDERABLE ASPECT IN COMMUNITY DRIVEN COMPULSIVE URBAN DESIGN

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ABSTRACT

The problem under study was “Rethinking Public Spaces: A Community Driven Compulsive Urban Design”, with the objectives to evaluate the effectiveness of public spaces by correlating social interaction, happiness and public spaces in the selected communities. The urban population of Abbottabad district, Khyber Pakhtunkhwa Pakistan was taken as the study area, we calculated the population sample and conducted the study in three different communities in Abbottabad district. The duration of the data collection and community survey was two months. A detailed information on the selected variables was obtained by carefully filling the questionnaire designed for this purpose in a survey of the selected areas. Data obtained through surveys was analyzed and Correlation was computed from the collected data and was interpreted. All the information collected was analyzed and presented through tables and figures

Key words: Public space, social interaction, Happiness

INTRODUCTION

With evolution of industrialization humanity is experiencing several challenges and new dynamics of society, the traditional lifestyle has been encroached by the expediting modern lifestyle, the human societies are seeking rescue under the vast umbrella of modernization, along with many aspects of economic and societal growth humans are adopting new trends and new lifestyle according to the environmental challenges.

Whatever is the economic status every society and urban community make their own canvas of lifestyle in which they feel secure, mentally sound and happy. Here a case has been investigated in Abbottabad city, with live surveys and questionnaires adopted to study the co-relation among three elements of communities (Social interaction, Happiness and public spaces), to find out the social connection of people and their role/existence in the society using public spaces and happiness.

LITERATURE REVIEW: SPACE

The word “space” has various definitions in different fields of knowledge. According to Wikipedia (accessed on 15.05.2018) some of these, based on philosophy, are as follows:

- Space is a crucial part of the universe, whole set of dimensions where objects are located, separated and having shape, size and which can move.
- Or space is an entity of mathematical and conceptual framework which quantify and compare the differences between shapes, objects, speed and sizes of objects.

OPEN SPACE

Open space has been defined in the literature as the water and land in urban settlement that is not covered by physical structures or an undeveloped open land (Gold, 1980). On another side (Tanel, 1963) added

to this definition that open spaces not only include water but also the light and space above land. From user's side an open space is an arena where multiple activities like optional, necessary and social activities take place (Gehl, 1987). The necessary include compulsory activities and includes waiting for a bus, going to school and shopping, these activities occur any time and does not depend on physical environment. Optional activities are those which happen if we have time and also a wish like sitting, walking, sunbathing and sitting. The optional activities depend upon the space typology and also weather. The product of optional and necessary activities are social activities, these activities include children play, conversations, greetings and passively watching and hearing other people. Researchers proved that there exists a relationship between behaviour and environment, this could be unconscious or conscious and it may have impact on both individuals and society. Environment is a contributing factor determining the behaviour. According to Strat Corp consulting "the function of open space not only recreation and conservation of environmental and cultural values but it is the foundation of urban livability. It underpins many social, ecological and economic benefits that are essential to healthy functioning of the urban environment" (Consulting, 2007).

PUBLIC SPACE

Public space defined by (Walzer, 1986). He suggested that a space where communal activities are shared with unknown people, friends or working fellows. It is a place for religion, politics, sports, commerce, peace and impersonal encounter. The Organization for economic cooperation and development (OECD) summarized a range of environmental problems which include the degradation of urban life, pressure on land for urban development and deterioration of urban landscape(Kohsaka, 2010). Recent researchers found that public spaces in community are essential to enhance, generate, and sustain sense in the community people (Boyer, 1996). Residents in a community become attached to public spaces as "sacred structures" in everyday life (Hester, 1993). A public space could play critical role in community life, and where people meet each other and watch communal activities (Low, 2010). Scholars in urban research found that parks, streets, plazas, squares urban open public spaces have the

strength of "the stage upon which the drama of communal life unfolds" (Carr et al., 1992). In modern word there is a renewed interest and demand in investing and designing the pedestrian squares, plazas, streets and traditional types of community spaces (Whyte, 1980).

HAPPINESS

Happiness can be defined as, positive or pleasant emotions ranging from contentment to intense joy (happiness" Wolfram Alpha). This term is used in various ways and is an umbrella term for all that is good. It is also used with terms like 'wellbeing' or 'quality of life' and denotes both individual and social welfare. Happiness is the degree to which people judges the quality of their lives, or how much one likes the life they leads (Veenhoven, 2012).

Table 1
Average Happiness (0-10) in Nations 2000-2009.
(Veenhoven, 2012)

	Top >7.8	Middle range 6-5	Bottom <3.6
Costa Rica	8.5	South Korea 6.0	Sierra Leone 3.5
Denmark	8.3	South Africa 5.8	Benin, Zimbabwe 3.0
Iceland	8.2	Russia 5.5	Burundi 2.9
Switzerland	8.0	Ghana 5.2	Tanzania 2.8
Finland, Mexico, Norway	7.9	Pakistan 5.0	Togo 2.6

Source: Veenhoven (2012d).

If we want to get maximum happiness, we must utilize our time in such ways that ignite social connections. The time we spent with friends and family strengthens our relationships which brings the greatest happiness, we can also get happiness from:

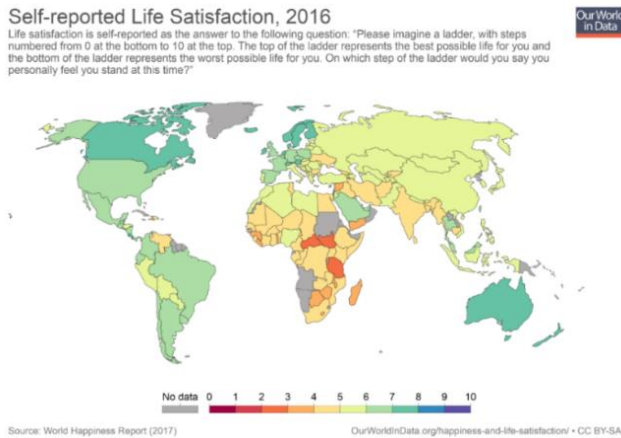
- 1) People who are not associated with happiness e.g workplace friends.
- 2) Engaging in volunteer activities.
- 3) Experiences of life.
- 4) Give worth to our discretionary time.
- 5) life activities that allows our temporal expenditures to shift over the course of life(Aaker et al., 2011).

Research showed that happiness typically involves time of considerable discomfort. Money is not that much important as we can buy our basic life utilities with money, food, housing, clothing, achievements, marital status, genetic makeup, social relations, life circumstances and even your neighbors all influence our happiness

(<https://www.psychologytoday.com/basics/happiness>, 2018).

Figure 1

Self-reported life satisfaction map 2016. (Helliwell et al., 2017)



SOCIAL INTERACTION

Social interaction is a combination of two words: social and interaction. Encarta dictionary (2003) defines the term social as:

1. Relating to human society and its organization it is the way, in which people in groups behave and interact.
2. Living in a community, live as a part of a community or colony rather than alone.
3. Offering opportunity for interaction such as meeting in a friendly way. (Soukhanov, 2001)

Interaction is defined as, “communication or collaboration: communication between or joint activity involving two or more people”(Worku, 2006).

Social interaction is the action, act or practices of people with each other, means the people should be aware of one another and have their self in mind (www.hawaii.edu, 2018). Social interaction is the way people talk and act with one another in society (wikipedia, 2018). Holt-Lunstad demonstrated that humans having good social relations have 50% more survival chances as with people having poor social relations (Holt-Lunstad et al., 2010).

PLACES AS THE SITE OF COMMUNITY

Places provide a strong sense of community and identity to our social interaction. Neighborhoods play vital role, and people become attached to these neighbors. Our movements through neighbors give

us a strong sense of community around us (Chen et al., 2018).

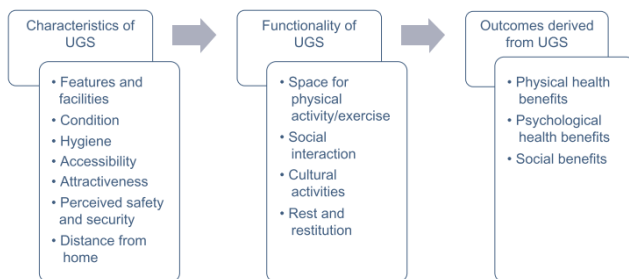
Places attach communities with each other. In some cases, we have small places, like playgrounds where in some children and their parents gather and meet each other, playing with each other resulting in a strong social bond of friendship. These spaces can also be streets and shopping malls where people gather after school. A sociologist (Oldenburg, 1997) referred places of social gathering as ‘third places’. He offered that taverns, pubs and sites outside people’s homes where people gather create strong sense of community.

RELATIONSHIP BETWEEN PUBLIC SPACE AND SOCIAL INTERACTION:

The essential components of urban design are the relationship between physical environment and people (Carmona, 2010). In the process of urbanization urban greenery has not been well managed relative to development, like the number of trees in United States has declined to 30% in the last 15 years and paved surfaces increased by 20% (Pincetl & Gearin, 2005). Social space is mandatory within the community. This implies that space creates interrelation in society and space (Manderscheid, 2010). Social interaction is directly attached with a space and the design of that space affects peoples’ ways of life. The division people draw between places and things harden into objective facts, which in turn organize social action and meanings (Tonkiss, 2005). Open spaces have health, social, and environmental benefits for the society (Woolley, 2003). When open spaces are well provided in the dwelling environment the three, the health, social and environmental benefits are automatically achieved (Mitković & Bogdanović, 2004). Open space success becomes conducive place for social interaction (Nasution & Zahrah, 2012) and accessible to all class and age people including disable (Carmona, 2001). The successful open spaces are planned around prominent landscape features or local themes of a community (Association, 2006). The successful approach of designing cities must have city life and space as a point of departure (Gehl, 2011). The sociologists address open as the social and public realm as the location of daily interactions where identities and shared meanings are constructed (Hutchison, 2009). Open spaces are passageways, streets, avenues, malls, parking spaces, alleyways and all natural

places we use and create communal life (Halpern, 2005). Public and open space is important in sustaining public realm, it is responsive, meaningful and democratic. It can give meaning or significance to local communities (Mehta, 2014). Public places increase opportunities for communal participation. In plazas, parks and natural areas of cities people come together from various cultural groups sharing experiences and thus providing a positive communal meaning (Carr et al., 1992). Studies in urban design indicated that public spaces can enhance, sustain and generate a sense of community (Boyer, 1996).

Figure 4
 Relationship of green space characteristics, function and outcomes, Abbreviation: UGS, Urban green space (Lee et al., 2015).



THE ROLE OF OPEN SPACE IN ENHANCING SOCIAL INTERACTION

A well maintained open space enhances the quality of life in cities including health and social aspect. Open spaces have a vital role in strengthening the social interaction. The society who lives in specific area needs social space to interact. The level of the interaction is affected by the availability, convenience and quality of the open spaces (Worku, Jun-2016).

For older people, urban green spaces are important for health and wellbeing because they provide spaces for physical activity and social interaction (Enssle & Kabisch, 2020).

RELATIONSHIP BETWEEN HAPPINESS AND SOCIAL INTERACTION.

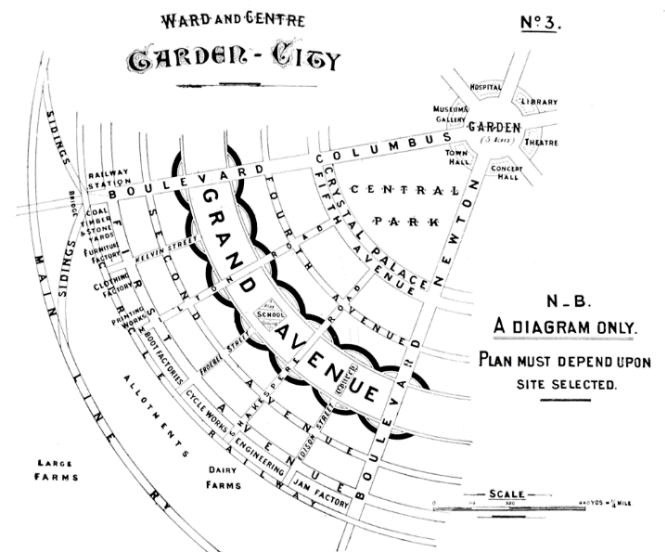
The director of Harvard study of adult development ‘Robert Waldinger’ concluded from his research that “the clear message we got from 75 years of study is that, good relationships are very important for a happy and healthier life, we learned three lessons about relationships are that, social connection is good for us and loneliness kills us, people who are socially connected to community, friends and family are

happier, physically healthy and lived longer than people who are less socially connected. The loneliness turn out toxic, people who are more isolated from other are less happy, their health declines early, brain functions declines and live shorter than people who are not lonely. In short, a good life is built with good relationships” (Waldinger & Schulz, 2023).

THE RELATIONSHIP OF FINDINGS OF PRESENT RESEARCH WITH RESEARCH STUDIES ALREADY CONDUCTED

The current research study is of great importance as it explores an untouched element of urban planning and design in the context of a community. Most researchers have the opinion that social interaction affect the ability of a person to succeed and survive in life. Research of (DeLand & Trouille, 2018) confirmed that we should know people in time and situations to know how people live as an icon in a personally meaningful way. The challenge is in making connection between people and to get the inner view of people that how they organize and motivate their engagement with public.

Figure 5
 Ebenezer Howard’s Garden city.
 Source: (Ebenezer, 1965)



Attempts to combine city and nature, the cities are surrounded by agricultural and natural spaces and natural spaces can also be found in the cities like parks and gardens.

Urban planners and researchers are exploring this area of urban planning but so far very limited work has been done in this direction. The following

discussion describes the relationship between the current studies with earlier conducted research.

1. A research conducted by (Lin & Dong, 2018) in Liwan Lake Park in china, argued that how public parks are a source of social connectivity, The Cantonese groups in Liwan park call 'brother and sister' to each other to respect and communal family. This hobby draws them towards each other like a family.
2. A study conducted by (Larson et al., 2016) suggested that park networks are connected to multy aspects of wellbeing and health of people which impact the quality of urban life positively.
3. Research conducted by (Nasution et al., 2014) suggested that public space in Medan city is livable space and high usage by community people. These spaces directly relate to the quality of life with satisfaction in health, environment and recreation.
4. Research by (Kazmierczak, 2013) found that local parks can activate and support the development of social connections in inner-city areas. Associations were found between the quality of the parks, the character of visits, and the extent of social ties in the neighbourhood. The study concludes that for inner-city parks to realize their full potential in supporting social interactions and developing social ties, they need to be well-maintained and provide good recreational facilities. The development of social ties was also found to be considerably affected by the characteristics of the individuals and the neighbourhood.

RESEARCH METHODOLOGY:

Methodology of the research has been divided into parts as follows;

1. Population.
2. Sampling.
3. Instrumentation.
4. Procedure.
5. Description of statistics and analysis of data.
6. Conclusion.

POPULATION

People of Abbottabad Urban city whose age were above or equal to 18 years were selected as population for the study.

SAMPLING

For formulating study program various procedures were adopted for selecting and preparing a team for the survey, selecting communities and also finding public spaces and their livability in the selected localities in Abbottabad city.

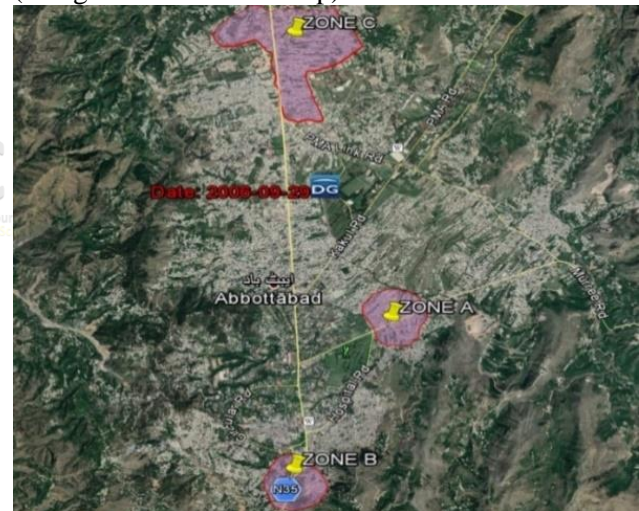
Sampling of the population, selecting areas for survey and public spaces has separately been discussed in the preceding sections.

SAMPLING OF AREAS

Three major areas were selected in Abbottabad city, each selected area has its own urban character, style and conditions of living. The areas were labeled with names zone A, zone B and zone C, each zone has mixed land use areas. The zones and their boundaries were marked on the google earth satellite maps, as shown in below figure.

Figure 6

Selected survey zones/areas in Abbottabad City (Google earth satellite map).



1. **Zone A:** Comprised of Jugian and Nawan Sheher.
2. **Zone B:** Comprised of Abbottabad main city area including kehal, sabzi mandi and general bus stand.
3. **Zone C:** Comprised of Jinnah-abad, Mirpur, Ayub medical college, sir-syyed colony, UET Abbottabad campus and post graduate college Abbottabad.

SAMPLING OF POPULATION

According to census 2017 urban population of tehsil Abbottabad is 244,842 persons.

This survey was conducted in the urban areas of Abbottabad city and only three zones mentioned

above were selected for the questionnaire survey data collection.

For calculating the population sample size only urban population of Abbottabad was considered as the sample, the total population was 244,842 persons, confidence level 95% and margin of error was taken as 5%, we calculated the population sample 384 persons. So this number was taken as the population sample but data was collected from 420 persons in order to decrease the chances of errors.

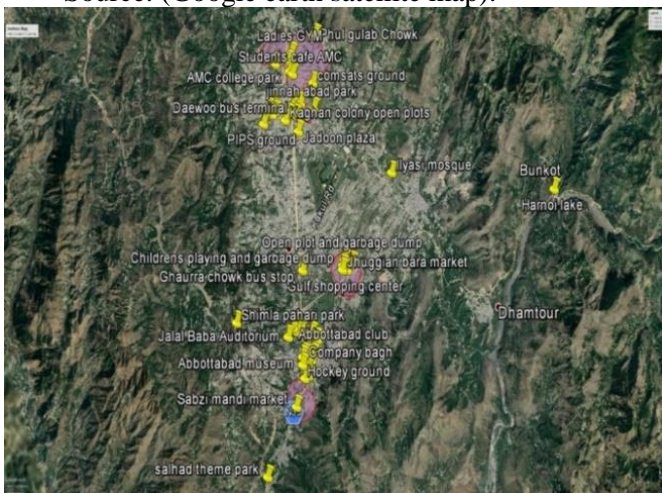
SAMPLING OF PUBLIC SPACES

First of all public spaces were marked on google earth satellite map in order to check the availability and suitability of public spaces in urban district of Abbottabad. To evaluate the selected spaces a check list was adopted from (Laiqa et al., 2011) for evaluating the public spaces, after experts review the check list was modified according to the subject matter.

Figure 7

Selected public spaces in Abbottabad City

Source: (Google earth satellite map).



INSTRUMENTATION

The instruments used for conducting the study include:

1. Development of the survey teams, and marking the targeted public areas and societal zones using google map satellite.
2. Evaluating the Social interaction and happiness of community people through questionnaire survey adopted from previous literature study (Appendix – A).
3. Check list for the walkthrough surveys of the public spaces evaluation (Appendix – A).

4. Data collection and analysis using Microsoft Excel.
5. Presentation of the collected data.

PROCEDURE

A questionnaire was adopted and transformed according to the societal conditions from the literature which almost covered all possible views of our targeted concepts. For evaluation techniques of public spaces we adopted the literature form (Bloom, 1999) and developed a checklist. For evaluating social interaction we adopted the study conducted by (Easthope & McNamara) and measuring happiness of people we followed the guidelines from (Hills & Argyle, 2002). We tried to make every question and statement brief, clear and to the point. The response statements ranged on a scale from most positive and favorable (Excellent) to the most negative and unfavorable (poor) for evaluating public space and for social interaction ranged from (strongly agree) to (strongly disagree).

VALIDATION

The items selected for the study were reviewed and rated, and a check list was prepared for the study. Each question having five options on a scale as follows.

- | | | |
|---------|------------------|--------|
| 1= Poor | 2=Unsatisfactory | 3=Fair |
| 4=Good | 5=Excellent. | |

The questionnaire and checklist survey was tested and repeated with students of the Architecture department, university of engineering and technology Peshawar, Abbottabad campus under the supervision of experts. The questionnaires finalized was then used by the trained teams in the selected communities to evaluate the required tasks.

CHECK LIST FOR PUBLIC SPACE EVALUATION

The adopted checklists were filled up by the researcher himself in a walkthrough survey of the public spaces. Social and environmental aspects of the public space was then assigned weights accordingly. Score of the public space was compared with the score of social interaction and happiness of the community people.

SCORING CRITERIA FOR EVALUATION OF SOCIAL INTERACTION

The questionnaires designed for the study to evaluate the social interaction of selected communities comprised of multiple response based on Likert scale.

The respondents had to choose an answer on a scale of “Strongly Agree” to “Strongly Disagree” as follows.

1=Strongly Agree 2=Agree 3=Neither Agree/Disagree 4=Disagree 5=Strongly Disagree

DESCRIPTION OF STATISTICS AND ANALYSIS OF DATA:

During the field survey, data was collected from equal number of participants, i.e 140 persons from each zone while total number of participants was 240. The number of public spaces identified and evaluated for survey was Zone A had 05, Zone B had 14, and Zone C had 17 public spaces. The data collected from surveys were analyzed using Microsoft excel, the relation between social interaction, public spaces and happiness were evaluated. In the end the conclusions, findings and recommendations were presented.

Zone A. (Comprised of Jugian and Nawan Sheher) (Number of participants=140)

Figure 8
 Zone A (Q: What is your gender?)

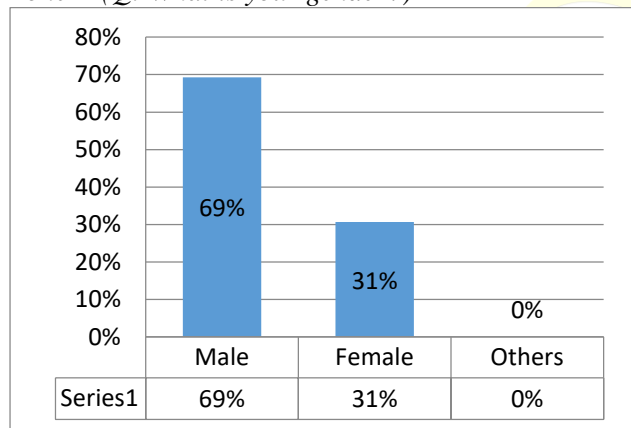
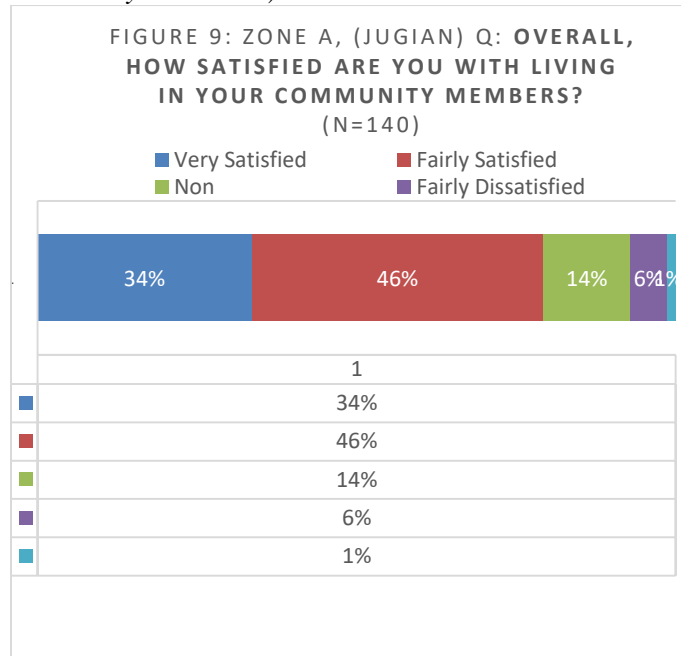


Figure 8 shows the gender of participants, where 69% are Male and 31% are Female.

Figure 9
 (Q: Overall, how satisfied are you with living in your community members?)



The above Figure 9 shows there is a high level of satisfaction among community people, with 34% very satisfied and only 07% are dissatisfied.

COMMUNITIES

Respondents were asked additional questions about social interaction in their communities shown in figure 10 below, where 86% people said salam (greetings) to each other, 64% people said we see people often chatting/talking to each other, 45% people said a stranger moving into the community would be welcomed, 68% people are disagree about the services and facilities available in the community, 79% respondents are disagree about access to recreational and leisure facilities, 74% respondents responded that they haven't public spaces in their community, 78% people said there isn't enough community initiatives, 72% people responded that the local groups don't have volunteer opportunities, 66% people said there isn't any strong and good communal leadership.

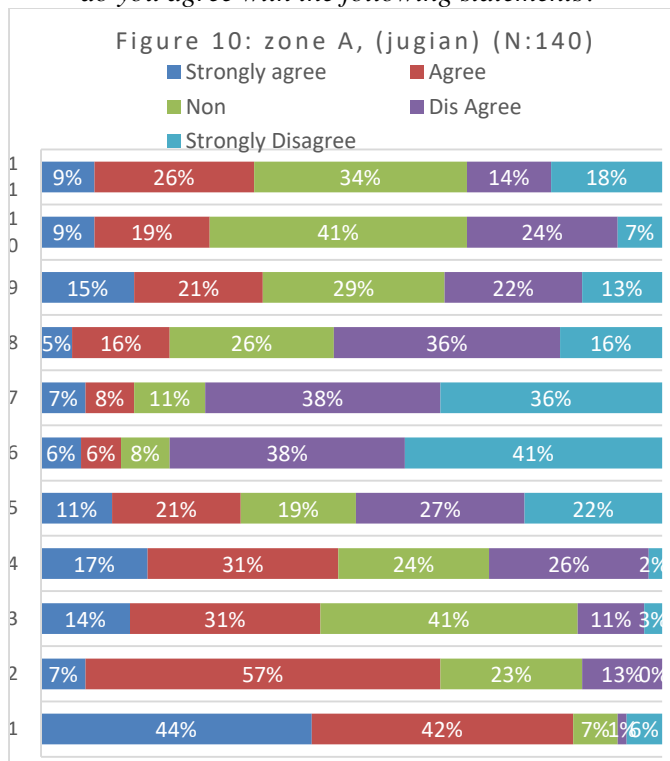
Q: Thinking about your locale, to what extent do you agree with the following statements?

1. People who live here usually say Salam to each other when they're out?
2. I often see people chatting to each other.
3. A stranger moving into this community would be made to feel welcome?

4. People move in and out of the local area quite often?
5. There are good services and facilities (schools, mosques, hospitals etc)
6. There is easy access to recreational and leisure facilities.
7. There are public spaces in my locality.
8. There are community initiatives
9. It's an active community. People do things and get involved in local issues and activities
10. There are opportunities to volunteer in local groups
11. There is a strong local leadership in the community

Figure 10

(Q: Thinking about your locale, to what extent do you agree with the following statements?)



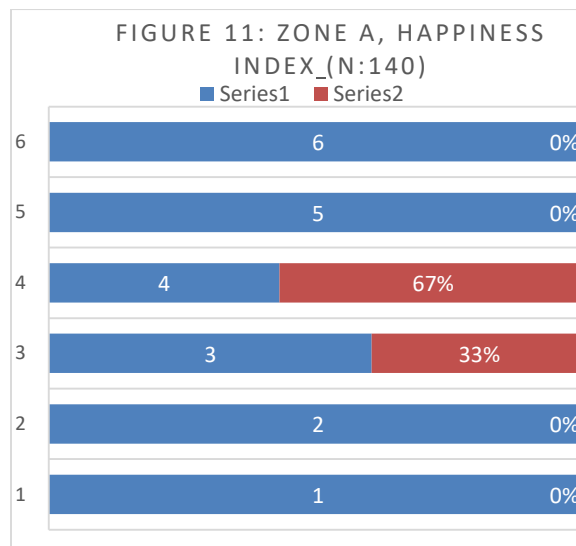
HAPPINESS INDEX ZONE A:

Figure 11, shows the happiness index of Zone A, the calculated value is 3.49, which demonstrates that people are somehow happy in the community.

- 1 = strongly disagree 2 = moderately disagree
 3 = slightly disagree
 4 = slightly agree 5 = moderately agree
 6 = strongly agree

Figure 11

Zone A happiness index.



PUBLIC SPACES:

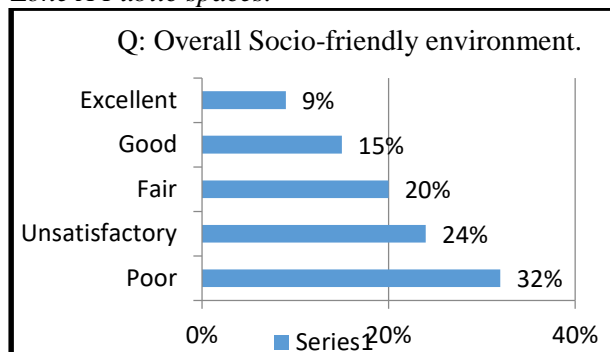
The survey results of the public spaces evaluated during a walk-through survey are listed below. The response scale used for evaluation is as follows.

- E= Excellent G= Good F= Fair
 U= Unsatisfactory P= Poor

Q: Overall Socio-friendly environment of the selected spaces.

Figure 12

Zone A Public spaces.



Zone B. (Comprised of Abbottabad main city area including kehal, sabzi mandi and general bus stand) (Number of participants=140)

Figure 13
 Zone B (Q: What is your gender?)

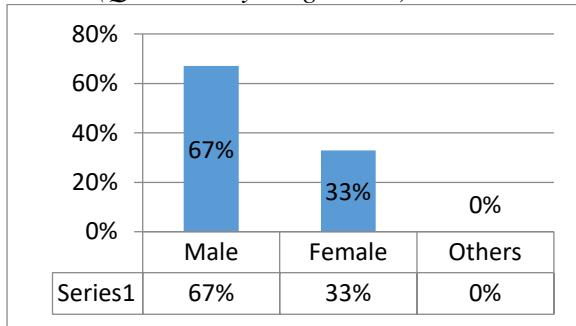


Figure 13 shows the gender of participants, where 67% are Male and 33% are Female.

Figure 14
 (Q: Overall, how satisfied are you with living in your community members?)

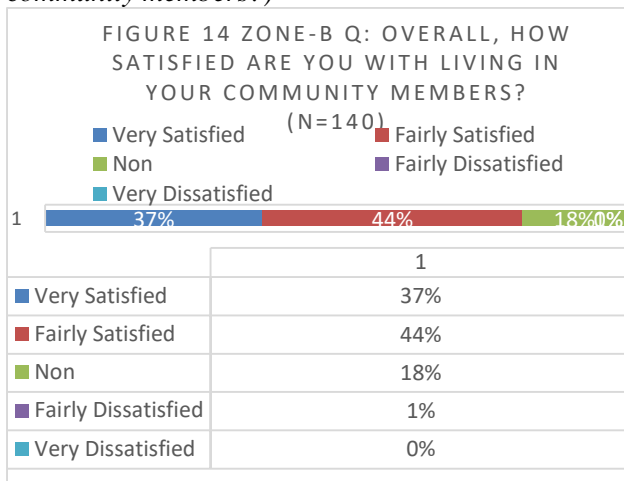


Figure 14 above, shows there is a high level of satisfaction among community people, with 81% satisfied and only 1% dissatisfied.

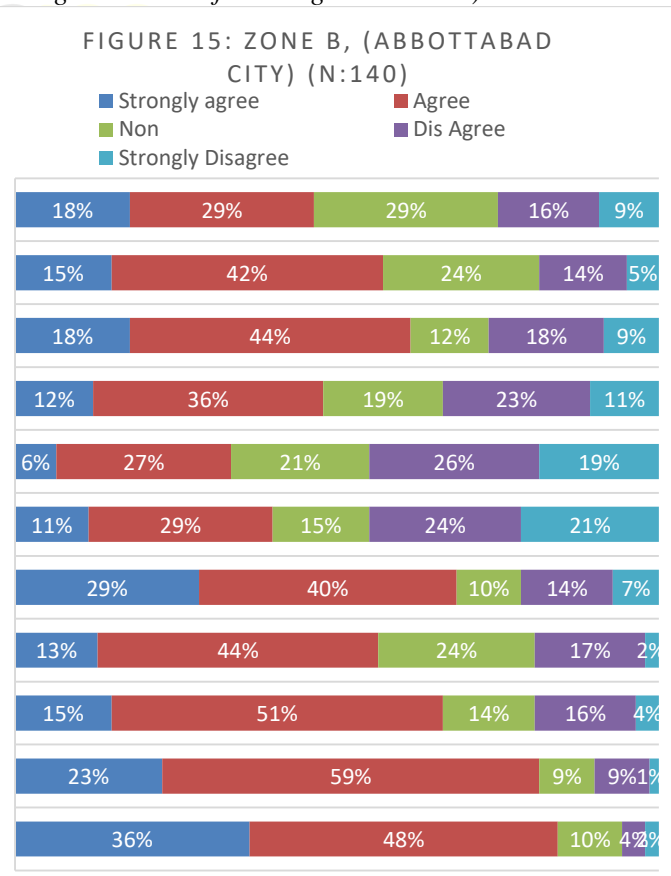
COMMUNITIES

Respondents were asked additional questions about social interaction in their communities shown in graph 1.8, where 84% people said people say Salam (greetings) to each other, 82% people said we see people often chatting/talking to each other, 66% people said a stranger moving into the community would be welcomed, 69% people are agree about the services and facilities available in the community, 60% respondents are disagree about access to recreational and leisure facilities, 66% respondents responded that they haven't public spaces in their community, 53% people said there isn't any communal initiatives, 57% people responded that local groups have volunteer opportunities, 54%

people said there isn't any local community leadership.

1. People who live here usually say Salam to each other when they're out?
2. I often see people chatting to each other.
3. A stranger moving into this community would be made to feel welcome?
4. People move in and out of the local area quite often?
5. There are good services and facilities (schools, mosques, hospitals etc)
6. There is easy access to recreational and leisure facilities.
7. There are public spaces in my locality.
8. There are community initiatives
9. It's an active community. People do things and get involved in local issues and activities
10. There are opportunities to volunteer in local groups
11. There is a strong local leadership in the community.

Figure 15
 (Q: Thinking about your locale, to what extent do you agree with the following statements?)

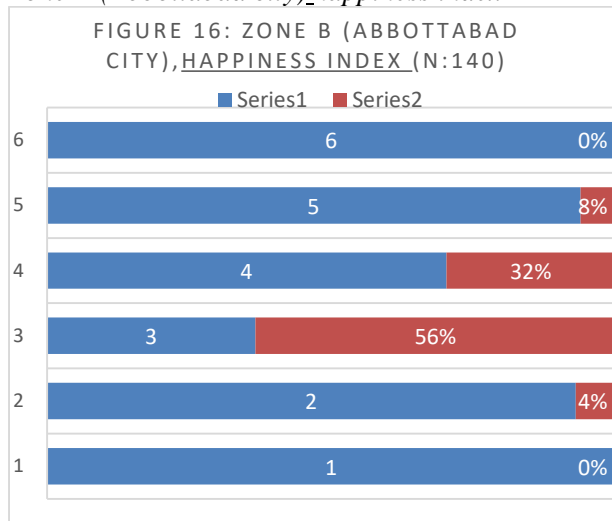


HAPPINESS INDEX ZONE B:

Figure 16, shows the happiness index of zone B, the calculated value is approximately 3.7, which demonstrates that people are happy in the community.

Figure 16

Zone B (Abbottabad city) happiness index



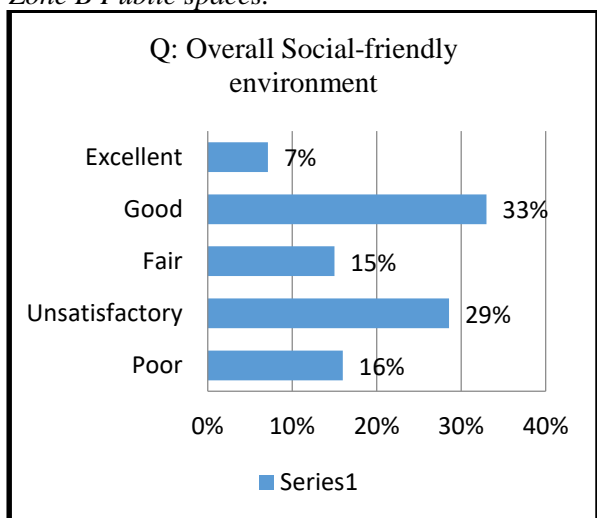
PUBLIC SPACES:

The survey results of the public spaces evaluated during a walk through survey are listed below. The response scale used for evaluation is as follows.

Q: Overall Socio-friendly environment of the selected spaces.

Figure 17

Zone B Public spaces.



Zone C, (Comprised of Jinnah-abad, Mirpur, Ayub medical college, sir-syyed colony, UET Abbottabad

campus and post graduate college Abbottabad) (Number of participants=140)

Figure 18

Zone C (Q: What is your gender?)

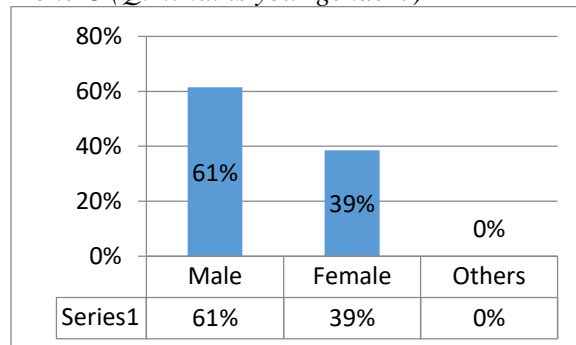


Figure 18 shows the gender of participants, where 61% are Male and 39% are Female.

Figure 19

(Q: Overall, how satisfied are you with living in your community members?)

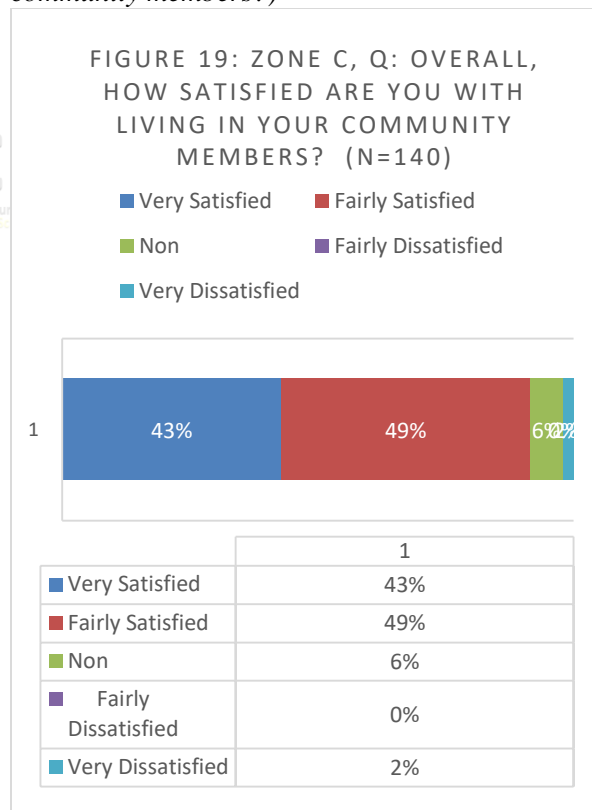


Figure 19 above, shows there is a high level of satisfaction among community people, with 92% satisfied and only 2% dissatisfied.

COMMUNITIES

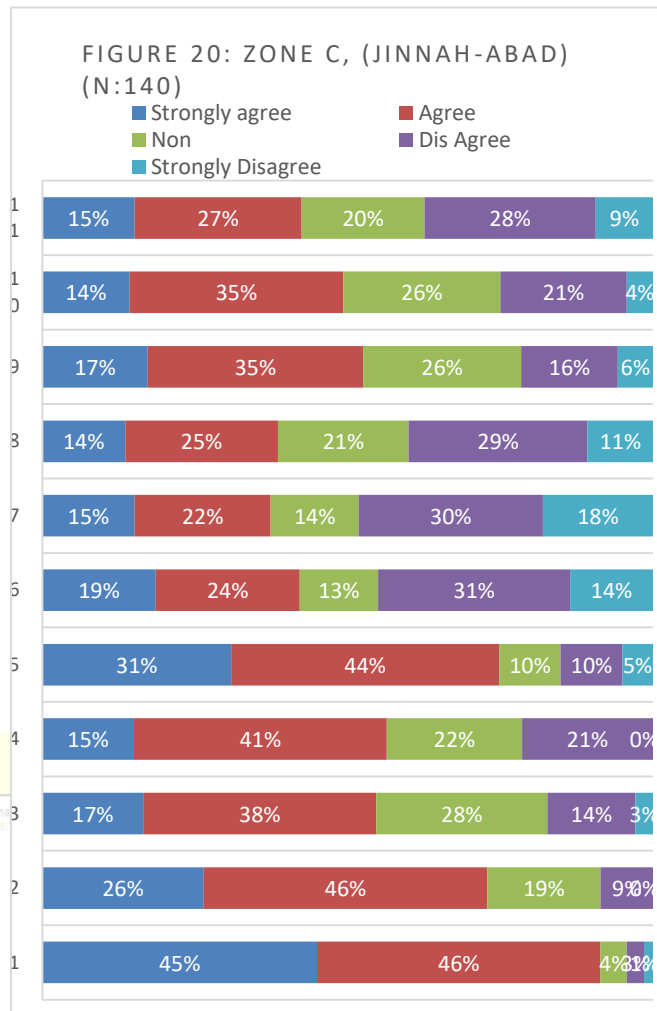
Respondents were asked additional questions about social interaction in their communities shown in graph 1.13, where 91% people said people say salam (greetings) to each other, 72% people said we see people often chatting/talking to each other, 55% people said a stranger moving into the community would be welcomed, 75% people are agree about the services and facilities available in the community, 45% respondents are disagree about access to recreational and leisure facilities, 48% respondents responded that they haven't public spaces in their community, 40% people said there isn't any communal initiatives, 49% people responded that local groups have volunteer opportunities, 42% people said that communal leadership is strong.

Q: Thinking about your locale, to what extent do you agree with the following statements?

1. People who live here usually say Salam to each other when they're out?
2. I often see people chatting to each other.
3. A stranger moving into this community would be made to feel welcome?
4. People move in and out of the local area quite often?
5. There are good services and facilities (schools, mosques, hospitals etc)
6. There is easy access to recreational and leisure facilities.
7. There are public spaces in my locality.
8. There are community initiatives
9. It's an active community. People do things and get involved in local issues and activities
10. There are opportunities to volunteer in local groups
11. There is a strong local leadership in the community.

Figure 20

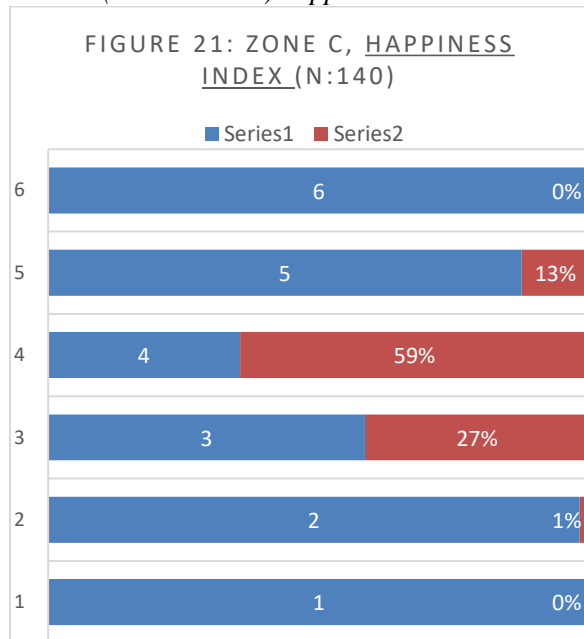
(Q: Thinking about your locale, to what extent do you agree with the following statements?)



HAPPINESS INDEX ZONE C:

Figure 21, shows the happiness index of Zone C, the calculated value is approximately 3.9, which demonstrates that people are happy in this community.

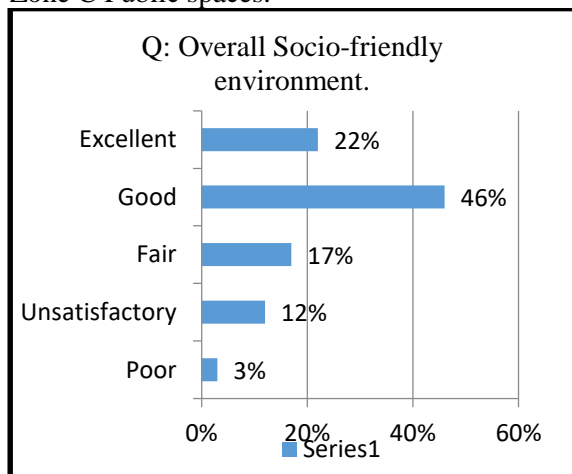
Figure 21
 Zone C (Jinnah-Abad) happiness index



PUBLIC SPACES:

The survey results of the public spaces evaluated during a walk-through survey are listed below. The response scale used for evaluation is as follows.
 Q: Overall Socio-friendly environment of the selected spaces.

Figure 22
 Zone C Public spaces.



CONCLUSION

This research study systematically proved the relationship between social interaction, happiness and public space. The data collected from the field surveys and questionnaires was analyzed; the result shows the direct effect of public space over happiness and social interaction of the residents. The Zone A which is a congested and ill-planned urban area has only 05 public spaces having 24% unsatisfactory and 32% poor results, the social interaction in Zone A is lower as compared to the other zones, similarly the mean happiness index in Zone A is 3.491. The Zone B which is a planned urban locality having good infrastructure and service facilities, has 14 public spaces having 29% unsatisfactory, 16% poor and 33% Good results, the social interaction in Zone B is higher from Zone A and the mean happiness index is 3.710. The Zone C which is mostly well-planned and well-maintained urban locality having excellent infrastructure and service facilities, has 17 public spaces having 46% good and 22% excellent results, the social interaction is the highest as compared to other zones and the mean happiness index result is 3.880.

Hence it is concluded from this research study that the public space has a direct effect/relation with the happiness and social interaction of a community.

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