

Inventory of Perception of Safety in an Urban Educational Campus

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Abstract: Past research studies have shown that perception of safety is affected by personal as well as spatial variables. Architects have control over spatial variables and can help design safer spaces by appropriating the spatial variables. Various studies have explored the relationship between crime and the physical environment. It has been noted that certain settings are conducive to particular types of behavior that precipitate criminal activity. Safety of the users is an important aspect to be considered in architectural design and campus planning of educational institutes. Safer environments can encourage the fair use of the spatial resources and for a longer duration. Hence it is essential to understand the spatiality of crimes and vulnerable spaces. With this objective, case study research was carried out at an educational institute in Pune. In depth interviews with the key informants such as security personnel, police, administrators were carried out. Structured interviews with students and teachers were carried out. Appleton's model of Prospect Refuge Theory [1975] was used to analyze the spatiality of crime. The mapped places revealed association of crime with certain types of spatial characteristics and the theory was corroborated. In the contemporary times, the safety concerns are growing and active devices and manual control being implemented. But sensitive architectural design can help in achieving better surveillance over spaces and help curtail the occurrence of crime.

Key words – Prospect Refuge Theory, crime, spatial variables.

1. INTRODUCTION

1.1. Background:

Safety as one of the important factor affecting use of open spaces has been identified by many e.g.: Hester (1975), Joardar(1989), and so on. Safety is a condition of being safe, free from danger or risks (Oxford University Press, 1997). Perception of a space as safe makes the space likable and usable (Natu, 2007). Perception of safety is an important factor that shape approach and avoidance behaviours of park users and may be evaluated either as a facilitator or an inhibitor for park use (Dogrusoy & Zengel, 2017). Newman (1972) stated that spaces can be made defensible by

employing appropriate architectural design strategies. Appleton (1975) proposed the prospect refuge theory wherein he categorised landscape settings based upon the prospect and/or refuge they offered.

Educational campuses tend to have lesser built area as compared to the open spaces. Open spaces enhance the image and place making of these campuses. Petherick (2000) noted that university settings possess many characteristics that make them attractive to potential offenders and perpetuate an overall climate of fear. Safety in these campuses can ensure fair and maximum use of the campuses without any fear or anxiety. Joardar(1989) states that safety is manipulable by the designers. Designers can manipulate the physical characteristics of the environments and make the environments less probable for the occurrence of crime.

Pune is called the 'Oxford of the East'. It is the educational and cultural capital of the state of Maharashtra [India]. Many educational institutions have been established here since the British era and many new have come up in recent times. Pune is a growing metropolitan city. Thousands of students migrate here for good educational facilities. The educational institutes are responsible for the best possible facilities and wellbeing of these students. Although the institutes provide high security in their campuses many crime incidents take place. Crimes of varying types and magnitude have been reported in local newspapers. These incidents occur where the offender is at ease and victim is at a risk in the given environment. Hence it is of value to study relation between spatial design and safety in educational campus. With this overall aim the research study was undertaken wherein an educational campus in Pune city was studied.

1.2. Aim and objectives

To study the relation between spatial characteristics and perception of safety in an educational campus.

Following were the objectives of the research:

- To understand people's perceptions about safety in spaces using prospect refuge theory.
- To understand spatial character in an educational campus that affects safety and spaces that people prefer and elements that contribute in making the space safe and likable.

- To understand people's perceptions about safety in spaces using prospect refuge theory model.

1.3. Scope and limitations:

The research analyses spaces in educational campus in Pune on the basis of safety. In this research prospect and refuge points which affect perceived safety and fear of crime are studied. The research is limited to one urban educational campus.

2. Prospect – Refuge

Appleton (1975) in *Experience of Landscape* propounded the concept of Prospect and Refuge. People prefer places which have a good prospect and a refuge. Prospect is to do with perceiving, with obtaining information particularly visual information, while refuge with hiding, sheltering or seeking protection.

Prospect and refuge provide the spatial and geographical mechanisms by which humans maximize their security and seek places that allow them to see their surroundings clearly without being seen (Ramanujam, 2006). A feeling of fear or comfort can be produced by the physical layout of a setting. Places can be arranged so that they are easy to understand and will encourage exploration (Kaplan, Ryan, & Kaplan, 1998).

Schroeder and Anderson (1984) identified landscape characteristics which had significant effect on the perception of security. They found that open areas with few trees are perceived as safest, but the lack of trees can be an aesthetic liability. Similarly the visible amounts of woody vegetation and shrubs are negatively associated with perceived security.

Fear levels fluctuated with the amount of prospect and refuge afforded in specific areas and avoidance behaviour was the most significant response of these fears (Petherick, 2000).

		PROSPECT (Victim)	
		HIGH (Open Prospect)	LOW (Blocked Prospect)
REFUGE (Offender)	LOW (no hiding places)	Most Safe	Moderately Safe
	HIGH (Many hiding places)	Moderately Unsafe	Most Unsafe

Source : Fischer & Nasar (1992) as mentioned in Petherick(2000)



Fig 1 : A refuge dominant space [Photo credit – authors]

A space with high refuge quality makes it difficult for the victim to escape while a one with high prospect quality reduces the chances of hiding by the offender.

Five environmental features cause impression of enclosure: the proportion of the scene covered by walls, the proportion of scene covered by ground, how light and dark the scene is, the depth of view, no. of sides open at the front of the scene (Stamps III, 2005).

In the study by Nasar & Jones (1997) it was reported that certain areas are hot spots of fear evoke higher levels of fears than others. Content analysis of the comments revealed that concealment and to lesser extent entrapment evoked fear. Such knowledge can inform policy to reduce fear and stress (Nasar & Jones, 1997).

Hence it is thus concluded that spatial features and the prospect or refuge potential they bear have direct relationship with the perceived safety and hence their susceptibility to the occurrence of crime.

3. METHODOLOGY

The study aims to understand the role of spatial character determining perception of safety in an educational institute campus. The subject requires a deeper understanding of the situation; therefore, the method of qualitative research is selected.

3.1. Case study Research

The research was conducted in an educational institute in Pune which is of larger scale offering diversity of spatial characteristics and has reported crimes in the past. For study purpose this institute is referred henceforth as 'case A' (name not disclosed for confidentiality). Reports of crime were obtained from the articles from newspapers.

3.2. Tools of data collection:

3.2.1. Unstructured Interviews

Key informants such as security guards, Police officers, etc. were interviewed using unstructured, in depth and open-ended questions. New issues and understandings came up during the discussions with the key informants.

3.2.2. Face to face interviews

Structured Interview schedule was prepared for the interviewing the staff, students and teachers of the institute. 2 staff members, 8 professors and 40 students were interviewed. Out of 40, 23 were male students while 27 were female students.

Open ended questions were asked to find out the safe and unsafe areas of the campus and reasons for perceiving them so. They were also asked the elements that made the spaces pleasant and comfortable.

3.2.3. Secondary data

Newspaper articles and police crime record information helped in triangulation of findings of the research.

4. ANALYSIS OF DATA AND FINDINGS

4.1. Interviews with key informants

Different places were mentioned unsafe by the key informants - such as hillside edge of the campus, an abandoned ruined structure in the campus, open ground, parking lot etc. The reasons for these being unsafe were lack of fencing or compound wall which made them vulnerable for trespassing and intrusions. This also resulted in antisocial activities like drinking or gambling in the dark hours near the hillside and in the abandoned structure. Minor incidences of ragging and verbal abuse by strangers were reported again due to lack of fencing. These areas were also out of sight of the day to day movement or circulation routes and hence they lacked visual surveillance.

4.2. Face to face interviews with users

Since the nature of the interviews was predominantly open ended, respondents had more than one answer to a question. Hence total no. of responses exceeded the no. of respondents. The advantage was that the responses were undirected and spontaneous. Comprehensive list of responses was made and no. of people mentioning a place was recorded as count.



Fig 2 : Courtyard in the Campus – One of the safest place

4.2.1. Safest place

Characteristics-

- Courtyard spaces with balanced prospect and refuge.
- Good visibility from buildings and pathways used frequently.
- Designed landscapes with less wild vegetation.
- Informal spaces with activity pockets.
- Enclosed by buildings from three sides.
- Spaces where activities such as student interactions, gatherings, group studies, eating happened were also perceived as safe.

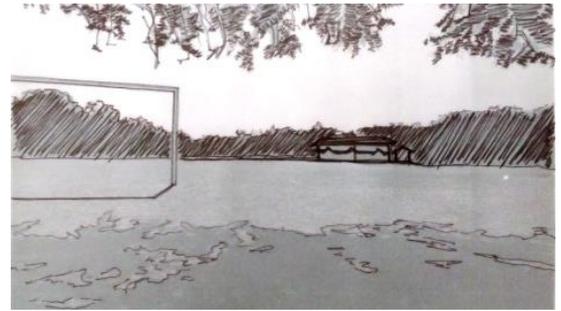


Fig 3: Play ground one of the avoided spaces due to its seclusion and also lack of fencing to it.

4.2.2. Avoided space

Characteristics-

- Open area with absence of pause points, Direct Prospect points.
- The ground is secluded from the main campus. It is abutting a hillock which can be easily accessed by outsiders.
- Spaces which are dark and enclosed from all sides were refuge dominated due to physical concealment.
- Vistas with far away refuge points.
- Canteen is visited by users of the campus. But very few activities take place in these areas.

4.2.3. Disliked and Unsafe space

Characteristics-

- The hillock is secluded from the main campus and the area behind it belongs to slum dwellers.
- Wild vegetation areas which are poorly lit.
- Absence of fence or proper compound wall.
- Due to thick vegetation very less prospect.
- Enclosed with wild vegetation from all sides, refuge dominated.
- Ruined and abandoned buildings in the campus afford hiding in them.



Fig 4 – Abandoned structure – Unsafe Place

4.2.4. Incidences of crime

The respondents mentioned the locations where incidences of crime were reported. The locations and their characteristics read as following-

Locations -

- The hillside area which is secluded from the main campus and as is trespassed and visited frequently by outsiders.
- Wild vegetation zone which is poorly lit.
- Ruined and abandoned buildings in the campus which afford hiding in them.
- Enclosed pathway with closed prospect and physical concealment.
- Open area with absence of pause points, Prospect dominated.

4.3. Secondary data

Newspaper articles related to the Case A also indicate major concerns of safety. Many incidences of thefts, eve teasing, drinking, etc have been reported. These incidences have mainly occurred near the hillock. Several incidences of drinking, playing cards and eve teasing happen near the ruins and abandoned buildings.

5. CONCLUSIONS AND RECOMMENDATIONS

The research studied perception of safety of the urban educational campus by its users. The survey studied spatial characters affecting perception of safety and also how people using the campus read and react to the surrounding environment.

It has been concluded that both prospect and refuge features are a requirement of a public space. The context of the open spaces in terms of their location, scale, function and user groups is to be considered while designing these spaces to maintain the balance of prospect and refuge so that the users feel safe and comfortable using these spaces.

In case of the campus in this study outdoor recreational spaces either semi-covered or enclosed by building from three sides are perceived safe. Pause points or refuge points at regular intervals generated locations for interactions between the users and this in turn allowed informal surveillance on the spaces. Activity settings generated use of spaces thus reducing deserted nature. Outdoor spaces that are away from built forms and offer wide prospect are considered unsafe. Fear of crime has been found to be more pronounced among females than males. Fencing or compound wall might seem a very common sense answer to security but its absence can elevate the perception of being unsafe and increase the misuse of the open spaces in educational campuses.

The mapped places revealed association of crime with certain types of spatial characteristics and the prospect refuge theory was corroborated. In the contemporary times, the safety concerns are growing and active devices and manual control being implemented. But sensitive architectural design can help in achieving better surveillance over spaces and help curtail the occurrence of crime.

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