Exploring the relationship of University's built environment with a predisposition to Transgression in students: A review study

[1]Aneela Yaseen, [2]Shazia Hanif, [3]Farhana Naz

[1]*Assistant Professor, Architecture Department, CUI, Islamabad, Pakistan, aneela.yaseen@comsats.edu.pk*
[2]*Assistant Professor, Architecture Department, CUI, Lahore, Pakistan, shanif@cuilahore.edu.pk*
[3]*Assistant Professor, Architecture Department, CUI, Lahore, Pakistan, Farhana.naz@lcwu.edu.pk*

Abstract

Transgressive behavior is expected in youth, but university students are more predisposed. The study explores the reasons for Transgression in a university learner's behavior. Through detailed scrutiny of previously published literature, it is established that there is a relationship between a university's-built environment, spatial layout, and students' transgressions. Two fundamental pillars of the argument are The Relationship between the Built Environment with Criminal Activity and crime phobia and the Relationship between the Built Environment with Inappropriate Social Behavior. The analysis identifies three crucial aspects of the built environment; lack of surveillance, lack of proper spaces to socialize, and lack of integrated spaces. It is concluded that fewer surveillance, less connectivity, and sociofugal spaces in the campus-built environment might lead to some unfavorable situations. This research opens avenues for further exploration to raise the overall social milieu in the University through a well-thought spatial layout and the built environment. It is recommended to consider the reasons mentioned above to avoid Transgression during a student's university life.

Keywords: Transgression, university life, built environment, surveillance, integration, sociofugal.

INTRODUCTION

People at a young age are usually predisposed to Transgression (wrongdoing or acting against the laws and codes of conduct (Cambridge University Press, 2022). Transgression is the unsanctioned crossing of boundaries. Since human beings are prone to fight against social restraints on pleasures, it is in our "recalcitrant" nature to not be denied them (Crawford, 1999). According to William (1998), 'I contend that the presence of something that needs "controlling" is a precondition for the necessity of systems of regulation. Extending on such perceptions, it might be argued that discipline and control are fundamentally social and cultural and that the rebellious, transgressive nature of bodies is primal' (438) (cited in Crawford, 1999)

The significance of university life for a learner is that one spends considerable time of adult life in the University's built environment. Universities are not meant to educate only but to provide an environment of social activities and to groom their social behaviors (Fouad & Sailer,2017). Reflection on the historical ideas about education reveals that 'it was once thought of as a cognitive process in which instructor served as a primary knowledge-transfer agent for learners. The assumption was that the students followed the prescribed curriculum and strict disciplinary guidelines (Sailer, 2015). Brown (2004) adds that in the 19th century, learning was generally regarded as a mental discipline that molded character. Instead of traditional teaching approaches focused primarily on comprehending facts and the discipline of human minds, adult education

must emphasize contextual learning and encourage critical reflection on presumptions (Mezirow &Mezirow, 2000). In contemporary times, the educational process can not be evaluated in alienation without the idea of social communication and behavior in a spatial context. The integration of social engagement and behaviors among the students depends critically on the socio-behavioral characteristics of any setting (zaman et al., 2021)

There is a lot of scholarship regarding the Transgression of students in their university life (Odek-Ogunde & Pande-Leak,1999; Peltzer et al.,2002; Young et al., 2002; Deressa & Azazh, 2011; Steyl & Phillips,2011; Olley, 2008). A Student experience liberty from direct parental supervision and independence in University. They are acquainting new friends, particularly for students from outstations who experience new friends, an altogether new environment, and sharing room with unfamiliar people. The norms of their peers are quite different from those of their parents. At times peers introduce them to new ideas that may be harmful or negative (Steyl & Phillips,2011). According to a survey, living with family close family relatives is significantly connected with lower addiction and abuse cases. This demonstrates how family and close relatives can protect you from harmful peer pressure (El-Amin et al., 2011). This also highlights the importance of peer pressure in university life. University time is a self-regulating period of student life in a new social and built environment away from direct parents' surveillance (Olley, 2008). Another reason for the Transgression of students on university campuses is their age bracket (18-29). This age is more inclined towards addiction and other such behaviors (Young et al., 2002). It has been found that emerging economic countries have more tendency for Transgression among university students (Babalola et al., 2013; Deressa & Azazh, 2011). Several other reasons include; sociodemographic, religion, academic performance (Peltzer et al.,2002), and, last but not least, the University's built environment and spatial layout (Long & Baran,2006; Nasar and Fisher,1992; Nasar et al., 1993). The emphasis of this article is to identify the relationship of the spatial and built environment with university students' Transgression. This study emphasizes the connections between the built environment, spatial organization, and its occupants' social behavior in the academic context. This research seeks to fill up knowledge gaps and make people aware of the connections between spatial planning, the social organization of learning, and human behavior. In other words, this study will better comprehend how social behaviors and the built environment are related.

LITERATURE REVIEW

The connection between the built environment and people's phobia of crime and inappropriate behavior is the subject of several types of research. (Pain, 2000: Nasar, et al, 1993; Nasar and Fisher,1992; Vrij and Winkel,1991;)Lately, the complicated and dynamic relationships between physical space and its social and psychological components have become apparent to planners and architects. (Madanipour, 1996). Different researchers highlight multiple factors related to the built environment. For instance, Vrij and Winkel (1991) emphasized quiet and secluded places as unsafe in the context of crime. Oc and Tiesdell (1999) suggested surveillance and accessibility as two essential elements of a safe and secure built environment. Similarly, according to Nasar and Fisher (1992), crime or its phobia on university campuses relates to the built environment. Per their research, proper and well-thought spatial layouts on university campuses can help reduce crime and crime phobia. They have mentioned architectural clues like, Improper lighting makes places scary and bleak sights for the user, limited prospects for the user, and camouflage for the criminal

A relationship between people and their environment is aided by the built environment, which provides a variety of cues that "trigger behaviour" (Rapoport,1982, pp. 60-61). The spatial layout of buildings and interactions with one's social surroundings are factors of psychological well-being in humans (Clayton

& Myers, 2014; Bechtel & Churchman, 2003) and play a significant role in social behaviors (Winslow, 2016). It has been discovered that altering the layout and removing concealments and impediments for better visibility might make a place appear safer (Nasar and Jones,1992). The Spatial layout directs people's behaviour by acting as an instructor (Waqas et al.,2021). Gifford (2007) carries the argument further by saying that the physical surroundings and environment affect a person's conduct. Speaking of University, the built environment and spatial layout are of great importance since it serves as a social institute and academic learning where socio-academic aspects of a student's life are linked with planning and the environment (Demirbaş, 1997). Instead of being secondary factors in determining pupils' overall learning, the social and configurational aspects of any space now serve as the primary determinants of the knowledge and growth of the student. It might be claimed that learning can occur everywhere, outside of traditional classroom settings, and that the Design of the built environment and chances for social interaction both play vital roles (Zaman et al.,2021). Education, in Durkheim's view, is the "social contact" of the youth of today, which gives them new ways to see, to feel, and to behave" that he wouldn't have developed on his own (Walle, 2008).

Based on Mehrabian's research, the built environment affects users' social and behavioural expectations (1976). The views, psychological requirements of the users, and how they interact within the amenities of the specific place are the focus of socio-psychological elements. The work efficiency and educational quality will increase if the environments are encouraging, engaging, and supply the necessary behavioral components (Demirbaş, 1997; Sanoff, 1993). Different applications, like A Graph and Depthmax and others using space syntax, have been employed by renowned researchers (Nubani & Wineman, 2005; Hillier and Hanson, 1984; Long & Baran, 2006) to recognize and establish the relations between space layout, its configuration and occurrence of crime in a particular built environment. In addition, a significant

scholarship covers the relationship between apparent social control, surveillance, and phobia of crime. For instance, Scholars have tried to examine how perceived constraints' presence—or lack—affects phobia in diverse scenarios. Visible infractions and low-level crimes are a couple of examples of Transgression brought on by a lack of social supervision. (Greenberg, 1986; Lewis and Salem, 1986). Similarly, it is found that a site can be viewed as safer by changing the layout and removing concealments and obstructions for improved visibility.

MATERIALS AND METHODS

An extensive literature review is involved in developing this research's three fundamental pillars of argument. The study of various research reports, journal articles, and books highlighted the reasons for Transgression in University students. This research is the recipient of the key concepts and ideas from scholars worldwide who have discussed the issue mentioned above under different headings. The selection criteria of a few articles regarding Transgression over others are based on their discussion and findings related to the built environment and spatial layout. The research is being conducted using a qualitative approach. A significant body of literature is reviewed to comprehend the definition of Transgression and its prevalence in young people. This study implies a deductive strategy as it infers the pre-established definitions, thoughts, and analyses and compiles them into one written piece in the context of the built environment and spatial layout.

ANALYSIS

Based on the literature review and the description in the Introduction section of this article, it is found that students in Universities are susceptible to Transgression due to several reasons. A thorough discussion of all causes is beyond to scope of this article. The following two aspects are part of the discussion in this research in the context of built environment and

Transgression, where Transgression is further expanded into two categories, i.e., Criminality and crime phobia and inappropriate social behavior.

☐   The Relationship of the Built Environment with Criminal Activity and crime phobia

☐   The Relationship of the Built Environment with Inappropriate Social Behavior

The Relationship of the Built Environment with Criminal Activity and crime phobia

criminality and crime phobia on and near the University might cause low enrollment rates due to compromised safety and general well-being of students in the university environment. During the past few years, this issue got important worldwide in the context of Universities (Smith, 1988). In the past, universities have not been the focus of sufficient media criticism on their crime rates. This is primarily because of their enclosed physical environments and the moderating of criminal activity (Wilcox et al., 2007). Safety on university campuses has become students' and their families' social and policy concerns (Fisher and Smith, 2009). There has never been a time when discussion of campus security has been more prevalent (Fox et al.,2009, p. 37). According to Maslow's (1943) chart, the need for safety and security comes from basic biological needs and even before the need for love and belongingness. For students during their university life, a safe campus environment is directly related to their academic achievements (Kim, 2015.p.13). In their investigation on crime prevention at an Australian university campus, Cozens and Sun (2018) discovered that the risky locations were typically associated with inadequate opportunities for natural surveillance, as well as low levels of "prospect" and high levels of "refuge." Site inspections and collected data from Cozens and Sun's research show that safe places typically have surveillance by providing higher monitoring levels and lower degrees of cover and concealment.

The Relationship of the Built Environment with Inappropriate Social Behavior

Since learning in an educational setting is directly connected to the social interaction among learners, the spatial setting and built environment of a university are critical for the socio-academic behavior of students. Students' consciousness and competence are boosted in universities through appropriate social spaces. Otherwise, students with low self-esteem are more inclined towards Transgression to look cool and daze their shyness (Cepulkauskaite, 1998). Several studies on the investigation of drug usage and other transgressions among students exposed the social environment as one of the causes (Kauffman and colleagues,1997; Newcomb and colleagues,1986; Çırakoğlu & Işın, 2005). According to Barker and Gump's research (1964), four variables; environment, synomorphy (compatibility between user and space), actors, and time are essential for the appropriateness of any space's function (Brown, 2004).

Consequently, the affordability of the department of student interaction depends on the spatial setting of the space, where space is the environment and students are actors. Afford means the possibility of expected reaction concerning the environment (Gibson, 1977). A chair, for example, affords for sitting. Similarly, space is intended to afford social interaction among students inside the academic setting (Fouad & Sailer,2017). The relationship of the built environment in an educational setting with social behavior is emphasized by Bhutto & Chhapra (2013)in an article on the social constructionist approach to education.

They believe in a learner-centered approach and are sure that knowledge building involves; social processes, interaction with the environment, and consciousness. This could be achieved by setting an environment that encourages learner-centered experiences. For alearner centred experience, students should have opportunity to; collaborate, interpret the information, and communicate with one another'.

RESULTS AND DISCUSSIONS

The following results are drawn from an investigation of how the built environment affects Transgression.

☐   Lack of surveillance

☐   Lack of proper spaces to socialize

☐   Lack of integrated spaces

Lack of surveillance

Surveillance is among the 6 CPTED points. The CPTED is the appropriate planning and use of the built environment to reduce the phobia and frequency of crime (CROWE, 2000.P.46). The act of keeping an eye out and keeping an area under observation for criminal observation activities or suspicious behavior is known as surveillance. The ability of the built environment to provide possibilities for the community to notice and recognize suspicious behavior is known as surveillance. Planning, Design, and architecture can all impact surveillance potential, which can be viewed as competent stewardship that helps lower crime. Offenders may be less likely to commit crimes if they believe they can be seen because there is a greater chance of intervention, capture, and prosecution. Several methods include formal or organized (such as police or security patrols), natural (such as residents' options for self-monitoring made possible by windows or Design, and mechanical surveillance by CCTV (Cozens and Sun,2018). This concept of surveillance sounds like 'eye on the street' by Jacob (1961) and defensible space theory by Newman (1973), where he describes defensible space as the space with the ability of physical architecture to afford residents and users of a space opportunity for surveillance (p.50). Similarly, according to Long & Baran (2006), in a visually controlled environment, observers may easily see what others are doing, and vice versa, without any difficulty

Lack of proper spaces to socialize

Students frequently participate in two distinct experiences in academic settings: the one guided by the educational system is called the formal, and the other that results from

interactions impacted by the physical layout of buildings are, termed spatial. As a result of the connection between the quality of the education imparted and social cohesiveness, education is a form of socializing that not only illustrates the learning environment but also influences how socializing takes place in a spatial context (Peatross & Peponis, 1995). Physical characteristics of the environment, such as architecture, interior Design, furniture placement, lighting, etc., significantly impact how people behave and feel in interaction settings (Mark L. Knapp, 2013). Hall (1969), uses sociopetal and sociofugal terms to describe the ability of space to augment or weaken sociability. The former breeds sociability, while the latter alienates people from one another. Lack of proper spaces to socialize or sociofugal spaces don't help shy students in university environments. They feel inferior among their peers, which might lead to behavioral Transgression since low self-esteem students are more likely to be inclined towards Transgression just to look cool and daze their shyness (Cepulkauskaite, 1998). Carrying this argument further, Sumner (1906) argued that education is an endeavor to convey to a student the group's ideal so that he can understand what behaviour is acceptable and unacceptable. What ought to be his conduct and convictions in each and every circumstance? (Gutek, 1994).

Lack of integrated spaces

Integration represents the connections between two spaces. A relationship between space and the intended recipients or the people could be developed if space is appreciated through an analysis of its layout (Karimi, 2012). A public space with high connectivity will have a significant user intensity. According to Rapoport (1990), in addition to its physical attributes, a place also conveys messages to a user based on their interaction. As a result, Nubani and Wineman found that higher levels of connectedness are linked to reduced crime rates (2005).

In addition, less integrated areas are more likely to experience crime (Long & Baran, 2006). It has also been proven that opening up areas for increased transparency and removing

obstructions can make an area feel more secure (Appleton, 1975). Connectivity is essential in public spaces. Place and connection are two key behavioral setting factors that Trancik (1991) defined and are extensively documented at the city level and in individual building settings. A space's limited integration or link to the rest of the building could result in Transgression since alienation raises the risk of criminality and Transgression (Jencks, 1977, p.9). Since a space's architecture leads its spaces to operate in ways that respond to people and surroundings, the least connected or alienated environments are more likely to result in Transgression (Waqas et al., 2021). Amos Rapoport (2016) recommends open-ended, flexible, Design for more adaptability since the areas with the dead ends and least integration are the most problematic. Dead ends are considered advantageous to add privacy to a space and keep it safe from strangers as they will fear entering that space (Ford, 1999 cited in Yaseen, 2017). But for a public space like a university, such fears cause crime phobias and actual crime because new students get enrolled in University every year. The least connected spaces or dead ends can be spaces of fear for newcomers.

CONCLUSION

Universities must be provided with all the resources necessary to contemplate a wide range of options to deal with the issues of a globalized society. Universities serve as the main hubs and developmental cradles for upcoming generations. Students in a University usually belong to the age bracket of 18-29 years which is thought to be more difficult since young people are typically predisposed to Transgression (Young et al., 2002) due to several reasons discussed in the introduction of the article. Therefore, a university should look out for a student's social development in addition to their education. In this context, the built environment and spatial layout are crucial.

The layout of the space directs its users to act in a manner that is socially and environmentally responsible. As the primary

canvas, the place takes on the function of a director for its user. Improving safety and security at the campus level not only helps increase enrollments and retention on the campus but also improves overall academic performance. As per Niggli and Daniel(2009), knowing the spaces as "social space" surpasses the definition of space from a school, a building, or even a city. Therefore, based on the need for proper spaces to socialize and student interactions, this research reframed the learning process as a social activity where building layout, especially in university education, plays a vital role in the learning process.

It is found that a lack of surveillance, uninformed checks, and vigilance can lead to Transgression in public spaces, particularly in universities. Therefore, it is essential to configure spaces with high surveillance, having more prospects and fewer opportunities for camouflage. Jacob, s idea (1961) of high density or places with more concentration can be a solution since alienated spaces lead to crime or at least phobia of crime among the user. Similarly, the lack of proper spaces to socialize is another significant factor in students' behavioral Transgression. The social aspect of any student's life is as important as education itself since education is an endeavor to convey to a student the group's ideal to understand what behavior is acceptable and unacceptable. What ought to be his conduct and convictions in each and every circumstance? (Gutek, 1994). Last but not the least, the lack of integrated spaces is among the issues to be addressed while developing a built environment for a university. Integration or connectivity is essential in public spaces since it has a direct connection with criminality or the incidence of crime. Less connected spaces induce the feeling of being lost in a space leading to crime phobia. On the other hand, connected spaces keep the user on track inducing the factor of safety. These research findings are put forward for creating a physical environment that fosters a cheerful disposition and permits casual social interaction and impromptu learning in a welcoming and secure architectural setting.

This research opens up avenues for further deliberations on this sensitive issue of

Transgression among University students. Different techniques and available software may be used to study spatial configuration and overall built environment to highlight the problems and betterment for the more significant benefit of future generations.

References

[1] Appleton, J. (1975). The experience of landscape. New York: Wiley

[2] Atwoli, L., Mungla, P. A., Ndung'u, M. N., Kinoti, K. C., & Ogot, E. M. (2011). Prevalence of substance use among college students in Eldoret, western Kenya. BMC Psychiatry, 11(1), 1-9.

[3] Babalola, E. O., Ogunwale, A., & Akinhanmi, A. (2013). Pattern of psychoactive substance use among university students in South-Western Nigeria. Journal of Behavioral Health, 2(4), 334-342.

[4] Barker, Roger & Gump, Paul (1964). Big School, Small School. Stanford: Stanford University Press.

[5] Bechtel, R. B., & Churchman, A. (Eds.). (2003). Handbook of environmental psychology. John Wiley & Sons.

[6] Bhutto, S., & Chhapra, I. U. (2013). Educational research on "constructivism"- An exploratory view. International journal of scientific and research publications, 3(12), 1-7.

[7] Brown, G. (2004). How students learn: A supplement to the Routledge Falmer key guides for effective teaching in higher education series. The Medical Teacher, 24, 1-50.

[8] Cambridge University Press. (2022). Cambridge Dictionary. Retrieved 2022, from dictionary.cambridge.org: https://dictionary.cambridge.org/dictionary/english/transgression

[9] Clayton, S., & Myers, G. (2015). Conservation psychology: Understanding and promoting human care for nature. John Wiley & Sons.

[10] Crawford, R. (1999). Transgression for what? A response to Simon Williams. Health:, 3(4), 355-366.

[11] Cepulkauskaite, I. (1998). Addiction of Teenagers: Myth or Reality. Drug Addiction And Prevention College Essay, 141-160.

[12] Çırakoğlu, O. C., & Işın, G. (2005). Perception of drug addiction among Turkish university students: Causes, cures, and attitudes. Addictive behaviors, 30(1), 1-8.

[13] Cozens, P., & Sun, M. Y. (2018). Exploring crime prevention through environmental Design (CPTED) and students' fear of crime at an Australian university campus using prospect and refuge theory. Property Management.

[14] Dettlaff, W. (2014). Space syntax analysis–methodology of understanding the space. PhD Interdisciplinary Journal, 1, 283-291.

[15] Deressa, W., & Azazh, A. (2011). Substance use and its predictors among undergraduate medical students of Addis Ababa University in Ethiopia. BMC public health, 11(1), 1-11.

[16] El-Amin, S. E. T., Nwaru, B. I., Ginawi, I., Pisani, P., & Hakama, M. (2011). The role of parents, friends and teachers in adolescents' cigarette smoking and tombak dipping in Sudan. Tobacco Control, 20(2), 94-99.

[17] Ford, L. R. (1999). Lynch revisited: New urbanism and theories of good city form. Cities, 16(4), 247-257.

[18] Fouad, A. T. Z., & Sailer, K. (2017, July). The impact of spatial Design on the learning process and students' socialisation: A study of Secondary Schools within the UK. In Proceedings of the 11th International Space Syntax Symposium (Vol. 11, pp. 11-1). International Space Syntax Symposium.

[19] Gibson, J. J. (1977). The theory of affordances. In R. Shaw & J. Bransford (Eds.), Perceiving, acting, and knowing: Toward an ecological psychology (pp. 67-82). Hillsdale, NJ: Erlbaum

[20] Greenberg, S. W. (1986). Fear and its relationship to crime, neighborhood deterioration, and informal social control. In The social ecology of crime (pp. 47-62). Springer, New York, NY.

[21] Hall, E. T. (1969). The hidden dimension. Anchor books editions, New York

[22] Hillier, B., & Hanson, J. (1984). The social logic of space. Cambridge UK: Cambridge University Press.

[23] Hillier, B. (2007). Space is the machine, a configurational theory of architecture, this electronic edition was published in 2007 by Space Syntax 4 Huguenot Place. Heneage Street London E1 5LN United Kingdom.

[24] Jacobs, J.(1961). The death and life of great American cities. New York: Vintage

[25] Jencks, C. (1977). The Language of Post-Modern Architecture. New York: Rizzoli.

[26] Jones, G. (2005). Gatekeepers, midwives and fellow travelers. learning alignments and pedagogy in adult education.

[27] Karimi, K. (2012). A configurational approach to analytical urban design:'Space syntax'methodology. Urban Design International, 17(4), 297-318.

[28] Kauffman, S. E., Silver, P., & Poulin, J. (1997). Gender differences in attitudes toward alcohol, tobacco, and other drugs. Social Work, 42, 231–41.

[29] Lang, J. (1987). Creating Architectural Theory: The Role of the Behavioral Sciences in Environmental Design. New York: Van Nostrand Reinhold (June 1, 1987).

[30] Lewis, D. A., & Salem, G. W. (2017). Fear of crime: Incivility and the production of a social problem. Routledge.

[31] Long, Y., & Baran, P. K. (2006, May). Spatial configuration and actual crime locations in a university campus setting. In 37th annual conference of the Environmental Design Research Association, Atlanta.

[32] Madanipour, A. (1996). Urban Design and dilemmas of space. Environment and planning D: Society and Space, 14(3), 331-355.

[33] Mezirow J. Mezirow J.(2000) Learning to think like an adult. Core concepts of transformation theory. Jossey-Bass, Learning as transformation. San Francisco, California, USA.

[34] Nasar, J. L., & Fisher, B. S. (1992). Design for vulnerability: Cues and reactions to fear of crime. Sociology and Social Research, 76(2), 48-58.

[35] Nasar, J.L., Fisher, B., & Grannis, M. (1993). Proximate physical cues to fear of crime. Landscape and Urban Planning, 26(1-4), 161-178.

[36] Nasar, J. L., & Jones, K. M. (1997). Landscapes of fear and stress. Environment and Behavior, 29(3), 291-323.

[37] Niggli, M. M. and Daniel. (2009). Building as city, city as building. http://www.em2n.ch/press/i nterviews/howwebecamewhowearepart1

[38] Nubani, L., & Wineman, J. (2005, June). The role of space syntax in identifying the relationship between space and crime. In Proceedings of the 5th space syntax symposium on space syntax, delft, holland (pp. 13-17).

[39] Newcomb, M. D., Maddahian, E., & Bentler, P. M. (1986). Risk factors for drug use among adolescents: concurrent and longitudinal analyses. American journal of public health, 76(5), 525-531.

[40] Oc, T., & Tiesdell, S. (1999). The fortress, the panoptic, the regulatory and the animated: Planning and urban design approaches to safer city centres. Landscape Research, 24(3), 265-286.

[41] Odek-Ogunde, M., & Pande-Leak, D. (1999). Prevalence of substance use among students in a Kenyan University: a preliminary report. East African medical journal, 76(6), 301-306.

[42] Olley, B. O. (2008). Child sexual abuse, harmful alcohol use and age as determinants of sexual risk behaviours among freshmen in a Nigerian University. African journal of reproductive health, 12(2), 75-88.

[43] Osman, T., Victor, C., Abdulmoneim, A., Mohammed, H., Abdalla, F., Ahmed, A., ... & Mohammed, W. (2016). Epidemiology of substance use among university students in Sudan. Journal of addiction, 2016.

[44] Pain, R. (2000). Place, social relations and the fear of crime: a review. Progress in human geography, 24(3), 365-387.

[45] Peatross, Frieda D., and John Peponis. Space, education and socialization. Journal of Architectural and Planning Research (Locke Science Publishing Company) 12, no. 4 : 366-385 (1995)

[46] Peltzer, K., Malaka, D. W., & Phaswana, N. (2002). Sociodemographic factors, religiosity, academic performance, and substance use among first-year university students in South Africa. Psychological Reports, 91(1), 105-113.

[47] Poyner, B. (1983). Design against crime: Beyond defensible space. Butterworths, London

[48] Rapoport, A. (1982). The Meaning of the Built Environment: A Nonverbal Communication. SAGE Publications, London.

[49] Rapoport, A. (2016). Human aspects of urban form: towards a man—environment approach to urban form and Design. Elsevier.

[50] Sani, M. N. (2010). Drug addiction among undergraduate students of private universities in Bangladesh. Procedia-social and behavioral sciences, 5, 498-501.

[51] Steyl, T., & Phillips, J. (2011). Actual and perceived substance use of health science students at a university in the Western Cape, South Africa. African Health Sciences, 11(3).

[52] Sailer, K. (2015). The spatial and social organization of teaching and learning: The case of Hogwarts School of Witchcraft and Wizardry. In Proceedings of the 10th International Space Syntax Symposium (p. 34). Space Syntax Laboratory, Bartlett School of Architecture, UCL.

[53] Trancik, R. (1991). Finding lost space: theories of urban Design. John Wiley & Sons.

[54] Unlu, A., Ozener, O. O., Ozden, T., & Edgu, E. (2001, May). An evaluation of social interactive spaces in a university building. In Proceedings of the 3rd International Space Syntax Symposium (Vol. 46).

[55] Vrij, A., & Winkel, F. W. (1991). Characteristics of the built environment and fear of crime: A research note on interventions in unsafe locations. Deviant Behavior, 12(2), 203-215.

[56] Waqas, M., Shah, S. A., Yaseen, A., Jawad, M., & Sarir, S. (2021). Spatial design considerations for uplifting student's societal persona- a case of the University of Peshawar. Humanities & Social Sciences Reviews, 9(3), pp .1387-1398.

[57] Williams, S. (1998). Health as moral performance: ritual, Transgression, and taboo. Health, 2(4), 435-57

[58] Lin, X. (2010). Exploring the relationship between environmental Design and crime:: a case study of the Gonzaga University district (Doctoral dissertation, Washington State University).

[59] Young, S. E., Corley, R. P., Stallings, M. C., Rhee, S. H., Crowley, T. J., & Hewitt, J. K. (2002). Substance use, abuse and dependence in adolescence: Prevalence, symptom profiles and correlates. Drug and Alcohol Dependence, 68, 309–22.

[60] Zaman, M., Jalil, A., Asghar, Q., & Javeed, F. (2021). Space Syntax Methodology and Architectural Design: Case study of Department of Architecture, University of Engineering and Technology Lahore. Technical Journal, 26(3), 25-30

[61] Yaseen, A. (2017). Inclusive aspects of urban Design: Sociability, walkability and overall ambiance. Chinese Journal of Urban and Environmental Studies, 5(01), 1750001