Crowding as an Environmental Deterrent: Perspectives of Mental Health

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Abstract:

The rapid growth of industrialization and lack of opportunity for education & employment in rural areas; rural people migrating to adjacent far off cities in search of livelihood and qualitative living for their children. The environmental setup and ecological balance of cities get disturbed adversely, in terms of civic amenities for its users, as overcrowding at public places has become inevitable. The revelation to overcrowding and population overload in every walk of life induces suffocation stresses among people who find it difficult to endure such constraints in everyday life situations. Furthermore, adolescents perceive it more seriously. The paper would focus on the impact of exposure to crowding and perceived experiential crowding on the emergence of mental health hazards among school/college going students. In addition to it, the characteristic features of mediating factors that affect the direction and magnitude of experiential crowding will be discussed, to propose the theoretical construct, to measure the impact and provide a viable model for implementation to policy makers in order to have cities free of crowding and citizens with positive mental health in India.

I. INTRODUCTION

Crowding affects children and adolescents in their everyday life. It adds to their stress levels and makes coping more difficult. It may also have an adverse effect on their academic development. Recent studies have depicted that crowding affects health, hygiene, reading and mathematical abilities in children. It may change the way children behave leading to hostile responses and aggressive behaviour. Children in crowded conditions at home tend to receive less attention from their parents and may not find enough space for study or play. Noisy and crowded neighbourhoods create avoidance responses. Earlier research in school settings has primarily examined density in the context of school size and classroom size. There are both academic and non achievement-related findings with respect to school size. In smaller schools (high schools with fewer than 500 students), Barker and Gump (1964) found that more students participated in extracurricular activities, had more positive self-images, showed greater personal responsibility, and were more sensitive to the needs of other students. Lower incidence of crime and less serious student misconduct has also been noted in smaller schools Garbarino (1980). Smaller schools seem to foster a greater sense of personal responsibility in students. In addition, researchers have found a positive relation between academic achievement and smaller school size (elementary schools between 100 and 200 students), especially for low-income inner-city students (Fowler, 1992; Summers & Wolfe, 1977).

A study was carried out on Government schools on the difficulties faced by teachers in overcrowded classrooms. Lack of resources and budget constraints led to a lot of problems for teachers and children which in turn affected the education system as a whole. Carlson (2000) reported that quality learning was not possible when large number of students were packed into small classrooms. Findings indicated that there were serious implications in attaining future goals. It has become a problem faced all over the world. The study focused on finding solutions to decrease the effect of crowding on the level of teachers participation and student achievement. It was a descriptive study conducted through the use of questionnaires given to teachers. Secondary data was collected through literature reviews and books. Mixed methods of analysis were used. The findings of the study showed that effective teaching was not possible in overcrowded classrooms. There were also discipline issues in the class. The teachers were not able to control the students and evaluate them optimally. Some solutions were offered – keeping the students to a minimum number of thirty, ensuring adequate school spaces, Government rules and policies could be made to establish maximum number of schools as per requirement. Teachers could be given additional training to handle crowded classrooms and an assistant could be provided to the teacher (Parveen Khan and Mohammad Iqbal, 2012).

II. THEORETICAL STUDIES

A study was carried out with an ex-post-facto design for the years 2003-2005 when classes were crowded and again from 2006-2009 when the number of students in the class was reduced. Ding and Lehrer (2008) found that higher ability students gain the most from class size reductions while many low ability students do not benefit from class reduction. Wenglinsky (1997) found that lower student/teacher ratios are positively related to higher mathematics achievement. The study also showed that students may benefit more if they started with smaller sized classes from the elementary level. Teacher student interaction may improve and teachers could handle group work better and the relationship and contact

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between teachers and parents and students would also show improvement. It would also have an impact on the level of noise, student interaction and disruptive behavior. The findings concluded that class size played an important role in determining the academic performance of students and there was a significant improvement in performance of students as class size reduced. The recommendations were that the students should be given better facilities and the admission should be done according to the space and resources available. There was also the need to put in place other factors such as availability of text books, qualified teachers, materials etc as these had an additional effect on performance (1D.O. Tobih,O.A. Akintaro and D.O. Osunlana 2013).

Freedman (1979) defined crowding as physical density (physical space). He stated that social density, or group size, is the crucial factor that appears to define crowding. Stokols (1972) provided a definition of crowding as "a motivational state aroused through the interaction of spatial, social, and personal factors" (p. 275). Stokols listed examples of laughter, aggression, reduced eye contact, and physiological signs of strain as measurements of crowding. However, results of crowding could be measured with the changing of a person's space, reports of restriction and discomfort, and observation of tension. In a later publication, Stokols (1976) modified and elaborated on previous theories of crowding and density. Desor (1972) defined crowding as receiving excessive stimulation from social sources. Perception of crowding is affected by social and spatial density. Desor also defined social density as the number of people in a space, and spatial density as the area available for a group of people. Paulus and Nagar (1989) described researchers who investigated crowding as using three factors to investigate negative effects on people. These factors are social density (number of people in a specific environment), spatial density (changing amount of space per person while keeping room size constant), and social distance (space between people). Maxwell (2003) defined social density as the number of people in a space and indicated that the amount of space per person in an environment was also important. Background research in this area suggests that crowded and density related conditions can have negative outcomes including increases in aggression, social difficulties, decreases in academic achievement, and less involvement in activities. (Tripathi S.K and Vidya, 2002)

Working memory is a necessary component for learning to occur. If working memory deficits exist, or if working memory is hindered, progress in reading, writing, and math achievement will be negatively impacted Dehn (2008). Goleman (1995) defines working memory as "the capacity of attention that holds in mind the facts essential for completing a given task or problem," adding that when people are upset they experience difficulty thinking clearly and indicate that "emotional distress can create deficits in a child's intellectual abilities, crippling the capacity to learn". Goleman reports that when under emotional distress people have difficulty concentrating due to emotions affecting working memory. This distress may occur during crowding due to increased social or spatial density conditions.

A study was conducted to measure working memory of college students. Questionnaires and pictures were used to collect data. There were no significant differences in the performance of the students in the crowded and uncrowded conditions. Results showed that crowding does not affect working memory performance in a significant manner unlike earlier studies. There could be scope for future research when spatial or social density could be combined with other factors to produce different and interesting findings (Lisa Daniel, Steven Ball 2012). In order to measure the impact of crowding on academic achievement, it was measured through standardized reading and math test scores. Two common policies have been used to overcome overcrowding, the use of multi track year round schooling and mobile classrooms. Due to the rapid population growth, there is a high level of crowding in schools. Teachers report that crowding affects their ability to facilitate classroom activities, alters their instructional techniques, and leads to burnout RiveraBatiz & Marti (1995). Most of the evidence on mobile classrooms, which is summarized by Chan (2009) comes from qualitative case study analyses or simple descriptive quantitative methods which says that portable classrooms have little impact on student achievement but more sophisticated studies are needed. Graves (2010, 2011) studies the impact of multi track year round calendars using school level longitudinal data from California.

In contrast to earlier research, her data includes both fixed effects and school time trends. Once these are controlled, her estimates show that schools with multi track calendars score slightly lower than traditional schools. The effect is larger when schools are critically overcrowded. In the present study, it has been found that multi track year round schools have no significant impact on student achievement. The primary identification strategy relies on repeated observations of students over a period of time. More than half of the students were attending schools that were overcrowded. The empirical challenge in estimating the causal impact of school crowding on achievement is that students are not randomly allocated into overcrowded schools, and policy responses might not be randomly allocated across schools.

It may be that high achieving students are attracted to a particular school, increasing demand and causing high levels of crowding in these schools or schools with fewer resources and low performing students may not be able to address rapid growth issues. The results indicate that the reading achievement of students is not significantly affected by crowding but there is a negative impact on mathematical achievement. Some evidence shows that year round schools have a small negative impact on achievement, but they offset some of the effects of crowding. The use of mobile classrooms has a small adverse impact on achievement but they are able to offset some effects of crowding. It is difficult to generalize these findings to other similar populations due to the policies and demographic population, the results maybe different and bring out new insights elsewhere (Carolina Steven C.McMullen, Kathryn E. Rouse, 2012)

Medical literature has also shown great interest in the health of people living in overcrowded conditions, i.e., in houses or apartments that are too small for their families. It has been well established that individuals living or having lived in such conditions are sick more often than others, particularly due to respiratory insufficiency and pulmonary problems (Britten et al., 1987, Rasmussen et al., 1978, Mann et al., 1992). In general, people who grow up in overcrowded

housing die at a younger age than others Coggon et al. (1993), Deadman et al.,(2001), most notably of cancer (Barker et al., 1990). This paper studies the causal effect of living in an overcrowded home on performance at school in France. There is a strong correlation between performance at school and housing conditions regardless of socioeconomic status of the parents or the family size. An econometric analysis was done to check the effect of overcrowding on schooling outcomes using the sex composition of the children as instrumental variables (Dominique Goux, Eric Maurin, 2004).

Schools and colleges need to focus on the size of the classrooms as well as the number of children in each class, keeping the minimum number of students for optimal levels of instruction. This will bring about a positive environment for learning and will work for the benefit of students and teachers. The classes could be arranged in a flexible manner so that students get individual attention and there is no extra stress. Online modes of communication between students and teachers could be made possible so that students could finish their work and upload it. This will also help the teacher optimize and check on each child's level of development (Geetu Hotwani, Tripathi.S.K 2015)

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