



PRESENT CONTEXT OF POPULATION DENSITY IN STUDENT'S MOTIVATION AND ACADEMIC ACHIEVEMENT: A SYSTEMATIC REVIEW

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ABSTRACT

"An educated, enlightened and informed population is one of the surest ways of promoting the health of a democracy"- Nelson Mandela

In many developing countries, low population density may be a major reason for low school participation in rural areas, and the problem is likely to worsen with rapid urbanization. However, few studies have investigated empirically the role of population density in rural education, especially the moderating effect of population density on the outcomes of education policies. In this regard, the researcher has reviewed some of the studies from the various web sources and found recent studies i.e. from 2015 to 2022. The main aim of the study is to identify the reasons for population density for students' motivation and academic achievement. Thus, the population density used in this study may not accurately reflect the local population density of each participant's neighborhood. Second, the relationship between step count and population density was investigated with considerations for only gender and school grade. These results suggest the importance of studies of physical activity determinants in extremely high density areas in an effort to inform effective interventions.

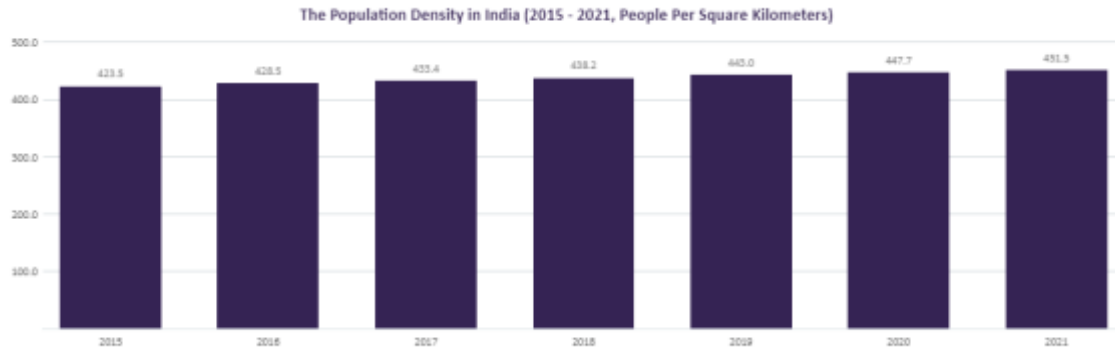
KEY WORDS: *population density, motivation, academic achievement and distribution*

INTRODUCTION

Despite the potential significance of population density for rural education, there are few relevant empirical studies on this topic. There are several studies about economies of scale in education, impacts of commuting and boarding, and even teachers' willingness to serve in remote schools (Sargent and Hannum, 2005; Luschei, 2012; Li and Liu, 2014; Wei, 2016), but an overall evaluation of the causal effect of low population density on rural children's educational attainment is lacking. However, such evaluations are crucial for making projections and guiding actions. One reason for the research gap may involve endogeneity of population density. It is difficult to specify exogenous sources of variation in rural population densities and identify the causality between rural school participation and local population density. Nevertheless, another approach is to identify the effects of educational policies affecting various regions and examine heterogeneity of policy effectiveness among regions with different rural population density.

The density of the urban population spreads by land function and geographical condition of the urban land. An understanding of the population density and pattern of distribution will help planners understand the pattern of urban development and urban dwelling trends. Population density and its distribution can be seen through the trend of population density based on the distance of the sub-district center to the city center.

As a study conducted by Yin et al. (2010) showing the effect of population density on the amount of car ownership and fuel consumption. By knowing this condition, the government will be able to make policy to prevent negative impact. The location of settlements located in the city center will also affect the mobility of the population. This may affect urban policy. Research conducted by Papageorgiou (2014) shows the condition of the urban community's tendency to live in areas close to the city's economic centers or markets.



Source: Global data Published June 2022

Population density of India reached 451.46 people per square kilometer in 2021 India witnessed a population density growth of 6.65% between 2015 to 2021 and is expected to grow by

2025. Uttar Pradesh was the most densely populated state in the country in 2021

MATERIALS AND METHODS

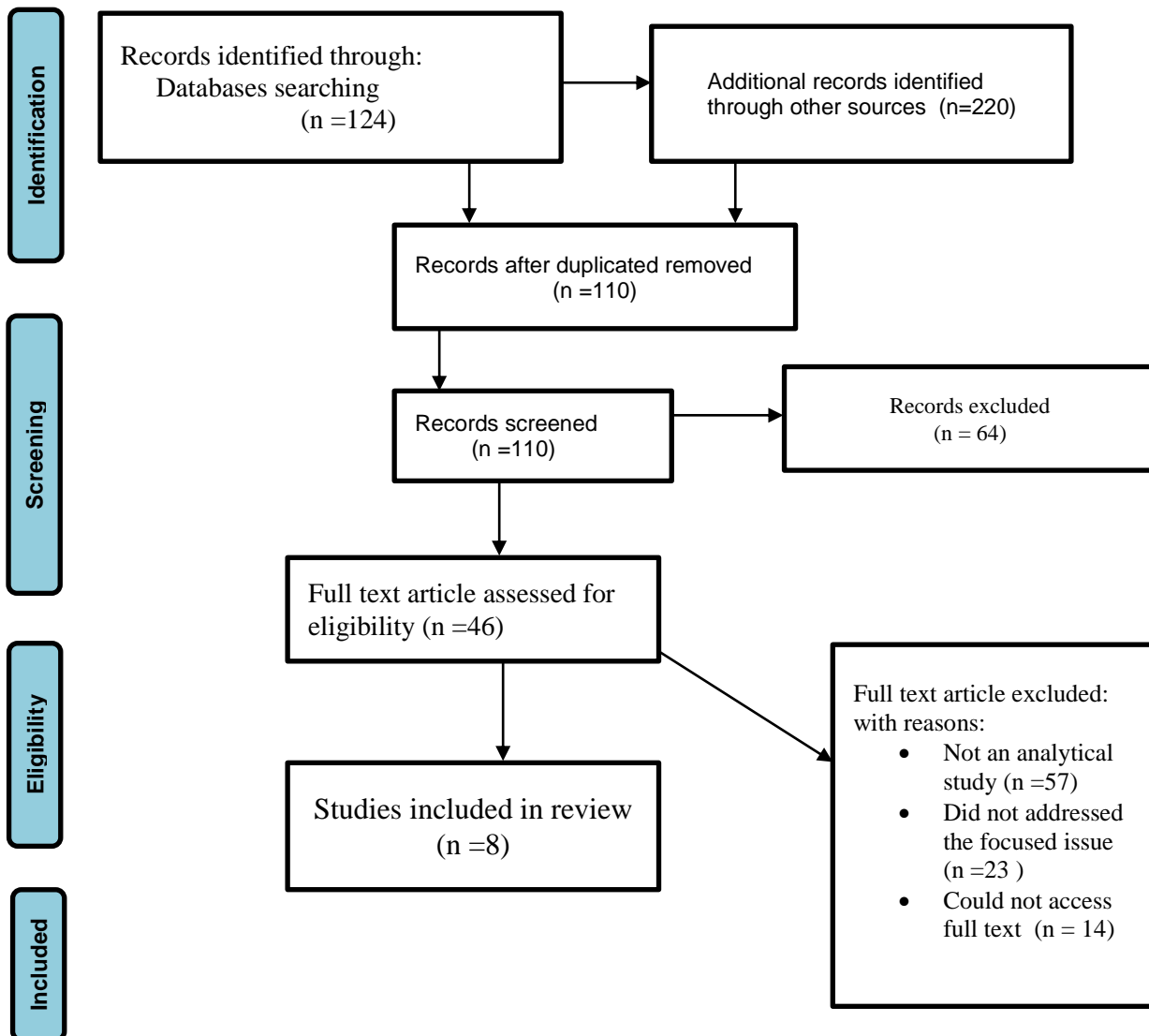


Figure 2: PRISMA flow diagram of review search for research question



QUALITY ASSESSMENT

Saad AlQuhtani (2022) investigated the spatial distribution of boys' public elementary schools in Najran city. Spatial equity in the provision of educational services is a major component to provide a healthy and cheerful living environment in cities. Experts accordingly, set many standards for selecting school locations. Consequently, the study concluded by showing suitable locations for future schools and recommended that planners provide elementary schools in deficient districts and enhance equitable distribution of elementary schools throughout the city.

Xi Zhang, Scott Rozelle (2022) study aims to fill this gap in the literature. From 1999 through the early 2000s, China launched a set of major nationwide policies aimed at universalizing 9-year compulsory education in rural areas. In many developing countries, low population density may be a major reason for low school participation in rural areas, and the problem is likely to worsen with rapid urbanization. However, few studies have investigated empirically the role of population density in rural education, especially the moderating effect of population density on the outcomes of education policies. This study provides evidence that population density indeed matters in rural education. In the short run, policymakers should deal with immediate problems associated with low population density, such as long commuting.

Sho Furuichi (2022) examined the quantitative relationships between population density and school size, the number of schools, and other school characteristics (i.e. packing density, volume, and cross-sectional area) in three species of small pelagic fishes: Japanese anchovy *Engraulis japonicus*, Japanese sardine *Sardinops melanostictus*, and chub mackerel *Scomber japonicus*. They found that school size increased almost linearly with population density, whereas the number of schools and other characteristics increased non-linearly with population density, whereby the rate of increase slowed radically as population density increased.

Ida Bagus Ilham MALIK (2019) the researcher opined that the population density and its distribution can be seen through the trend of population density based on the distance of the sub-district center to the city center. Usually, the population density will be high in the city center and will decrease to the suburbs. The research was conducted in 15 cities across Indonesia spread across several main islands of Indonesia and with a diverse population such as geographical area and geographical conditions.

Dr. Ranu Pariyar (2018) studied the population awareness among higher secondary levels school teachers. The study aimed to identify the area wise and gender wise the population awareness among teachers. The descriptive study was focused on various intervention of population programme viz. literacy, health, small family norms, population growth awareness.

A very interesting study of population density is done by Moos (2015). This study was conducted by looking at the effect of population age on city density and distribution of population density. The results of this study indicate the pattern of population distribution that tends to the economic and market areas. This can affect the population's tendency to

use the car as a mobility tool. Because young age gives influence to the desire to own a car. And this will also have an effect on the environment.

Research conducted by Guneralp et al. (2017) indicates that an increase in home demand has an effect on energy consumption. Meanwhile, the increase in the number of housing caused by the increase of population and the distribution of urban population density. Therefore, control of population density is considered important in order to suppress global warming. Population density presented in spatial format has also been done by Jones et al. (2016). They conducted research on population density on a continental, national, and sub-national scale that had differences in grid cells. The presentation of spatial population density helps us to better understand the pattern of population density.

DISCUSSION

The results indicate that the population number and schools within the city are not equidistributed. Some districts are experiencing a glut and concentration of schools, especially in old, fully developed, and highly populated districts, while most of the new eastern districts suffer a lack and have no adequate access to schools. Also, half of the city districts do not have elementary schools Saad AlQuhtani (2022). The policies significantly increased the probability of junior high school enrollment of rural children and, more importantly, these policies were more effective in densely populated regions. These findings confirm the importance of population density to rural education Xi Zhang, Scott Rozelle (2022).

The results indicate that the schooling behaviour of small pelagic fishes is density-dependent, and responses to changes in density are species-specific. Our results provide insight into how biological interactions such as intra- and inter-specific competition and predator-prey interactions mediate the density-dependent processes that underlie the population dynamics and community structure of small pelagic fishes in marine ecosystems Sho Furuichi (2022). The study found the difference between male and female teachers of both urban and rural secondary schools. They also found that the urban teachers have more population awareness than the rural teachers and female teachers have more literacy and small family norms awareness than male teachers (Dr. Ranu Pariyar, 2018). Results show that the densest population will be in the center of the city as an economic area, and its density decreases as it progresses further from downtown. This indicates that the population density will rise if it is close to the location of economic activity i.e. downtown, and will decrease when away from the city center (Ida Bagus Ilham MALIK 2019).

CONCLUSION

The issue of density must also be viewed through the psychological implications from the study of territoriality of place according to Banghart and Trull (1973). We know that the student is always dependent on the environment for psychological and sociological clues. The student is always interacting with the physical environment. Since the school is a social system within the cultural environment, we should



consider social distance as it relates to crowding and density. The designs of schools have undergone many transformations since their inception. From one room buildings to campuses that included specialized spaces, schools continue to address the needs of rising enrollments and a diverse population. School size, class size, and density, along with technological needs and flexibility are all concerns for today's school designers.

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