



**USAID**  
FROM THE AMERICAN PEOPLE



BUILDING HEALTHY CITIES



# BUILDING HEALTHY CITIES

## Baseline Assessment Report: Health Promoting Schools in Indore



September 2020

# CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>ii</b>
<b>INTRODUCTION .....</b>	<b>1</b>
<b>BACKGROUND .....</b>	<b>2</b>
<b>OBJECTIVES .....</b>	<b>4</b>
<b>METHODOLOGY .....</b>	<b>4</b>
<b>RESULTS .....</b>	<b>5</b>
<b>DISCUSSION .....</b>	<b>16</b>
<b>CONCLUSIONS .....</b>	<b>18</b>
<b>REFERENCES .....</b>	<b>20</b>

Note: Annexes are available in the Annex Supplement document.

# ACRONYMS

BHC	Building Healthy Cities
HPS	health promoting school
JSI	JSI Research & Training Institute, Inc.
JSIPL	John Snow India Private Limited
MPVHA	Madhya Pradesh Voluntary Health Association
USAID	United States Agency for International Development
WHO	World Health Organization

## Building Healthy Cities

Building Healthy Cities is a five-year cooperative agreement funded by the United States Agency for International Development (USAID) under Agreement No. AID-OAA-A-17-00028, beginning September 30, 2017. Building Healthy Cities is implemented by JSI Research & Training Institute, Inc. (JSI) with partners International Organization for Migration, Thrive Networks Global, and Urban Institute, and with support from Engaging Inquiry, LLC.

This report is made possible by the generous support of the American people through USAID. The contents are the responsibility of Building Healthy Cities and do not necessarily reflect the views of USAID or the United States Government.

## Recommended Citation

Bachani, Damodar, Amanda Pomeroy-Stevens, Alsa Bakhtawar, Neeraj Mishra, Mukesh Sinha, and Ashish Daniel. 2020. *Baseline Assessment Report: Health Promoting Schools in Indore*. Arlington, VA: Building Healthy Cities (BHC) project.

## Acknowledgements

We thank the Chief Executive Officer of Indore Smart City Development Limited and officers of the Education Department of Indore for their guidance, and the principals of all government middle, high, and higher secondary schools of Indore City for their cooperation and support.

## EXECUTIVE SUMMARY

There is a well-documented and persistent association between education and health. Adolescence has also been identified as a critical time frame for changing health behaviors and instilling healthy habits. The development of health promoting schools (HPS) is an opportunity to target adolescents with the goal of creating lasting behavioral change. In addition, schools and teachers play a critical role in their community, and can be leaders in establishing healthy behaviors beyond school walls.

The Building Healthy Cities (BHC) project is funded by the United States Agency for International Development (USAID) and is implemented in Indore City by Indore Smart City Development Limited, John Snow India Private Limited (JSIPL), and JSI Research & Training Institute, Inc. (JSI). The objective of BHC is to make Indore a “healthy, liveable, Smart City for all.” BHC employs a systems approach working across multiple sectors, including education, in pursuit of this objective. One of BHC’s multisector initiatives in Indore is to implement a HPS approach in middle, high, and higher secondary city schools. This activity includes a series of assessments of schools to provide data on gaps and improvements, complemented by a training of teachers on HPS topics, and addressing identified gaps through school-led interventions. To assess schools’ progress, BHC began with a baseline assessment in 2019.

The objectives of the baseline assessment were to:

- Understand and identify the gaps in infrastructure, healthy school policies, healthy physical and social environment, links with the community, competencies for healthy living, and health care and promotion services in the selected government schools.
- Share findings of the baseline assessment with concerned government departments for necessary actions.

All 148 middle, high, and higher secondary government schools in Indore City of Madhya Pradesh were assessed using a tool developed by adapting World Health Organization guidelines. Key factors included in the assessment were healthy school policies, healthy physical and social environment, links with the community, competencies for healthy living, and health care and promotion services.

Most schools provided a secure social environment and healthy physical environments including safe drinking water and separate toilets for boys and girls. But there was high deficiency in food safety practices, deworming services, oral health services, and maintaining health records. Restriction of the sale of tobacco products, alcohol, and illicit drugs near school premises was lacking; less than 30 percent of schools had policy/strategy to phase out these products from within the campus and neighborhood. A majority of schools did not have a sports teacher, and approximately one-third did not have spaces for physical education. More than 80 percent of the schools did not train teachers or students in first aid or infectious disease prevention.

Overall, there were 98 thematic indicators across key attributes for schools to follow. With a maximum possible score of 98, 42 (28 percent) schools scored <50; 54 (36 percent) scored between 50 and 59, 44 (30 percent) between 60 and 69; and only 8 (5 percent) scored 70 or more.

School authorities and other stakeholders need to address the identified deficiencies to help the majority of schools meet HPS standards. The city could facilitate peer-to-peer learning between schools that are meeting most of the requirements and others that scored less well to figure out cost-effective ways to meet all standards. Further research is needed to understand the reasons for any persistent deficiencies. BHC will include qualitative data collection as part of the post-assessment to explore this. Depending on results of the second assessment, schools will be eligible to receive a certification of their status as a HPS.

# INTRODUCTION

There is a well-documented and persistent association between education and health across nearly every country and many studies (Cutler and Lleras-Muney 2006). This association is even greater for girls through completion of at least high school, and women's education has been shown to improve the health of their children (PRB 2011; Ross and Mirowsky 2010). Adolescence has also been identified as a critical time frame for changing health behaviors and instilling healthy habits (Kolbe 2019). Development of health promoting schools (HPS), through training of teachers and ensuring healthy physical and social environments, introduces health-related topics to children, preparing them to care for themselves and their families throughout their lives.

The Building Healthy Cities (BHC) project is funded by the United States Agency for International Development (USAID) and is implemented in Indore City by Indore Smart City Development Limited, John Snow India Private Limited (JSIPL), and JSI Research & Training Institute, Inc. (JSI). BHC engages with various sectors that contribute, directly or indirectly, with citizens' health and quality of life. These sectors include:

- Health.
- Urban planning and development.
- Information and communications.
- Women and children.
- Nutrition and food safety.
- Education.
- Water and sanitation.
- Waste management.
- Environment and natural resources.
- Transport.
- Tourism and commerce.

This multi-sector engagement, the first core value of BHC, aims to provide all municipal sectors a common understanding of how they contribute to health; this includes education. The second BHC core value is to strengthen community engagement in municipal decision-making. Specifically, BHC is dedicated to building community awareness and capacity of how to engage decision-makers to improve their quality of, and access to, services and information. Schools and teachers also play a critical role in each community, and can be a positive conduit for active community participation in healthy behaviors in each neighborhood. BHC supports using data for planning and decision-making as the third core value of the project.

Informed by these three core values, BHC has launched a HPS initiative in middle, high, and higher secondary city government schools. The initiative includes several components: baseline data collection via an assessment of schools to identify gaps; teacher training on HPS topics; problem solving on how schools can address identified gaps; and completion of a final assessment to identify improvements and award HPS status to schools. This report summarizes the findings from the first component, the baseline assessment.

## BACKGROUND

According to the data presented by the World Bank, 27 percent of India's population was between 0–14 years in 2018 (World Bank 2019). The Unified District Information System for Education 2015–16 school enrollment data reveal that the gross enrollment ratio at primary level is 99 percent, whereas at upper primary, secondary, and senior secondary levels, it is 93 percent, 80 percent, and 56 percent respectively (Ministry of Statistics and Programme Implementation 2018). Some of this drop-off is due to social norms, including the approximately one-quarter of girls who are married before the age of 18 (United Nations Children's Fund 2019). In addition to falling enrollment rates, government schools face infrastructure challenges, including a lack of gendered toilet facilities and space for physical activity.

Adolescents of school age face myriad health concerns. According to the National Mental Health Survey 2015–16, the prevalence of mental disorders in 13–17-year olds was 7 percent and nearly equal in both genders. These 9.8 million adolescents need active interventions. Mental disorders are nearly twice as present in urban than rural areas (14 and 7 percent, respectively) (National Institute of Mental Health and Neuro Sciences 2016). A survey by National Sample Survey Organization of the Indian Government showed that about 20 million children ages 10–14 years were addicted to tobacco (Ministry of Statistics and Programme Implementation 2018). According to the Protection of Children from Sexual Offences Act 2012, as high as 34 percent of total crimes reported against children were sexual offenses (National Crime Records Bureau 2018). Malnutrition also continues to be a major issue, with a recent UNICEF report finding that over 80 percent of adolescents suffer from “hidden hunger,” or micronutrient deficiencies (UNICEF 2019). Policy makers and public health professionals must focus on a seemingly endless list of health-impacting behaviors and conditions.

Schools are an important starting point for addressing public health challenges. Young people are one of India's precious resources, yet their health and safety as they grow and develop is affected by several intrinsic and extrinsic factors. The World Health Organization (WHO) first advocated HPS, which it defines as those that strengthen capacity as a healthy setting for living, learning, and working (World Health Organization n.d.). The Bhore Committee in 1946 (Kaur et al. 2015) stated that school's goal is to promote the maximum physical, social, emotional, mental, and educational growth of students by adopting health promoting policies and practices.

### Overview of Indian Education System

The school education system in India is one of the largest in the world, serving more than 260 million young people each year. Education in India is provided by public and private schools. Under various articles of the Indian Constitution, free and compulsory education is provided as a fundamental right to children between the ages of 6 and 14 years. There have been many national and state-level initiatives to improve access to schooling, particularly for children who are economically or socially disadvantaged. Competition from private schools has led to government efforts to offer parents and children high-quality education that will improve life opportunities.

The approximate ratio of public to private schools in India is 7:5 (Department of School Education & Literacy n.d.). Some private schools have poorer facilities and



infrastructure than government schools. Public schools are run by the central government, state governments, or public sector bodies, and are wholly financed by the government. Examples of these types of schools are state government schools (by far the largest single group), *Kendriya Vidyalayas* (central schools), *Navodaya Vidyalayas*, *Sainik* schools, and military schools (including air force and naval schools). In most states, the government school week runs from Monday to Friday (full days) and Saturday (either half day every week or full day on alternate Saturdays). In some locations (mainly urban) enrollment is oversubscribed so some schools offer a double shift, repeating classes in the morning and afternoon for a different cohort (e.g., grade level or gender). The school year usually includes around 200 days of study, typically from June or July to April or early May. May, the hottest month in many states, is the time of the longest school vacation. October and November in many states include a number of public holidays (e.g., Diwali). Examination preparation typically begins as early as February, with exams in March or April, although in high-stake grades (10 and 12), the whole academic year may be oriented to examination preparation.

## Primary Education

Primary education, which consists of lower primary (Standards I–V) and upper primary/middle (Standards VI–VIII), is compulsory and free in India. Primary education begins at the age of 6 years and ends at 14. Hindi or one of the regional languages is the medium of instruction for most primary schools and English as a second language generally begins by grade 3.

## Secondary Education

Secondary education begins in grade 9 and lasts through grade 12. The secondary stage is broken into two two-year cycles, generally referred to as general/lower secondary school, or 'Standard X,' and upper/senior secondary school, or 'Standard XII.' Secondary education in government schools is free, but private education is more common and is typically preferred at this level. Public examinations are held at the end of both cycles and grant access to grade 11 and university-level studies, respectively. General curriculum for lower secondary school in India consists of three languages (including Hindi or regional language, an elective, and English), mathematics, science and technology, social sciences, work/pre-vocational education, art, and physical education. Secondary schools are affiliated with central or state education boards that administer the Secondary School Certificate at the end of grade 10.

Based upon performance in the first two years of secondary school, and upon the examination results, students may enter senior/upper secondary school. Upper secondary school offers students a chance to select a 'stream' or concentration of study in science, commerce, or arts/humanities. Education is provided in both schools and two-year junior colleges, which are often affiliated with degree-granting universities or colleges. Curriculum for the Higher Secondary Certificate Examination is determined by the boards of secondary education, of which there are 31 in the country. Although this is the most common Standard XII examination, the All India Senior School Certificate of Central Board of Secondary Education, Indian School Certificate, Certificate of Vocational Education, Senior Secondary Certification, Intermediate Certificate, and the Pre-University Certificate are also offered.

## OBJECTIVES

- Understand and identify the gaps in infrastructure, health-related policies, healthy physical and social environment, links with the community, competencies for healthy living, and health care and promotion services in the selected government schools.
- Share findings of the baseline assessment with concerned government departments for necessary actions.

## METHODOLOGY

This quantitative assessment covered all 148 middle, high, and higher secondary government-sector schools in Indore City. All primary schools and those run by the private sector were not included in the study. This assessment forms the baseline of an evaluation of the HPS training program. Baseline assessment data were collected 1–2 months before the start of the HPS trainings of teachers in batches.

Our assessment tool (survey questionnaire) was adapted from the WHO Health Promoting Schools Monitoring Tool (World Health Organization 2009) and provided by the BHC team. The assessment (and this report) are organized by the six **key factors**, listed below. Each key factor has **key attributes**, and each key attribute has recommended **action points**, as follows:

1. Healthy school policies (13 key attributes with 30 action points).
2. Healthy physical environment (6 key attributes with 26 action points).
3. Healthy social environment (5 key attributes with 10 action points).
4. Links with the community (2 key attributes with 9 action points).
5. Competencies for healthy living (4 key attributes with 13 action points).
6. Health care and promotion services (3 key attributes with 10 action points).

BHC collected data to assess compliance with these key attributes. The final scoring is based on a count of the total 98 action points, not a normalized scale of 100 percent.

### Data Collection

Initially, the District Education Officer issued an order to facilitate the baseline assessment in government schools. BHC contracted Madhya Pradesh Voluntary Health Association (MPVHA) to conduct the assessment. MPVHA selected experienced field investigators to collect the baseline assessment data from the schools and trained them during a one-day orientation. The identified list of schools was shared with the team of investigators. Three teams were formed, each consisting of two field investigators. The baseline assessment began on November 1, 2019 and ended on December 5, 2019. The data were collected in a pre-tested assessment tool developed in Hindi. Most of the information came from principals or head masters. Investigators made on-the-spot observations while collecting the data and took photos of good practices.



## Data Entry and Analysis

After hard-copy collection, the recorded data were entered in Microsoft Excel and analyzed with EPI-INFO version 7.2.4.0 by key factor and key guideline areas.

The analysis was done by classifying the schools into three categories (middle, high, and higher secondary schools). These schools were sub-classified on the basis of gender (boys', girls', and co-educational schools). Scores were created by counting total of 98 questions correct (i.e., a perfect score was 98 points), per WHO guidelines.

## RESULTS

### Profile of Schools Assessed

The majority (59 percent) of schools assessed were co-educational. Twenty-five percent were girls-only and 16 percent were boys-only.

Table 1. Type of Government Schools Assessed in Indore City

Type of School	Boys'	Girls'	Co-education	Total	
				Number	%
Middle	16	23	65	104	70
High/higher secondary	8	14	22	44	30
<b>Total number</b>	<b>24</b>	<b>37</b>	<b>87</b>	<b>148</b>	
<b>Percent</b>	<b>16</b>	<b>25</b>	<b>59</b>		

Overall, 1,369 teachers were counted across 148 schools at the time of the study, with a mean of 9.3 teachers per school. There was an average of 6.3 teachers per middle school, and 16.3 teachers per high/higher secondary school.

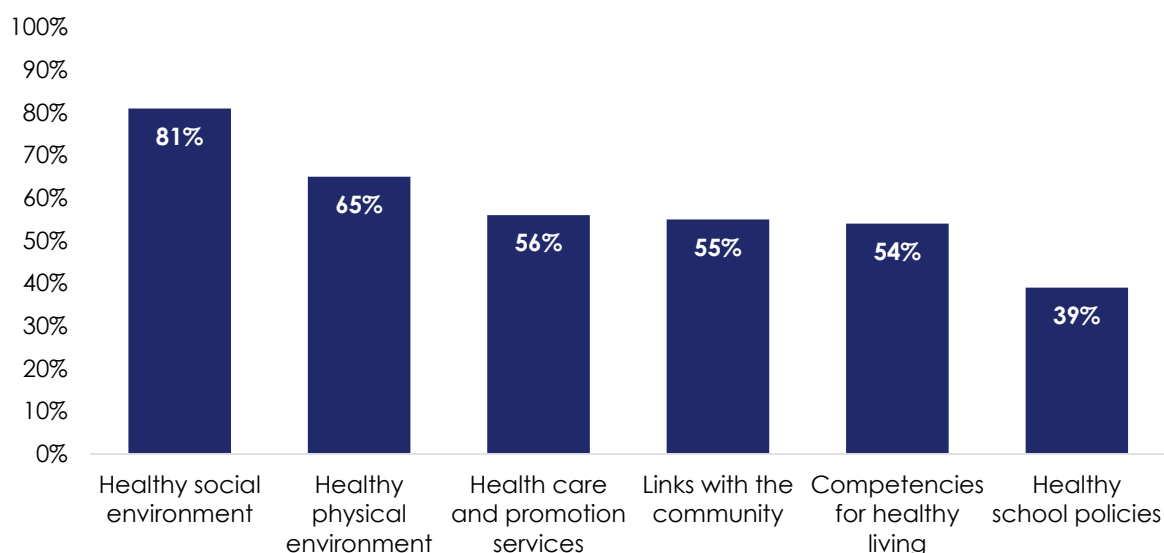
Table 2: Number of Teachers in Government Schools Assessed in Indore City

Number of Teachers	<5	5–9	10–14	15+	Total	
					Number	Mean
Middle schools	52	37	9	6	<b>651</b>	<b>6.3</b>
High/higher secondary schools	1	11	10	22	<b>718</b>	<b>16.3</b>
<b>Total number</b>	<b>53</b>	<b>48</b>	<b>19</b>	<b>28</b>	<b>1,369</b>	<b>9.3</b>
<b>Percent</b>	<b>36</b>	<b>32</b>	<b>13</b>	<b>19</b>		

## Compliance across Key Factors

The assessment findings showed significant variation in compliance and deficiencies across the key factors. Figure 1 shows average compliance by the six key factor areas.

Figure 1. Average Compliance with Six Key Factor Areas (Percentage)



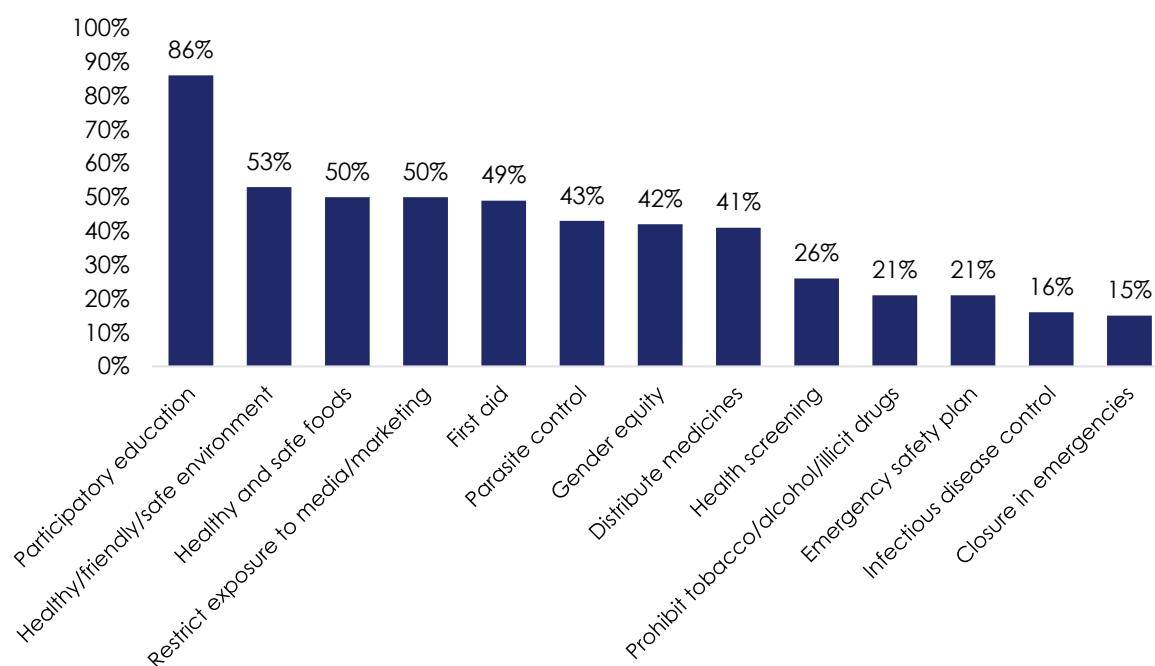
Compliance with healthy social environment and healthy physical environment were 81 and 65 percent, respectively. Compliance with health care and promotion services, links with the community, and competencies for healthy living were between 54 and 56 percent. Compliance with healthy school policies lagged behind, at 39 percent.

## Healthy School Policies

Figure 2 shows average compliance on the 13 key attributes in this key factor area. Supplemental Table 3 (see Annex Supplement<sup>1</sup>) provides average compliance for all 30 action points in this key factor area. There were major deficiencies related to policies on health screening, tobacco, alcohol and drug abuse, control of infections, and safety planning and management of emergency situations.

<sup>1</sup> Bachani, Damodar, Amanda Pomeroy-Stevens, Alsa Bakhtawar, Neeraj Mishra, Mukesh Sinha, and Ashish Daniel. 2020. *Annex Supplement: Baseline Assessment Report: Health Promoting Schools in Indore*. Arlington, VA: Building Healthy Cities (BHC) project.

Figure 2. Average Compliance with Key Attributes of Healthy Policies (Percentage)



### Policy on healthy and safe foods

More than two-thirds (68 percent) of schools had taken action to ensure that healthy, and where possible and appropriate, locally grown food is available to students. Four in five (80 percent) schools responded that healthy food is available at social events like sports days, Independence Day, Republic Day, etc. However, few schools (3 percent) had any policy for food vendors to be approved by school or health authority before selling food to students in or around schools.

### Policy on prohibition of tobacco, alcohol, and illicit drugs

Every school should be tobacco-free and prohibit use of alcohol and illicit drugs. It was observed that only three of every 10 (29 percent) schools had a tobacco-free policy/strategy for phasing out smoking and tobacco chewing within the premises and in a radius of 100 meters outside school premises. Few schools (13 percent) had an action plan to eliminate alcohol and illicit drugs in and around school premises and in all school activities.

### Policy on gender equity

Schools should uphold equity by ensuring that girls and boys have equitable access to school resources and opportunities. More than half (57 percent) of schools reportedly did not differentiate among boys and girls with respect to the use of play space, equipment, teacher time, and sanitary and other resources. However, only half (26 percent) of these schools had taken any action to eliminate inequities between girls and boys.

## Policy on distribution of medicines

There were some programs that made some medicines (e.g., for deworming), supplements (iron tablets) and sanitary napkins available in schools (50 percent of schools offered this last item). Only 35 percent of schools kept records of supplies received and used. Only 37 percent of schools received advice from the health department on supply storage and utilization.

## Policy on first aid

Only half (53 percent) of schools had first-aid kits. Training in first aid was dismal; only 18 percent of teachers and 12 percent of students were trained in first aid procedures. Nearly 45 percent of schools had procedures in place for referral of a sick student or teacher requiring emergent attention in a hospital.

## Policy on parasite control

Nearly half (49 percent) of schools reported that students were taught how to prevent worms and other parasitic infections. In 37 percent of schools, treatment for worms was provided to children, though deworming medicines are provided by the health authorities.

## Policy on health screening

As per school health program, all children need to be screened by a health team at least once a year. Only one in four (26 percent) schools followed this policy.

## Policy on closure in the event of emergencies

Every school should have a policy on closure in the event of emergencies and other circumstances that endanger student health. Such policies varied widely based on type of emergency; 33 percent had policy related to extreme heat or cold weather; 20 percent related to health-threatening sanitary conditions; 5 percent for disruption of water supply; and 1 percent for infectious disease outbreak.

## Policy on emergency safety plan

Many schools lacked emergency response to fire or other natural calamities like flood, storms, and earthquake. One in four (24 percent) had an emergency exit policy in case of fire. Preparedness for other natural emergencies was observed only in 18 percent of schools.

## Policy on infectious disease control

Most of the schools (79 percent) were not prepared to respond to situations that threaten spread of infectious diseases like tuberculosis by spitting and HIV by blood spill or needle prick. Only 12 percent of schools trained teachers or other staff on infectious disease prevention and management.

## Policy on participatory education

Almost all schools (99 percent) organized student-led activities, and a large number (93 percent) had fora like unions for students to express their opinions and ideas. Two-

thirds of schools also initiated interactive activities with peers and communities under supervision of teachers.

## Policy on restriction of exposure to media and marketing

Fifty percent of schools had a policy to scrutinize all products to which the students are exposed in the school community.

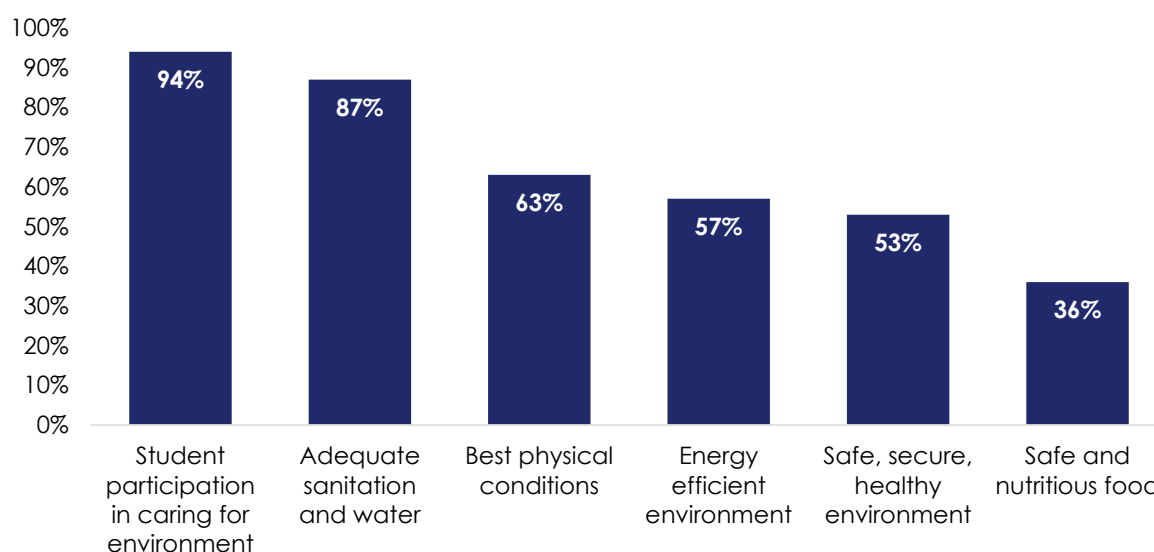
## Policy on healthy, friendly, and safe environment

More than half (53 percent) of schools had an action plan to enhance physical and social environments for students, their parents, and community leaders.

## Healthy Physical Environment

Figure 3 shows average compliance on the six key attributes in this key factor area. Supplemental Table 4 (see Annex Supplement) provides average compliance for all 26 action points in this key factor area. There were major deficiencies related to safe and nutritious food. Compliance with action points related to energy conservation and recycling was also deficient.

*Figure 3. Average Compliance with Key Attributes of Healthy Physical Environment (Percentage)*



## Safe, secure, and healthy environment

Sports are part of schooling and school authorities must keep student safety in mind when selecting a sport and purchasing equipment. Two in three schools (65 percent) complied with safety guidelines. Nearly 70 percent of schools had procedures to protect students from unwanted visitors. Nearly 60 percent of schools conducted regular checks to prevent breeding of flies, mosquitoes, and rats. However, only one-third (35 percent) conducted periodic safety audits of buildings, equipment, etc. Actions to reduce traffic and tobacco hazards were also low (38 percent).

## Adequate sanitation and water

This is a basic need and was given high priority in the government schools. Most of the schools (86 percent) had sufficient number of toilets, separate for males and females, and connected to a functioning sewerage system. Safe and clean water for drinking, hand washing, and food preparation was also available in most (88 percent) of the schools.

## Energy efficient environment

Use of disposable plastic containers was discouraged by almost all schools (97 percent). In many schools (89 percent), the curriculum provided opportunities for students to learn about environmental issues. Conservation of energy and use of renewable energy sources was practiced in nearly 30 percent of schools. Recycling of paper, glass, etc. was observed in only 14 percent of schools.

## Safe and nutritious food

More than two-thirds (69 percent) of schools reported that unhealthy foods such as colas/burgers were not marketed close to schools. On the other hand, only 13 percent mentioned that only healthy food was available nearby. Only one in four (26 percent) mentioned that food handlers applied precautions on food safety.

## Student participation in caring for environment

Students' participation in keeping the school clean was universal (98 percent). Nearly 96 percent of schools reported that students participated in beautifying the school, for example by planting trees and shrubs. Most (89 percent) schools had an adequate garbage disposal system in place.

## Best possible physical conditions

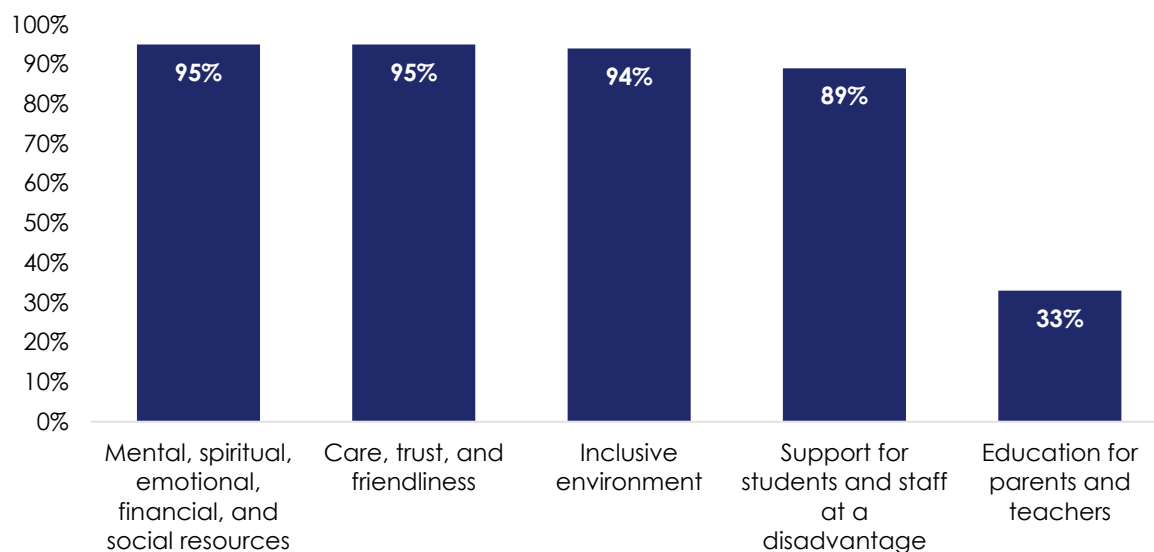
Adequate ventilation and lighting were observed in most (96 percent) of the schools. Adequate teaching and learning spaces (79 percent) and furniture (67 percent), and sufficient playgrounds (68 percent) and sports material (57 percent) were observed in most of the schools. The main constraint observed was the absence of a sports teacher, as only one in six schools (17 percent) had a sports teacher at the time of assessment. Another shortcoming was lack of relief measures in the case of extreme temperatures. Most (82 percent) of the schools mentioned their readiness to explore resources for gaps identified.

## Healthy Social Environment

Figure 4 shows average compliance on the five key attributes in this key factor area. Supplemental Table 5 (see Annex Supplement) provides average compliance for all 10 action points in this key factor area. There were major deficiencies related to responsiveness to educational needs of teachers and parents.



Figure 4. Average Compliance with Key Attributes of Healthy Social Environment (Percentage)



### Mental, spiritual, emotional, financial, and social resources

Nearly 95 percent of the schools promoted self-esteem and resilience of students, and teachers did not use harsh measures for maintaining discipline. Students' participation in decision-making (94 percent) and learning process (98 percent) was encouraged by most of the schools.

### Care, trust, and friendliness

Almost all schools (95 percent) actively discouraged physical and verbal violence, both among students and by staff towards students, and encouraged resolution of conflicts and violence within the school.

### Support for students and staff at a disadvantage

Nine in 10 schools provided support to those students and staff who had special needs. Most of the schools (89 percent) ensured that students who had special needs had access to appropriate facilities and learning aids, and had programs for students coming from less advantaged backgrounds.

### Inclusive environment

Most (89 percent) of the schools provided opportunities to celebrate cultural and religious diversity by various means, (e.g., through food, art, costume, dance, displays, festivals). Universally (99 percent), the curriculum included learning about cultural and religious diversity that exists in the country.

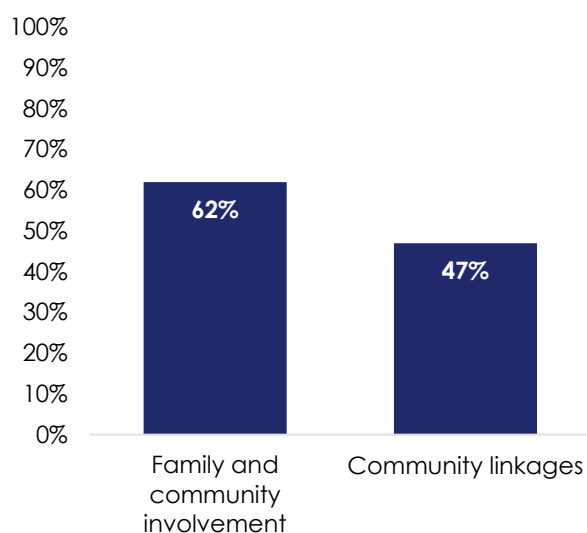
### Education for parents and teachers

Only one in three schools offered educational services for parents and facilitated the formation of parent support groups.

## Links with the Community

Figure 5 shows average compliance on the two key attributes in this key factor area. Supplemental Table 6 (see Annex Supplement) provides average compliance for all nine action points in this key factor area. Average compliance for both key attribute areas was low.

*Figure 5. Average Compliance with Key Attributes of Links with the Community (Percentage)*



### Family and community involvement

Nearly 90 percent of schools reported that students and teachers participated in cultural and sports events. Most (64 percent) mentioned that their curriculum contained health-related activities that involve children and families. However, family involvement in decisions about health-promoting activities, food policies, physical activity, and sexuality education was not high, at 48 percent.

### Community linkages

Local groups and health organizations providing services in the community participated in many schools' activities (58 percent). Nearly half (48 percent) of schools sought guidance from other agencies on emerging health-related issues and shared facilities with health-promoting community members and groups. Many schools (43 percent) informed the community of their health initiatives and functions.

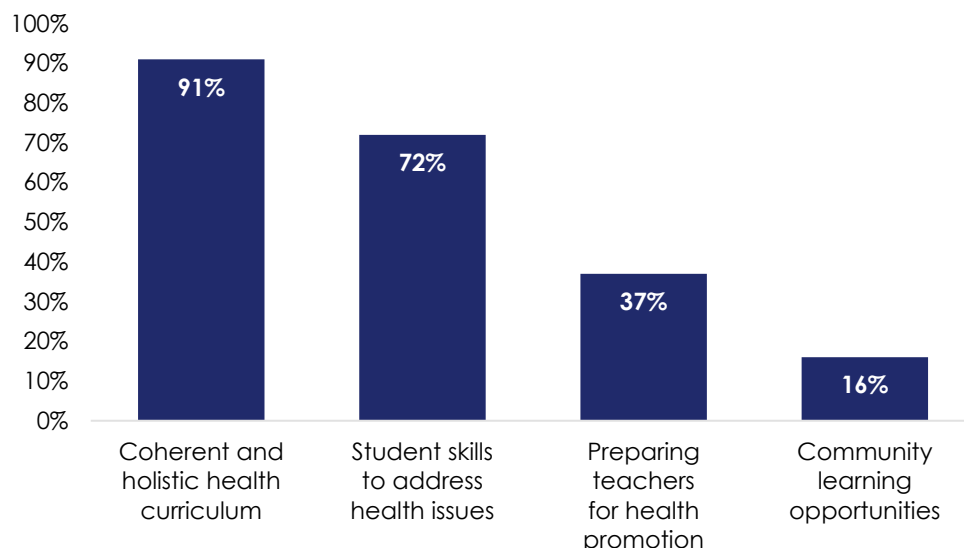
Three in four schools (73 percent) worked with the community to reduce the influence of media and marketing approaches that may be detrimental to student health and well-being. But only 24 percent of schools worked with local media to enhance student and teacher health awareness.

## Competencies for Healthy Living

Figure 6 shows average compliance on the four key attributes in this key factor area. Supplemental Table 7 (see Annex Supplement) provides average compliance for all

13 action points in this key factor area. There were major deficiencies in preparing teachers for HPS and learning about healthy living.

*Figure 6. Average Compliance with Key Attributes of Competencies for Healthy Living (Percentage)*



### Coherent and holistic health curriculum

Most (85 percent) schools said that the health curriculum was interesting and engaging. Ninety-nine percent agreed that it emphasized student participation and empowerment, and 97 percent agreed that it supported health care management and provided learning experiences. However, only three in four schools (76 percent) provided adequate time per week on the health curriculum.

### Improving student skills to address health issues

Nearly 75 percent of schools reported that students gained a basic understanding of nutrition, food safety, hygiene, physical activity, prevention of tobacco and drug use, accident and injury prevention, oral health, and environmental issues. However, opportunities to learn new skills to address health issues (59 percent) and practicing protective behavior and avoiding risky behavior (62 percent) were comparatively lower. A large number of schools (93 percent) reported that these initiatives helped students enhance their own health and well-being and that of their families and community.

### Preparing teachers for health promotion role

Teachers in 37 percent of schools were provided with pre-service and in-service training on health promotion. Teachers in 48 percent of schools were provided with adequate information about health resources to facilitate learning and effective teaching. Authorities of only 26 percent of schools enabled their staff to gain the knowledge and skills necessary to improve their own health.

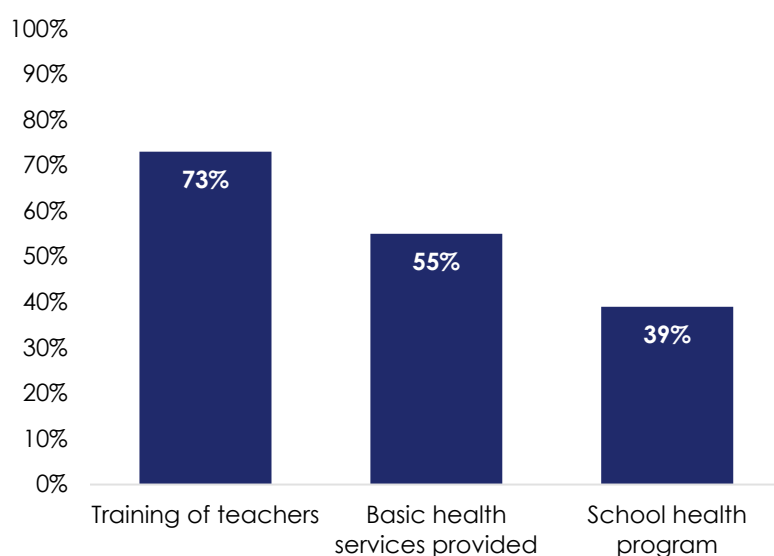
### Facilitating community learning opportunities on healthy living

Only one in six schools (16 percent) facilitated learning opportunities for parents, key health and education personnel, and community members about healthy living.

## Health Care and Promotion Services

Figure 7 shows average compliance on the three key attributes in this key factor area. Supplemental Table 8 (see Annex Supplement) provides average compliance for all 10 action points in this key factor area. There were major deficiencies related to school health programs and some basic health service practices including record maintenance.

*Figure 7. Average Compliance with Key Attributes of Health Care and Promotion Services (Percentage)*



### Basic health services provided

Approximately 60 percent of schools provided or sought basic health services like immunization and student screening for vision, hearing, and physical development. Basic oral health services were provided in 43 percent of schools. Only 37 percent of schools maintained student health records. Counselling and support services were available for socially and emotionally distressed students and those with health problems in three in four schools.

### School health program

Links between the education and health sectors are critical for school health programs. It was observed that only one in four schools had such a collaboration, evidenced by consultation between health services personnel and teachers on the design and implementation of the health-related curriculum (28 percent), and health services personnel complementing the work of teachers (26 percent). But more than 50 percent of schools reported that health service agencies supported health promotion activities and managed local health campaigns.

### Training of teachers

Health services personnel provided teacher training in topics like first aid, deworming, and nutritional supplementation in 73 percent of schools.

## Total Health Promoting Score

The baseline assessment looked at compliance with guidelines and identified deficiencies in each school, so that relevant authorities may address those deficiencies in order to become a HPS. Overall, there were 98 action point indicators across six key factors for schools to follow. Each indicator guideline was given a score of one if it was followed and zero if deficient, with a maximum possible score of 98.

Forty-two (28 percent) schools scored <50; 54 (36 percent) scored between 50 and 59; 44 (30 percent) between 60 and 69; and only 8 (5 percent) scored 70 or more (see Figure 8). Distribution of schools based on scoring showed that girls' schools had a mean score of 56.4; co-educational schools a mean of 55.1; and boys' schools a mean score of 52.6 (see Supplemental Table 12 in Annex Supplement).

Detailed scores for all 148 schools assessed are available in Supplemental Table 13, and a ranking of schools by score is available in Supplemental Table 14 (see Annex Supplement for both tables). The eight schools that scored 70 and above are listed and ranked below (Table 15).

Figure 8. Distribution of Schools (148) in Indore City Based on Score (Max. 98) on Compliance with Action Points for Health Promoting Schools

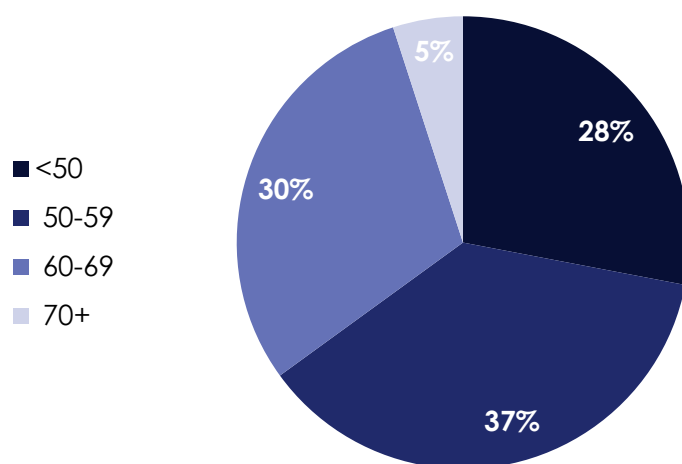


Table 15. Schools Scoring 70 or Above, in Ranked Order

Name	Score	Rank
Govt. HS Ahilya Ashram #1	85	1
Govt. Middle School Excellence Bal Vinay Mandir	85	2
Govt. Girls' Middle School #20	79	3
Govt. Kasturaba Girls' High School, Indore	75	4
Govt. Girls' Middle School #2	75	5
Govt. Sharda Girls Middle School #2	73	6
Govt. Girls' Middle School	73	7
Govt. Sharda Girls School #1	71	8

# DISCUSSION

## Healthy School Policies

Most schools lack an action plan to eliminate access to tobacco, alcohol, and illicit drugs. Gender equity principles need to be reframed and implemented. School authorities need to optimize sanitary napkin distribution. Adequate training with periodic refresher on first aid administration and emergency management needs to be provided to students and teachers. Policies on worm and parasite control in consultation with health officials should continue. School authorities need to schedule regular health check-ups.

Teachers and students must be made aware of how to access fresh water, cope with extreme heat and cold conditions, prevent/manage infectious disease outbreaks, and take appropriate sanitation measures. Policies on natural calamities like floods, storms, and earthquakes, and physical attacks must be addressed. Democratic and participatory education policies that allow students to initiate community activities with teacher guidance and supervision is lacking. Scrutiny of products provided to students and the school community is needed. Synchronization of various school policies is required to facilitate the holistic development of schoolchildren.

## Healthy Physical Environment

Periodic safety audits of school buildings, plants, equipment, and surroundings must be undertaken with support from the community. Adequate sanitation and safe water facilities are available in all schools. Practices supporting a sustainable and energy efficient environment through recycling, energy conservation, and use of non-renewable energy must be established and followed. Food quality in and near schools must be monitored closely. Awareness and adherence to food safety by the vendors is absent and must be improved. Safe and nutritious food is paramount for a healthy physical environment.

Significant provisions are required for relief during extreme temperatures. Encouraging students to participate in sports and outdoor games when it is not too hot and the air quality is good is a healthy endeavor. Available sporting materials should be used and games played safely.

The proverb “a healthy mind rests in a healthy body” remains highly relevant. Each school should be supported with time and money for physical activity, energy conservation, high-quality nutritious food and safe drinking water, and adequate sanitation.

## Healthy Social Environment

A sound school ethos promotes the mental, spiritual, financial, and social development of students. Teachers who foster supportive and cordial environments do not use harsh discipline. A socially healthy school includes students in decision-making and learning processes. Schools should discourage physical and verbal violence among students and staff and encourage creative resolution of differences.

Schools should promote a fully inclusive environment in which cultural, religious, and tribal diversity is maintained through food, arts, language, costume, dance, festivals,



and so on. Curricula should promote “unity in diversity” through modules focused on various cultural and religious thoughts and customs. Educational services like adult literacy and parenting skills and support groups are also encouraged. A healthy social environment is an important aspect of nurturing future parents and leaders.

## Links with the Community

Democratic decision-making is encouraged by involving families in areas such as food policies, development of a school garden, and physical and sexuality education. Curricula should encourage active involvement of parents and community members in school activities. Community involvement is strengthened by participation of students and teachers in local cultural events, sports, and festivals.

There is lack of communication between schools and communities about health initiatives, and not all schools are eager to share facilities with health-promoting community members and groups. Schools should use local media to promote “healthy school days” and work with media and local businesses to improve communication. Student and teacher awareness is required to create a communication environment. Schools should discourage or ban messages and marketing that are detrimental to student health and wellbeing, such as promotion of fast food and colas.

## Competencies for Healthy Living

Schools must approach health topics in a coherent and holistic way that emphasizes student participation and empowerment and supports routine health care. Schools had a mixed response to time spent per week on health curricula. There were few opportunities for schools to give students important health knowledge and skills.

There is lack of opportunity for students to learn protective behaviors and practice putting those skills to use to avoid risky behaviors. Schools should be required to provide teachers with pre-service and in-service training on health promotion and HPS, as well as short courses and refresher workshops on available health resources, with the goal of improving the health of students and staff. There is currently a lack of professional programs to advance the health and well-being of teachers, students, parents, and community members.

## Health Care and Promotion Services

Although counseling was provided to students with health problems, many schools were inconsistent or did not conduct immunization programs, provide periodic oral health checkups, or maintain updated student health records. The assessment found poor communication between health services personnel and teachers about the design and implementation of health-related curricula. The lack of coordination between local health service providers and school staff creates barriers in management of school-supported health campaigns. However, the assessment did indicate that health service personnel provide training to schools on topics such as first aid, deworming, and nutritional supplementation.

## Knowledge Gaps

The findings from this assessment suggest gaps in information on some key areas affecting HPSs in Indore. Some of the issues that require further discussion are listed below.

- Synchronization of school policies to facilitate democratic and participatory policies for holistic development of schoolchildren.
- Provisions required for relief during extreme temperatures.
- Alternate options to promote sports despite the inadequate number of sports teachers (e.g., create a pool of sports teachers who can rotate coverage of schools that lack them).
- Strategies to promote literacy, parenting skills, and the development of parent support groups.
- Ways to improve communication between schools and local communities.
- Mobilizing resources to organize professional programs for teachers, parents, and community members.
- Training teachers and students on first aid, deworming, and nutritional supplementation by health care personnel.
- Organizing periodic health check-up of students and staff and providing care to those in need.

## CONCLUSIONS

Health education, like general education, is concerned with the change in knowledge, feelings, and behavior of people. Although more attention is focused on formal education at present, good health is a pre-condition for learning; as the saying goes, a sound mind lives in a sound body. Education cannot be acquired without the proper frame of mind, and proper frame of mind cannot be possible without proper health and hygiene.

Realizing the importance of health education, the Secondary Education Commission of 1952–53 stated: “Unless physical education is accepted as an integral part of education and the educational authorities recognize it, need in schools the youth of the country, which form its ‘most variable asset’, will never be able to pull their full weight to national welfare. Health education is the very foundation of every successful public health program so one of the main functions of education should be to help every child develop a healthy body, an alert mind and sound emotional attitudes. Health education aims at bridging the gulf between health knowledge and healthy practices by children” (Ministry of Education 1953).

Under the BHC project, this initiative to develop HPSs in all government middle, high, and higher secondary schools in Indore City will continue through 2021. This baseline assessment report will be disseminated to all concerned school authorities and other stakeholders who, with the help of trained teachers, will take steps to maintain good practices and address deficiencies in the assessed schools. After six months, all 148 schools will be reassessed using the same parameters. Those that qualify will be

certified as HPSs in which trained teachers will orient students to various aspects of health and hygiene.

The health of students is a collective responsibility. Through the HPS initiative, BHC, Indore Smart City Development Limited, the Education and Health Departments, and others are working to make school a health-promoting space.

## REFERENCES

Cutler, David, and Lleras-Muney. 2006. "Education and Health: Evaluating Theories and Evidence." 12352. National Bureau of Economic Research Working Paper. NBER.

Department of School Education & Literacy. n.d. "UDISE+." About UDISE+. Accessed July 1, 2020. <http://udiseplus.gov.in/>.

Kaur, Jatinder, Sushma K Saini, Bhavneet Bharti, and Surinder Kapoor. 2015. "Health Promotion Facilities in Schools: WHO 'Health Promoting Schools Initiative.'" *Nursing and Midwifery Research Journal* 11 (3). <https://doi.org/10.33698/NRF0187>.

Kolbe, Lloyd J. 2019. "School Health as a Strategy to Improve Both Public Health and Education." *Annual Review of Public Health* 40 (1): 443–63. <https://doi.org/10.1146/annurev-publhealth-040218-043727>.

Ministry of Education. 1953. "Report of the Secondary Education Commission: Mudaliar Commission Report." New Delhi, India: Government of India. <http://14.139.60.153/bitstream/123456789/187/1/Report-Report%20of%20the%20Secondary%20Education%20Commission.%20Musaliar%20Commission%20Report.pdf>.

Ministry of Statistics and Programme Implementation. 2018. "Children in India 2018 - A Statistical Appraisal." New Delhi, India: Social Statistics Division, Central Statistics Office, Ministry of Statistics and Programme Implementation, Government of India. [http://www.mospi.gov.in/sites/default/files/publication\\_reports/Children%20in%20India%202018%20%E2%80%93%20A%20Statistical%20Appraisal\\_26oct18.pdf](http://www.mospi.gov.in/sites/default/files/publication_reports/Children%20in%20India%202018%20%E2%80%93%20A%20Statistical%20Appraisal_26oct18.pdf).

National Crime Records Bureau. 2018. "Crime in India 2018." New Delhi, India: National Crime Records Bureau, Ministry of Home Affairs. <http://ncrb.gov.in/sites/default/files/Crime%20in%20India%202018%20-%20Volume%201.pdf>.

National Institute of Mental Health and Neuro Sciences. 2016. "National Mental Health Survey of India, 2015-16: Prevalence, Pattern and Outcomes." National Institute of Mental Health and Neuro Sciences. <http://indianmhs.nimhans.ac.in/Docs/Report2.pdf>.

PRB. 2011. "The Effect of Girls' Education on Health Outcomes: Fact Sheet – Population Reference Bureau." Washington, D.C.: Population Reference Bureau. <https://www.prb.org/girls-education-fact-sheet/>.

Ross, Catherine E., and John Mirowsky. 2010. "Gender and the Health Benefits of Education." *The Sociological Quarterly* 51 (1). <https://doi.org/10.1111/j.1533-8525.2009.01164.x>.

UNICEF. 2019. "Adolescents, Diets and Nutrition: Growing Well in a Changing World." Issue 1. The Comprehensive National Nutrition Survey, Thematic Reports. <https://www.unicef.org/india/sites/unicef.org/india/files/2020-02/CNNS-Thematic-Report-Adolescents-Diets-and-Nutrition.pdf>.

United Nations Children's Fund. 2019. "Ending Child Marriage: A Profile of Progress in India." New York: UNICEF. <https://www.unicef.org/india/media/1176/file/Ending-Child-Marriage.pdf>.

World Bank. 2019. "Population Ages 0-14 (% of Total Population) - India." 2019. <https://data.worldbank.org/indicator/SP.POP.0014.TO.ZS?end=2018&locations=IN&start=2011>.

World Health Organization. 2009. "Health Promoting Schools: A Monitoring Tool." Geneva: World Health Organization. <https://hivhealthclearinghouse.unesco.org/library/documents/health-promoting-schools-monitoring-tool>.

———. n.d. "What Is a Health Promoting School?" World Health Organization. Accessed March 16, 2020. <https://www.who.int/health-promoting-schools/overview/en/>.

**JSI RESEARCH & TRAINING INSTITUTE, INC.**

2733 Crystal Drive  
4th Floor  
Arlington, VA 22202  
USA  
Phone: 703-528-7474  
Fax: 703-528-7480  
Web: [www.jsi.com](http://www.jsi.com)

**JOHN SNOW INDIA PRIVATE LIMITED**

Plot No. 5 & 6, Local Shopping Complex  
Nelson Mandela Marg (Near Post  
Office)  
Vasant Kunj  
New Delhi 110070  
India  
Phone: +91 11 4868 5050

BUILDING HEALTHY CITIES

