

## **Public Health Education in Pakistani Schools: A Critical Discourse Analysis through Textbooks and Extracurricular Activities**

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### **Abstract**

This study examines how public health education is constructed and communicated in Pakistani primary schools through textbooks and extracurricular activities. Using a qualitative design grounded in Critical Discourse Analysis, the study analyzes grades 1–5 textbooks alongside semi-structured interviews with teachers and focus group discussions with students in six public and private schools in Rawalpindi and Islamabad. Findings reveal that health discourse in textbooks is narrowly framed around physical activity, sports, and hygiene, while key domains such as nutrition, oral health, mental well-being, illness prevention, and sexual and reproductive health remain marginalized or silenced. Although private schools offer more extracurricular activities than public schools, these are largely disconnected from explicit health education objectives, while public schools face significant resource constraints. The study concludes that Pakistani schools have not adequately adapted to contemporary public health needs and emphasizes the need for curriculum reform, teacher training, and structured, discourse-informed health education strategies to foster holistic and equitable health outcomes for children.

**Keywords:** Public health education, school curriculum, extracurricular activities, physical health, Pakistan

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## **Introduction**

Public health education is globally recognized as a cornerstone for improving population well-being, particularly in developing countries where disease burdens are closely linked to malnutrition, poor hygiene, sedentary lifestyles, and limited access to healthcare services. Early educational interventions play a crucial role in shaping lifelong health behaviors, making schools central sites for health promotion. Through formal curricula, textbooks, and extracurricular activities, schools have the potential to instill knowledge, attitudes, and practices that contribute to long-term physical and mental well-being.

In Pakistan, however, public health and education indicators remain troubling. The country allocates less than 1% of its GDP to public health, reflecting chronic underinvestment in both sectors (Izbel & Urooj, 2021). This structural neglect manifests in widespread undernutrition, inadequate health awareness, and low levels of physical activity among school-aged children. Alarmingly, only 7% of girls and 30% of boys engage in regular physical activity (Almas et al., 2022), highlighting deep gendered and systemic disparities. These challenges underscore the urgent need for effective school-based health education interventions that can address both knowledge deficits and behavioral outcomes.

Existing research suggests that school textbooks often fail to provide comprehensive and coherent health education. Globally, Nomoto et al. (2011) found health-related content in school curricula to be insufficient and fragmented, while Kazemian et al. (2014) reported similar shortcomings in Iranian textbooks. Within Pakistan, Ullah et al. (2020) identified uneven coverage of key health domains such as hygiene, nutrition, and physical fitness in primary-level textbooks. Moreover, although extracurricular activities are widely acknowledged as important platforms for promoting physical and mental health, most public schools in Pakistan lack adequate facilities and structured programs. Even in private schools, where resources are comparatively better, such activities are rarely framed within a broader health promotion or educational framework (Husain et al., 2015).

Despite this growing body of literature, a critical gap remains in the integrated examination of both curricular and extracurricular dimensions of health education at the primary level in Pakistan. Most existing studies focus either on textbook content or on isolated aspects of school activities, without incorporating the perspectives of key stakeholders such as teachers and students. Addressing this gap, the present study analyzes the representation of health education in Pakistani primary school textbooks and extracurricular practices using discourse analysis alongside teacher

and student insights. By identifying strengths, omissions, and inconsistencies, the study seeks to inform more structured and contextually relevant health education strategies that can contribute to healthier behaviors and, ultimately, to reducing Pakistan's disease burden.

## **Literature Review**

Public health education has been widely examined as a critical mechanism for shaping students' knowledge, attitudes, and behaviors related to healthy lifestyles. Research consistently demonstrates that both formal curricular content and informal school-based activities influence how children acquire and internalize health-related practices (Przybylska, Borzęcki, & Drop, 2014). This review synthesizes empirical evidence from global, regional, and Pakistani contexts to identify dominant patterns, conceptual gaps, and implications for health education delivered through textbooks and extracurricular activities, thereby establishing the foundation for the study's theoretical and conceptual framework.

## **Health Education in School Textbooks**

School textbooks remain the primary source of structured knowledge in many developing countries; however, studies reveal that health-related content is often fragmented, uneven, and narrowly focused. Nomoto et al. (2011) identified significant gaps in nutrition, hygiene, and disease prevention across primary-level textbooks, while Moya Mata et al. (2014) observed an overreliance on visual representations with limited explanatory depth. Similarly, Kazemian et al. (2014) found that Iranian textbooks disproportionately emphasized hygiene, with limited attention to oral health, physical activity, and prevention of high-risk behaviors.

In the Pakistani context, Ullah et al. (2020) reported inconsistent and superficial coverage of health topics, with hygiene receiving greater attention than nutrition, physical fitness, or preventive care. Such selective representation restricts students' holistic understanding of health and reinforces a narrow biomedical view. Mushtaq (2016) consequently argues for curriculum reforms that integrate comprehensive, age-appropriate, and evidence-based public health education within school textbooks.

## **Extracurricular Activities and Health Promotion**

Beyond textbooks, extracurricular activities constitute an important informal channel for health promotion by encouraging physical activity, psychological well-being, and social development. Empirical evidence suggests that well-structured extracurricular engagement positively influences academic performance, self-discipline, and social skills (Iudici, 2014).

However, in developing countries, such initiatives are often constrained by limited infrastructure, insufficient staffing, and weak institutional prioritization, particularly in public schools (Ahmad et al., 2014).

In Pakistan, disparities between public and private schools are pronounced. While private schools generally offer more extracurricular opportunities, these activities are frequently framed as recreational rather than health-promoting (Husain, Alamgir, & Shahzad, 2015). Almas et al. (2022) found that school-based health programs improved students' health knowledge and practices, but emphasized that sustainable outcomes require structured interventions, teacher involvement, and explicit alignment with health education objectives.

### **Public Health Education in Pakistan**

Pakistan faces persistent public health challenges, including malnutrition, obesity, poor hygiene awareness, and preventable diseases, exacerbated by chronic underinvestment in health spending, which remains below 1% of GDP (Izbel & Urooj, 2021). With a life expectancy of approximately 68 years and a global health ranking of 154 out of 195 countries, the urgency of preventive health education is evident.

Educational research indicates that public health remains weakly integrated into school curricula. While basic hygiene concepts are occasionally addressed, nutrition, oral health, physical fitness, and disease prevention receive minimal attention (Ullah et al., 2020). Curriculum priorities continue to favor academic achievement over holistic child development (Frontier, 1995; Mushtaq, 2016). Additionally, inequities persist between public schools often lacking facilities and trained personnel and private schools, which underutilize their potential for structured health promotion (Husain et al., 2015; Work, Ullah, & Naz, 2020).

Taken together, the literature reveals three critical gaps; fragmented and selective health representation in textbooks, weak integration of extracurricular activities within health education frameworks, and limited empirical work examining how these domains interact within school systems. These gaps point to the need for a theoretical lens that explains how schools respond or fail to respond to evolving public health needs, and how educational discourse shapes students' health-related behaviors. This need is addressed through the study's theoretical framework.

### **Theoretical Insights and Conceptual Gaps**

Talcott Parsons' (1985) theory of adaptation highlights schools' need to evolve with societal demands, making health education integration crucial in Pakistan. Ozerova et al. (2021) emphasize school discourse textbooks, teacher

narratives, and student interactions, in shaping health behaviors. Yet, gaps persist, few studies connect textbooks with extracurricular practices, and international models remain under adapted locally. Textbooks provide limited coverage, extracurricular activities lack consistent health focus, and public schools face resource shortages, while private schools underutilize their potential. This study addresses these gaps through critical discourse analysis of textbooks and extracurricular activities, incorporating teacher and student perspectives to recommend practical strategies.

### Theoretical Framework

This study is grounded in Talcott Parsons' Social System Theory, particularly the concept of adaptation within the AGIL framework (Parsons, 1985). Parsons posits that for social systems to remain functional, they must fulfill four core requirements: adaptation, goal attainment, integration, and latency. Adaptation refers to an institution's capacity to adjust to environmental and societal demands.

Applied to education, schools are expected to adapt to emerging public health challenges by integrating relevant knowledge, skills, and practices into both curricula and extracurricular activities. In contexts such as Pakistan where preventable diseases and health awareness deficits are widespread the failure to adapt risks reproducing unhealthy behaviors across generations.

Complementing Parsons' framework, school discourse theory (Ozerova et al., 2021) emphasizes how health meanings are constructed through textbooks, teacher narratives, and student interactions. Health education is thus not limited to content delivery but is shaped by discursive practices that influence how students interpret and apply health knowledge in daily life. Together, these theories frame health education as a systemic and discursive process, requiring institutional adaptation, coherent curricular design, teacher mediation, and supportive school environments.

### Conceptual Framework

The conceptual framework of the study positions Physical Health as the central theme, connected to two primary domains: Textbooks and Extracurricular Activities.

- **Physical Health in Textbooks** includes topics such as sports and games, exercises, concepts of illness and fitness, traditional games, and grade-wise disparities.
- **Extracurricular Activities** reflect differences between public and private schools, with nodes for activities like *pakran pakrai*, cricket,

football, and indoor/outdoor games, as well as whether these activities are linked to health.

- **Exercise, Sleep, Illness & Fitness** represents the mediating role of teacher emphasis and student practices, highlighting constraints in public schools and broader exposure in private schools.

The conceptual framework identifies students' physical health as the central outcome influenced by two interconnected domains: health representation in textbooks and extracurricular activities. Textbooks shape students' foundational understanding of health through the inclusion of sports, exercise, illness, fitness, and grade-wise progression of content; fragmented or uneven coverage limits this understanding, while coherent representation strengthens health awareness.

Extracurricular activities translate health knowledge into practice by promoting physical movement, social interaction, and well-being. However, participation varies by school sector, as public schools face resource constraints while private schools often emphasize recreation rather than structured health promotion. The influence of both textbooks and extracurricular activities is mediated by teacher practices and resource availability, which determine how effectively health concepts are emphasized and linked to daily behaviors. The framework therefore assumes that stronger textbook representation and meaningful extracurricular engagement positively affect students' health-related knowledge and practices, with institutional and instructional factors shaping the magnitude of this effect.

The framework further identifies teacher practices and resource availability as mediating factors. Teachers' emphasis on health topics, their ability to link activities to health outcomes, and the availability of facilities and institutional support influence how students translate curricular and extracurricular exposure into actual health-related knowledge and practices.

Based on this framework, the study hypothesizes that; stronger and more coherent health representation in textbooks positively influences students' health-related knowledge, regular participation in extracurricular activities enhances students' physical health behaviors, and these relationships are mediated by teacher engagement and resource availability, with disparities between public and private schools shaping the extent of impact. By articulating these linkages, the conceptual framework integrates insights from the literature and theory, providing a coherent structure for analyzing how school systems contribute to or hinder effective public health education in Pakistan.

## **Aims and Research Questions**

The research was structured around the following objectives:

1. To analyze how primary-level textbooks in Pakistan present content related to public health, with particular emphasis on physical health, hygiene, and nutrition.
2. To examine the role of extracurricular activities in promoting health awareness and physical well-being among primary school students in public and private schools.
3. To compare the opportunities and challenges faced by public and private schools in integrating health education through both curricular and extracurricular practices.
4. To explore teachers' and students' perceptions regarding the effectiveness of school-based health education in shaping healthy behaviors.

These objectives were further refined into research questions to guide the inquiry:

- How is public health education represented in Pakistani primary school textbooks?
- What types of extracurricular activities are offered in schools, and how are they linked to health promotion?
- What differences exist between public and private schools in terms of facilities, practices, and resources for health education?
- How do teachers and students perceive the adequacy of current school practices in fostering health-related knowledge and behaviors?

## **Research Methodology**

### **Research Design**

This study adopted a qualitative research design to critically examine how public health education is constructed and communicated through primary school textbooks and extracurricular activities in Pakistan. The study employed Critical Discourse Analysis (CDA), guided primarily by Fairclough's three-dimensional model, which examines (i) textual features, (ii) discursive practices, and (iii) the broader social context in which texts are produced and interpreted. This approach was complemented by thematic CDA, allowing recurrent health-related meanings and silences to be identified across texts and practices. Teacher interviews and student focus group discussions were incorporated to triangulate textual findings with lived school experiences.

### **Population and Sample**

The population comprised primary school teachers and students in Rawalpindi and Islamabad. A purposive sampling technique was used to

select six schools three public and three private based on accessibility and willingness to participate. From each school, two teachers with a minimum of 4–5 years of teaching experience were interviewed, resulting in a total of twelve teacher interviews. For focus group discussions, two students from each class level (Grades 1–5) were selected per school to ensure age-wise representation across the primary level.

### **Research Instruments**

Three instruments were used:

1. Discourse analysis checklist; for systematically examining textbook content, including chapters, images, and end exercises.
2. Unstructured interview guide; covering topics such as teachers' health knowledge, perceptions of student lifestyle, and role of school health programs.
3. Focus group discussion guide with flashcards; flashcards depicting visual representations of health components (nutrition, hygiene, exercise, etc.) were used to facilitate student engagement.

### **Validity and Reliability**

Validity was ensured through expert review of the research instruments and alignment with relevant literature. Reliability was enhanced through triangulation, where data from textbooks, teacher interviews, and focus group discussions were cross-verified. Additionally, coding consistency was maintained by rechecking coded data in ATLAS.ti.

### **Data Collection**

- Textbook analysis: Discourse analysis of grades 1–5 textbooks (English, Urdu, Islamic Studies, Social Studies, General Knowledge, and Science) was conducted.
- Teacher interviews: Twelve unstructured interviews were recorded with prior consent.
- Focus Group Discussions: A total of six focus groups were held (one per school), where flashcards were used to engage younger children and encourage interactive responses.

### **Data Analysis**

Data analysis followed an inductive thematic approach, informed by theoretical constructs from Parsons' Social System Theory and school discourse theory. Initially the codes were initially derived inductively from the data through line-by-line coding of textbook content and interview transcripts. These emergent codes were then refined and interpreted

through a theory-guided lens, particularly focusing on institutional adaptation, discourse formation, and health socialization processes.

For textbooks, the unit of analysis included paragraphs, visual images, activities, and exercises, allowing both textual and visual representations of health to be examined systematically. All qualitative data were managed and analyzed using ATLAS.ti, where codes were clustered into broader categories and themes such as *Physical Health in Textbooks*, *Extracurricular Activities*, and *Exercise, Sleep, Illness, and Fitness*.

### **Ethical Considerations**

Ethical protocols were strictly followed. School principals were briefed on the study's purpose, and verbal consent was obtained from both school authorities and participants. Confidentiality and anonymity were assured to all participants. Interviews along with focus group discussions were recorded solely with prior permission. The study posed no harm to participants, and findings were reported without identifying individuals or institutions.

### **Results**

The findings are organized into four major discursive clusters emerging from the analysis of textbooks, teacher interviews, and student focus group discussions:

- (1) Physical Health and Activity,
- (2) Mental, Emotional, and Social Well-being,
- (3) Silenced and Marginalized Health Domains, and
- (4) Moral–Religious and Environmental Health Discourses.

Across these clusters, the analysis reveals how health is selectively framed, how certain bodies and knowledges are prioritized, and how institutional power and cultural norms shape what is taught, emphasized, or omitted in primary school health education.

#### **1. Physical Health and Activity**

Textbook discourse strongly emphasizes physical health, primarily through sports, exercise, outdoor play, and sleep. In Grades 1–2, health is visually represented through images of cricket, football, running, cycling, and traditional games, framing physical activity as natural, enjoyable, and morally desirable. However, this emphasis declines in higher grades, indicating a fragmented and inconsistent health narrative across the curriculum.

From a CDA perspective, physical health is constructed through a functional and productivity-oriented discourse. Teachers frequently linked health to “activeness,” “energy,” and “ability to work,” reinforcing the idea that healthy bodies are valuable primarily because they are productive. This framing aligns with a state-centric ideology, where physical fitness

supports discipline, efficiency, and national development, rather than student well-being as an end in itself.

Power asymmetries between school sectors further shape this discourse. While textbooks assume universal access to sports, government schools lack space, equipment, and structured programs, rendering textbook ideals largely symbolic. Private school students demonstrated greater familiarity with exercises such as jogging, skipping, and push-ups, revealing how institutional resources mediate the realization of curricular discourse. Thus, physical health is discursively promoted but structurally unevenly enabled.

## **2. Mental, Emotional, and Social Health**

Mental and emotional health receive minimal and indirect representation in textbooks. References appear through moral stories emphasizing kindness, happiness, condolence, and helping others, but systematic discussion of stress, anxiety, coping strategies, or self-care is absent. This reflects a moralized discourse of mental health, where emotional well-being is framed as good behavior rather than a psychological condition.

Teacher narratives reinforce this pattern. In government schools, emotional distress is addressed through family support and patience, while private schools occasionally acknowledge stress, anxiety, or depression and arrange informal counselling. Students' responses mirror these discourses: government school students rely on parental advice, whereas private school students mention yoga, relaxation, or teacher support.

CDA reveals that psychological language is marginalized, and emotional struggles are depoliticized and individualized. Structural stressors academic pressure, poverty, or institutional neglect remain invisible. Social health, in contrast, is strongly emphasized through discourses of family unity, obedience, sharing, and community harmony, reinforcing collectivist and integrative ideologies aligned with Parsons' notion of social integration. While this strengthens social cohesion, it also limits space for discussing individual distress or dissent.

## **3. Silenced and Marginalized Health Domains: SRH, Eye, ENT, and Oral Health**

One of the most critical findings is the systematic silence around certain health domains, particularly sexual and reproductive health (SRH). Textbooks completely exclude SRH content, except for vague references to hygiene and "good/bad touch." Teachers largely avoid the topic, reflecting cultural taboos and institutional risk aversion. Students' confusion and lack of awareness illustrate how silence itself functions as a powerful discourse.

From a CDA standpoint, this absence represents ideological control over knowledge, where children's bodies are regulated through omission rather than education. The exclusion of SRH reinforces adult authority, moral conservatism, and gendered vulnerability, leaving children unprepared for bodily autonomy or protection.

Similarly, eye health, ENT health, and oral health are either absent or addressed in fragmented ways. Occasional mentions of miswaak, ear cleaning during ablution, or tooth brushing link health to religious practice rather than preventive medicine. Teachers reported no regular screenings, and students held misconceptions (e.g., safe use of cotton buds), indicating how partial discourse produces incomplete and sometimes harmful knowledge.

These omissions reflect systemic failure of institutional adaptation, as described by Parsons' AGIL framework, where education does not align with emerging public health risks such as digital eye strain, hearing damage, or oral disease.

#### **4. Moral–Religious and Environmental Health Discourses**

Spiritual and environmental health are among the most consistently emphasized domains. Spiritual health is framed through Islamic values of cleanliness, patience, obedience, and worship, linking moral behavior directly to physical well-being. Teachers often reduced spirituality to prayer and hygiene, limiting its reflective or psychosocial dimensions.

Environmental health discourse focuses on cleanliness, pollution, and responsibility, particularly in higher grades. Initiatives such as classroom cleaning and references to national campaigns like “Clean and Green Pakistan” reflect a state-aligned discourse, where environmental care is tied to citizenship and national duty. Private schools showed stronger implementation, again highlighting resource-based power differentials.

CDA reveals that these discourses promote discipline, compliance, and moral regulation, positioning students as responsible subjects within a moral–national order, rather than as critical agents capable of questioning environmental or structural health injustices.

#### **Integrated Critical Discourse Interpretation of Results**

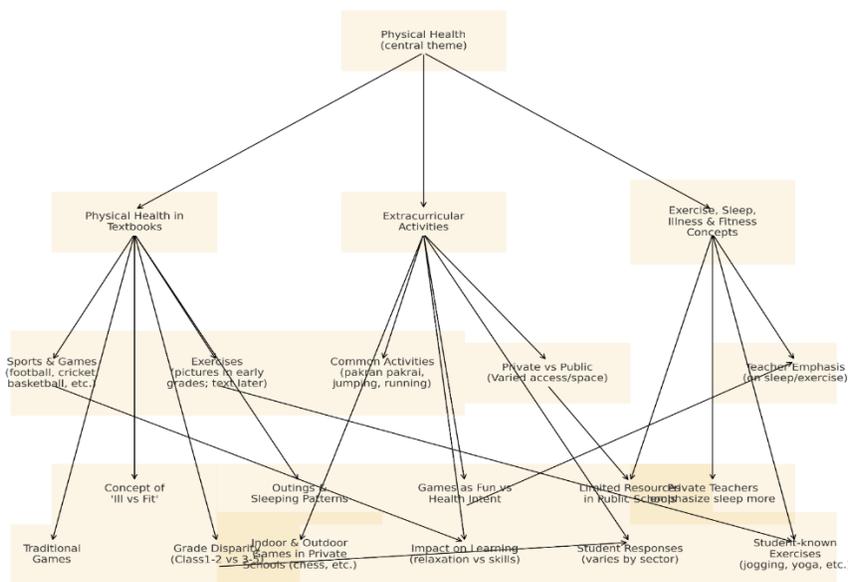
The findings reveal that public health education in Pakistani primary schools is shaped by selective visibility, moral framing, and institutional power, producing unequal health literacies among students. Physical health is emphasized in textbooks and extracurricular activities, primarily through sports, exercise, and hygiene, yet this emphasis is uneven across grades and school sectors, privileging students in resource-rich private schools. Mental, emotional, and social health are largely moralized or depoliticized, while critical domains such as sexual and reproductive

health, oral, eye, and ENT health are systematically silenced, reflecting cultural taboos and adult-centered, state-aligned ideologies that regulate knowledge and bodies. CDA highlights how textbook discourse, teacher narratives, and institutional practices collectively reinforce normative expectations discipline, productivity, collectivist morality while marginalizing student agency and structural inequalities. Resource disparities exacerbate these effects: public school students often lack facilities and teacher support, rendering curricular ideals symbolic rather than practical. These discursive and structural patterns underscore the need for educational reform that integrates comprehensive, rights-based, and context-sensitive health education, aligning curricular content and extracurricular activities with systemic adaptation principles. Curriculum revision, teacher training, and institutionally supported, student-centered practices are essential to shift discourse from moralized and symbolic representations toward inclusive, explanatory, and empowering health narratives, enabling students to critically engage with health knowledge and apply it in daily life.

### Conceptual Framework of Findings

The results can be summarized in the conceptual framework shown below.

Network Analysis Diagram — Public Health Education (ATLAS.ti style)



*Figure 1.1. Conceptual Framework of the study (Authors, 2023)*

- **Central theme:** Physical Health
- **Branches:**
  - *Textbooks* (coverage of sports, exercises, fit/ill concepts, grade disparities, traditional games)
  - *Extracurricular Activities* (public vs. private differences, games-as-recreation vs. health intent, student responses)
  - *Exercise, Sleep, Illness & Fitness* (teacher emphasis, student knowledge of exercises, resource disparities)

This network analysis diagram (ATLAS.ti style) illustrates the theme of Public Health Education with *Physical Health* as the central concept. It shows three main branches: Physical Health in Textbooks, Extracurricular Activities, and Exercise, Sleep, Illness & Fitness Concepts. Under textbooks, emphasis is placed on sports, games, exercises, illness vs. fitness, and disparities across grades, highlighting both traditional and modern practices. Extracurricular activities cover common games, indoor/outdoor play, outings, and differences between private and public schools, focusing on their impact on learning and student experiences.

The third branch addresses health-related concepts like exercise, sleep, and teacher emphasis, showing how student-known exercises and resource availability shape health understanding. Overall, the diagram maps how textbooks, activities, and conceptual teaching intersect to influence students' physical health education. Cross-links between these branches highlight how textbook content, extracurricular practices, and teacher-student interactions collectively shape children's understanding of health.

## Discussion

The findings of this study confirm that public health education in Pakistani schools is inconsistently integrated into both textbooks and extracurricular activities. Consistent with Ullah et al. (2020), the discourse analysis revealed that health content in textbooks is fragmented, with hygiene and sports emphasized while nutrition, oral care, and illness prevention are largely absent. Similar patterns were observed in Iran, where Kazemian et al. (2014) found primary-level textbooks to prioritize hygiene but neglect other vital health topics. These gaps in curricular content highlight a systemic weakness in providing students with a holistic understanding of public health.

Extracurricular activities demonstrated a stark divide between public and private schools. Public schools were constrained by lack of facilities, as noted in earlier studies (Husain, Alamgir, & Shahzad, 2015), leading to reliance on informal games such as *pakran pakrai* and limited

opportunities for structured physical activities. Private schools offered more diverse activities, echoing findings by Ahmad et al. (2014) that private institutions tend to provide broader opportunities for student engagement. However, similar to the observations of Almas et al. (2022), extracurricular programs were often disconnected from explicit health objectives, reducing their potential to shape healthy behaviors systematically.

Teacher perspectives further reinforced the disparity. Private school teachers placed stronger emphasis on the importance of sleep and exercise, while public school teachers showed limited awareness of structured health education practices. This aligns with the argument by Mushtaq (2016) that teacher training and curriculum design in Pakistan often neglect holistic aspects of child development. Without proper professional development, teachers may struggle to contextualize extracurricular activities as part of health promotion.

From a theoretical perspective, the findings reflect Parsons' (1985) concept of adaptation, where educational institutions must evolve to address societal health challenges. The lack of structured health education in both textbooks and extracurricular activities suggests that Pakistani schools have not adequately adapted to the growing burden of non-communicable diseases and child health concerns. Furthermore, discourse theory (Ozerova et al., 2021) explains how limited representations in textbooks and teacher narratives constrain students' construction of health-related knowledge.

Overall, the study reinforces the need for systemic adaptation in Pakistani education, including curriculum revision, teacher training, and resource allocation. Only through such reforms can schools serve as effective platforms for fostering lifelong healthy habits among children.

## **Conclusion**

This study analyzed health education in Pakistani primary schools through textbook discourse, teacher interviews, and student focus groups. Textbooks addressed sports, exercise, and hygiene but neglected nutrition, oral care, and illness prevention, with uneven coverage across grades. Extracurricular activities were broader in private schools but seldom framed as health promotion, while public schools lacked facilities and structured programs. Teachers' emphasis also varied, with private school teachers highlighting sleep and exercise more. Overall, both curricular and extracurricular approaches inadequately meet students' health needs, highlighting the urgency of reforms to foster lifelong healthy habits and reduce Pakistan's disease burden.

## **Recommendations**

Public health education should be institutionalized as a core priority within Pakistan's primary education system through policy-level curriculum reform that ensures comprehensive, age-appropriate coverage of physical, mental, and preventive health, including currently marginalized areas such as sexual and reproductive health. At the institutional level, textbook discourse requires reform informed by Critical Discourse Analysis, shifting from moralized and symbolic representations toward explicit, inclusive, and explanatory health narratives that position students as active agents, while systematically integrating extracurricular activities into health education objectives through targeted teacher training. At the classroom level, student-centered and dialogic teaching practices should be encouraged to foster critical engagement, health literacy, and practical application of knowledge. Future research should examine how such discursive and institutional reforms, aligned with Parsons' concept of adaptation, influence students' health knowledge and agency over time using CDA-informed longitudinal or mixed-method approaches.

## **Contribution to the Field**

This study makes three unique contributions to the field of public health education and curriculum studies. First, it provides one of the few critical discourse analyses of Pakistani primary school textbooks, highlighting systematic gaps in how health-related content is represented across grades and subjects. Second, it bridges curricular and extracurricular dimensions of schooling by examining how textbook content interacts with school-based activities, an area often studied in isolation in previous research. Finally, by comparing public and private school practices, the study offers context-specific insights into structural inequalities in access to health education, pointing to policy reforms needed for equity and effectiveness. Collectively, these contributions advance understanding of how schools function as sites of health promotion and offer practical pathways for integrating health education more effectively into Pakistan's education system.

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