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THEORETICAL ARTICLE

# The International Framework for School Health Promotion: Supporting Young People Through and After the COVID-19 Pandemic

JOSEPH J. SCOTT, PhD<sup>a</sup>  LYNETTE VERNON, PhD<sup>b</sup>  ALEXANDRA P. METSE, PhD<sup>c</sup> 

## ABSTRACT

**BACKGROUND:** The worldwide COVID-19 government restrictions imposed on young people to limit virus spread have precipitated a growing and long-term educational and health crisis.

**CONTRIBUTIONS TO THE THEORY:** This novel study used Sen's Capabilities Approach as a theoretical framework to examine the current health and educational impacts of COVID-19 on youth, referencing emerging literature. The objective was to inform the design of an internationally relevant framework for school health promotion to support young people through and after the COVID-19 pandemic. Mapping of existing health resources, internal/external conversion factors and capabilities were used to identify classroom, school and system level strategies that will enable young people to flourish. Four central enablers were identified and used in the design of the International Framework for School Health Promotion (IFSHP).

**IMPLICATIONS FOR SCHOOL HEALTH POLICY, PRACTICE AND EQUITY:** The IFSHP can be used by educational institutions, school leaders and teachers to innovate existing health promotion programs, policies and practices to support young people through and after the COVID-19 pandemic.

**CONCLUSIONS:** School systems, schools and teachers are encouraged to utilize the IFSHP to review and innovate existing school health programs to ensure they meet the increased physical and mental health needs of young people.

**Keywords:** children; adolescents; health promotion; COVID-19; school; youth.

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On January 30, 2020, the World Health Organization (WHO) declared the coronavirus disease (COVID-19) an international public health emergency; by March 11, 2020, a global pandemic was declared.<sup>1</sup> This led many governments worldwide to impose unprecedented restrictions on communities to limit the spread of the virus, including social distancing; travel limitations; curfews; lockdowns; and the closure of civic facilities (eg, playgrounds, swimming pools) and community clubs, sporting facilities, workplaces, and schools.<sup>2</sup> Unfortunately and unintentionally, the restrictive measures imposed on young people have led

to a growing educational and health crisis.<sup>3,4</sup> Notably, 60% of students worldwide (an estimated 1.6 billion) had their education disrupted due to school closures, and this has been identified as the largest disruption to education in history.<sup>5</sup> These closures have led to significant declines in children's and adolescents' social, psychological, and educational development.<sup>6</sup> During COVID-19 lockdowns, children and adolescents were prevented from leaving their family home, attending school, participating in extra-curricular activities, visiting friends and generally carrying out their everyday activities<sup>7</sup> leading to growing disparities in the

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The authors would like to acknowledge the seminal work of Professor Amartya Sen which informed the theoretical approach to this research.

incidence and prevalence of child physical and mental health vulnerabilities associated with COVID-19.<sup>8</sup> These inequities were likely attributed to the differential within the social determinants of health and well-being, which include the non-medical related factors where access to health care knowledge, resources, housing, and poor neighborhood, are determined by where you are born, grow up, live, go to school and work.<sup>8</sup> Hence, reducing the COVID-19 health and learning gap for young people is a global priority.

### Social and Educational Impacts with Changes in Modes of Learning

A series of reports titled *Unfinished Learning* commissioned by McKinsey examined the impact of the COVID-19 pandemic on students' education and mental health and consistently found that while the length of school closures varied across countries, globally, on average, schools closed for just over a year (59 weeks), resulting in a loss of education of, on average, 8.2 months.<sup>3</sup> A recent study using longitudinal data of 5.4 million US students (grades 3 to 8) tracked math and reading achievement across the first 2 years of the pandemic and found an average fall in math test scores of 0.20 to 0.27 standard deviations and reading scores fell 0.9 to 0.18 standard deviations indicating significant educational impact due to disruptions.<sup>9</sup> The longer the closures, alongside a lack of resources, including access to technology, the further behind children became, and this was made worse for students from low socioeconomic backgrounds.<sup>10</sup> The long-term impacts are disproportionate; for example, UNICEF has reported that middle- and low-income countries learning losses have left up to 70% of 10-year-olds unable to read, up from 53% prepandemic, with countries such as South Africa estimating that 75% of school children are now a full year behind where they should be in their learning.<sup>11</sup> Some schools could pivot to online classes as children had access to technology and the internet at home, so many children and adolescents could complete their schooling online, minimizing educational loss; however, disadvantaged schools could not provide this learning mode, creating greater inequities.<sup>12</sup> In Australia, the Federal Government commissioned a national report to examine the potential health and educational impacts of COVID-19 lockdowns and school closures for those children and adolescents who were most socially and financially disadvantaged and concluded that restrictions would result in more significant long-term health, well-being and educational consequences for these groups.<sup>13</sup>

Although online learning moderated the COVID-19 learning gap for some children and adolescents, there was an unintended exacerbation in physical health

and well-being-related consequences as children were restricted to their homes,<sup>14</sup> particularly for students from disadvantaged backgrounds.<sup>12,15</sup> In many countries, there were significant challenges for schools, teachers, parents and children during the off-campus, remote learning phase, when children spent their days inside, at home, often reducing their opportunities to socialize and interact with their peers.<sup>13</sup> Being restricted at home meant increased time spent with screens, whether in online education, gaming, socializing online or watching television.<sup>16</sup> Indeed, after students finished their online study, they could not go outside and *play* and interact socially with other children in parks and playgrounds; accordingly, research suggests sedentary behavior increased, and physical activity levels decreased.<sup>17,18</sup>

### Impacts on Young People's Physical and Mental Health

A longitudinal study of children and adolescents (n=2427; aged 6 to 17-years) in China compared physical activity, sedentary behavior and screen-time levels before and during the COVID-19 pandemic and found that physical activity levels significantly decreased by 435mins/week and sedentary behavior and screen-time increased by 1730mins/week.<sup>19</sup> Moreover, being at home meant more accessibility to food; therefore, children's eating habits were also of concern. A rapid systematic review (n=10 studies) revealed that healthy nutritional intake in many children and adolescents was adversely affected.<sup>20</sup> As a result, increased focus on health and food literacy in schools has been noted as a potential strategy to offset the nutrition impacts of COVID-19 for young people.<sup>21</sup>

Sleep was also likely affected by changes to modes of learning. A systematic review and meta-analysis of 16 studies focusing on how the COVID-19 pandemic affected sleep among children and adolescents found that sleep quality was reduced by 27%.<sup>22</sup> Moreover, increased screen-time and sedentary behavior have been associated with poor quality sleep and subsequent declines in coping and well-being.<sup>23</sup> Undeniably, quality sleep was seen as increasingly important for children to cope with the adverse family effects brought on by COVID-19.<sup>23</sup>

Children and adolescents experienced parental job loss, economic instability and the threat of another wave of COVID-19 infection, contributing to increased anxiety with constant worry about family finances, their future health and world stability.<sup>24</sup> Recent data in Australia, which surveyed 20,207 adolescents aged (15 to 19 years) reported that participation in activities, education and mental health were the top three areas COVID-19 had negatively affected their lives, with 41.9% of participants being extremely or very concerned about their mental health.<sup>25</sup> Indeed, returning to their normal active routines,

being physically active, and attending school regularly became a priority for children and adolescents.

### Developing Children and Adolescents' Capabilities

As we grapple with the disruptions brought about by COVID-19 and its impact globally on children's social, psychological, physical and educational development, it is critical to revisit the theoretical frameworks that have held over time and guided interventions to improve children's health and well-being. Sen's Capabilities Approach has impacted educational discourse and provides scope to address the social determinants (eg, access to health-related knowledge, neighborhood factors, schooling) that serve to limit (or expand), alongside the impact of COVID-19, young people's opportunities to flourish.<sup>26</sup> Sen's Capabilities Approach provides a theoretical framework for well-being and human flourishing and highlights the importance of achieving well-being while also acknowledging individuals varying means/resources, freedoms, capabilities and functions, which are influenced by internal (individual person) and external (environmental and social) factors.<sup>26</sup> As a result of COVID-19, children's freedoms and opportunities were restricted, and their developmental trajectories were disrupted.

Despite this disruption, it must be acknowledged that human development will occur if capabilities are developed by some means. Therefore, health and well-being programs in schools require an "approach [that is] based on a view of living as a combination of various 'doings and beings', with quality of life to be assessed in terms of the capability to achieve valuable functionings".<sup>26(p31)</sup> Correspondingly, capabilities within different societies can be built into school health programs by collectively fostering average well-being and providing *real* opportunities to each person.<sup>27</sup> Regrettably, the unintended consequences of COVID-19 disease prevention further marginalized our most vulnerable children, resulting in capability failures.<sup>27</sup> These failures need to be addressed by focusing on individuals' choices around their resources and conversion factors for practical opportunities.<sup>28</sup>

The capability approach "ascribes an urgent *task to government and public policy*—namely, to improve the quality of life for all people, as defined by their capabilities".<sup>27(p19)</sup> In many countries, government policies have positioned schools to redress the social determinants that limit children from achieving high levels of well-being.<sup>4,15</sup> Schools have been resourced and provided with the means to develop the conversion factors to offer students practical opportunities for positive health development.<sup>4,15</sup> Therefore, schools are well-placed to develop health programs to develop children's capabilities to achieve well-being.

During COVID-19 the demands on teachers and schools were numerous, including pivoting to online learning and teaching, preparing work packages for those children without technology, on-campus education for children of essential workers, and preparing for children to return to the classroom while monitoring outbreaks of the disease in the school.<sup>29</sup> As children returned to the classroom after the extended periods at home, it was clear that many children were not only behind educationally but also had higher levels of distress,<sup>30</sup> poor sleeping and eating habits, and had done little exercise for months on end.<sup>31</sup>

Arguably, before children can flourish academically, schools must prioritize and work towards supporting children's health-related capabilities. Within the capabilities approach for developing freedoms to achieve student well-being within school health promotions, three key components—people, space and place—are considered critical. These have previously been applied in developing community physical and mental health interventions.<sup>32</sup> These components are defined as follows:

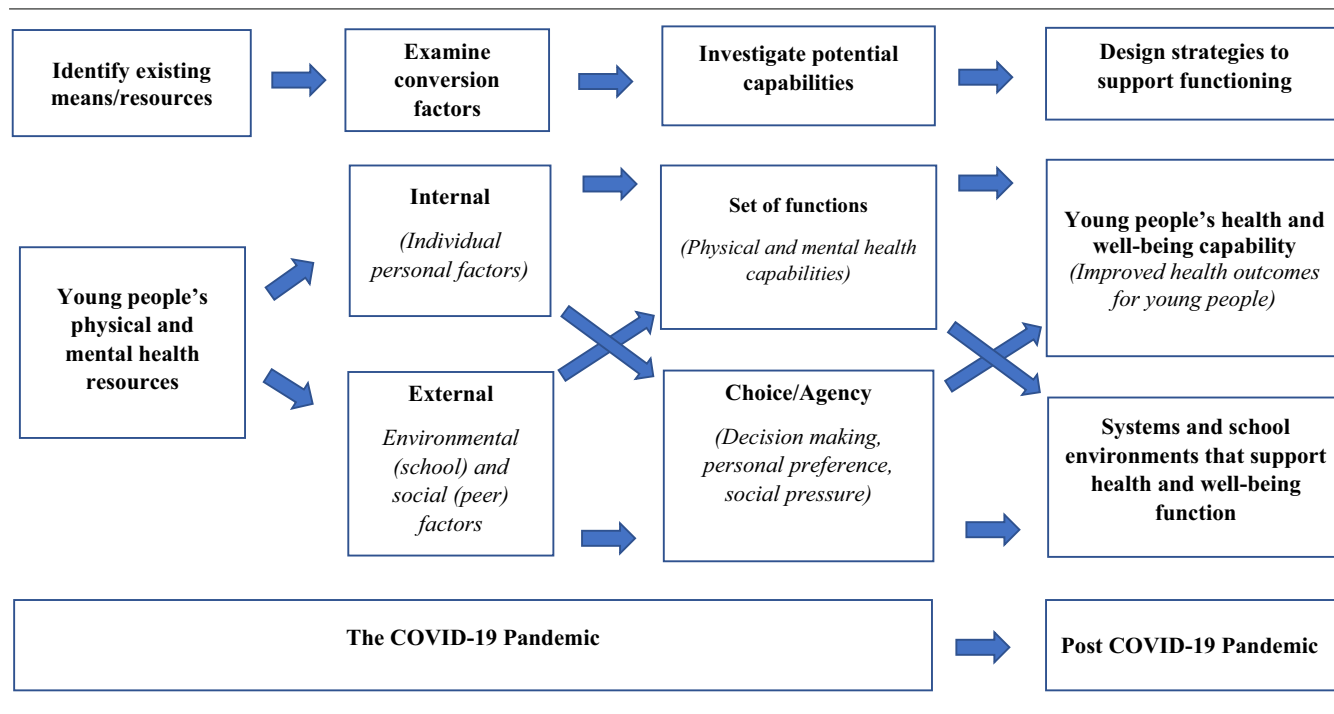
- people—this refers to the individual characteristics including the beings and doings of the students and teacher—their individual capabilities, or freedoms to choose to do things that they value, to achieve valuable functioning (physical and mental health, health-related knowledge);
- space—this pertains to the school's physical environment. Notably, during the pandemic, the traditional school space, including ovals, playgrounds, and classrooms, was *lost* or replaced by an online environment. Each physical school space is typically distinct and varied<sup>33</sup>;
- place—this involves the nexus between the "socio-cultural and historical characteristics of a community".<sup>32(p608)</sup> For school health promotion, the COVID-19 context must be examined to challenge the barriers (lack of freedoms) and empower the enablers as conversion factors influencing the development of capabilities.

## METHODOLOGY

### Rationale and Aim

In 2021, United Nations Educational, Scientific and Cultural Organization (UNESCO) urged the global reopening of schools as an urgent priority for countries worldwide to offset and reverse the education losses and associated health impacts.<sup>34</sup> While most school children and adolescents have returned to face-to-face learning in many countries worldwide, ongoing outbreaks have kept some schools closed. This highlights the urgency of addressing

Figure 1. Theoretical Model Which Informed Analysis



health and educational deficits, particularly among disadvantaged populations.<sup>35</sup>

Well-resourced communities carefully planned for school re-openings, considering key aspects such as support for parents, school leaders and staff, teachers and students.<sup>36</sup> However, while many schools recognize the COVID-19 educational gap and are planning academic interventions for children to catch up<sup>13</sup> it is becoming increasingly clear that without adequate development of targeted health promotion programs to address the declines in physical and mental health, children and adolescents will not have the capabilities to flourish.<sup>33</sup>

For every child to excel, multifaceted school health promotion programs that address multiple health capabilities are essential, highlighting a need for innovation in this area. Despite many existing school health promotion resources, no developed and tailored international framework specifically aids schools in navigating physical and mental health promotion for young people during and after the COVID-19 pandemic.

This unique study aims to address this gap and advance understanding and practices in school health promotion. This study examined the current health and educational impacts of COVID-19 on young people in the emerging literature utilizing Sen's Capabilities Approach as a theoretical framework to inform the design of an internationally relevant framework for schools to support children and adolescents through and after the COVID-19 pandemic.

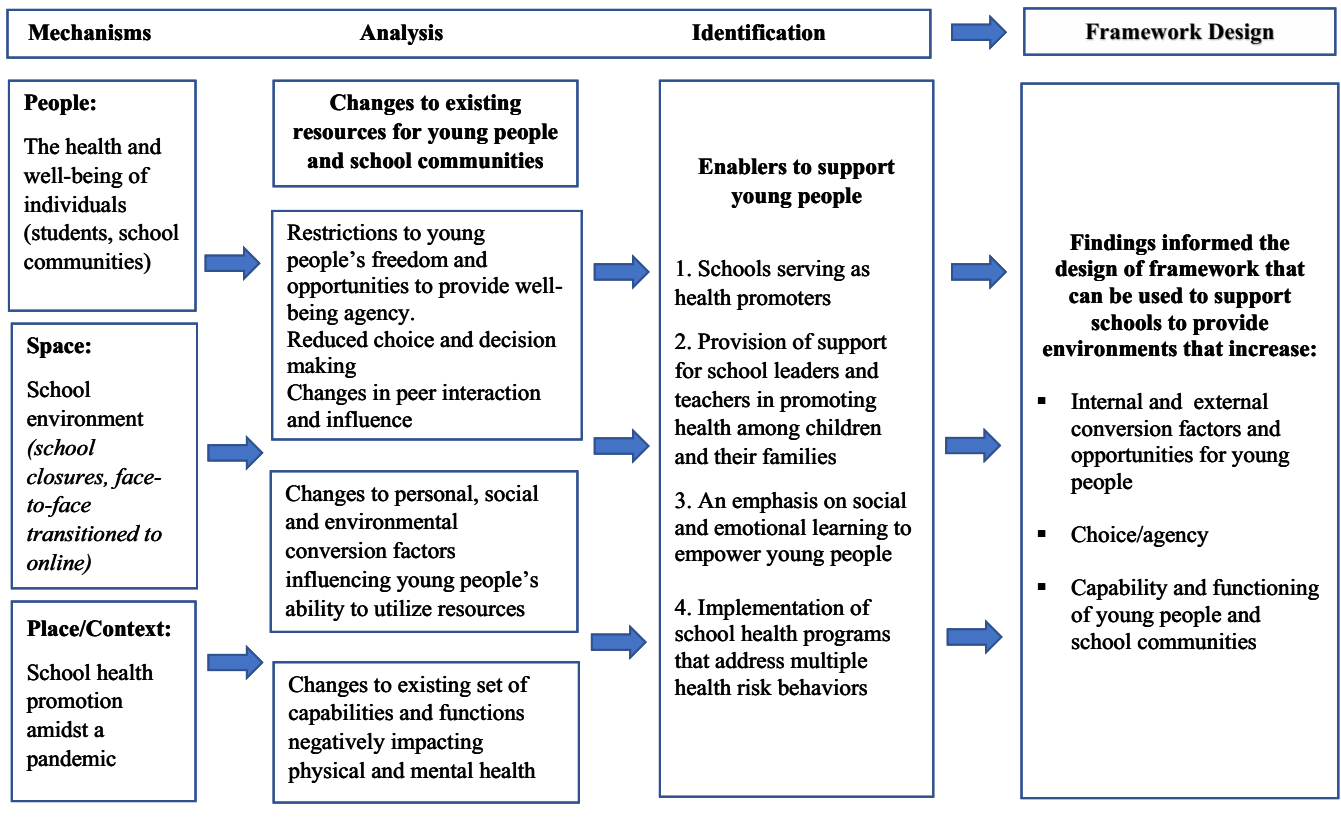
### Theoretical Model and Analysis

The analysis was guided by a theoretical model (Figure 1) and informed by Sen's Capabilities Approach.<sup>26</sup> This model served as a lens to examine the existing and emerging research focused on the COVID-19 pandemic and school health promotion. In the context of school health promotion amidst a pandemic, we investigated changes to individuals and school communities and learning environments, including changes to online learning. We identified and mapped young people's physical and mental health resource changes due to the pandemic. Proceeding to examine internal (individual/personal factors) and external conversion factors (environmental and social factors), we also investigated potential capabilities (sets of functions and choice/agency) to identify strategies to support young people to function and flourish through and after the COVID-19 pandemic. This process led to the identification of four central *enablers*, which were utilized in the design of the International Framework for School Health Promotion (IFSHP).

### FINDINGS AND DISCUSSION

Mapping impacts of COVID-19 within the emerging literature and identifying mechanisms for physical and mental health across people, space and place components in the school context indicated that all the individuals in the school environment had been significantly impacted, including students, teachers and school staff, school leaders and respective

Figure 2. Flow Diagram: Overview of Findings



parents/carers and members within the local school community (see Figure 2). This reduction in physical and mental well-being within the school community ultimately led to changes in young people's access to resources, including support networks, peers and community services. Structurally, regulations and changes to school rules, policies and practices reduced young people's opportunities for freedom and agency. Additionally, changes in personal, social and environmental conversion factors influenced young people's ability to draw on and build health and well-being resources and led to reduced physical and mental health functioning. Aligning with these current issues, we mapped potential enablers to support young people in maintaining their physical and mental health (see Figure 2). Challenging the COVID-19-related disruptors by embedding health promotion into school curriculum is likely to lift the agency of young people to draw on their capabilities and result in better educational and well-being outcomes. The analysis led to the emergence of four central enablers for young people:

1. Schools serving as health promoters.
2. Provision of support for school leaders and teachers in promoting health among children and their families.

3. An emphasis on social and emotional learning (SEL) to empower young people.
4. Implementation of school health programs that address multiple health risk behaviors.

Identified enablers were then used to inform the design of an internationally relevant health promotion framework that addresses the increasing physical and mental health needs of children and adolescents.

#### Identification of Enablers

**Schools serving as health promoters.** In 1995, the World Health Organization (WHO) developed the Global Health Initiative,<sup>37</sup> designed to mobilize and strengthen health promotion activities within local, national and international school settings. Both the WHO and UNESCO recognize schools as globally strategic platforms uniquely positioned for health promotion crucial for developing healthy lifestyle behaviors and lifelong skills.<sup>38</sup> As school communities try to manage the long-term impacts of COVID-19, they require extra support to implement innovative health promotion practices, particularly in disadvantaged areas that have experienced disproportionate health impacts.<sup>35</sup> Schools remain well-positioned to integrate existing health policy and to continually

revise and innovate existing programs to meet the needs of their local communities.<sup>39</sup>

**Provision of support for school leaders and teachers to promote health in children and their families.** Responding to COVID-19 has caused an increase in stress and anxiety and significantly impacted the well-being of teachers and school leaders.<sup>40</sup> Over a very brief period, teachers were mandated to adapt their learning modules for school-at-home instruction, often tailoring their materials for both online delivery and hard-copy distribution. Teachers were also required to contact students, often online, which blurred the physical, temporal and psychological boundaries between home and school, creating increased stress and anxiety levels associated with online teaching.<sup>41</sup> It is important to note that teachers under stress are less likely to effectively support health education programs, especially those related to student well-being.<sup>42</sup> Consequently, the complex systematic impacts of COVID-19 require the collaboration of various community sectors to support young people effectively.

Amid the COVID-19 pandemic, school leaders and teachers, as influential community members, can guide children and their families or carers in developing healthy behaviors and life skills that extend beyond the pandemic.<sup>43</sup> However, as COVID-19 has presented school communities with unprecedented challenges, teachers require extra support for their mental and physical health. By supporting teachers, they can strengthen their capacity to design appropriate and effective local school-level health programs and to deliver impactful learning experiences. While experts have developed existing health education resources within the health and education system, many are limited in their alignment to legislated curricula, making their implementation burdensome or necessitating modifications to fit the local context and meet the needs of teachers and students. Furthermore, some health resources require individual teachers or schools to pay for access, which is unfeasible for many socioeconomically disadvantaged schools<sup>44</sup> highlighting a need for freely available resources to enhance existing school health promotion programs.

**An emphasis on SEL to empower young people.** SEL programs in schools have shown an 11% improvement in academic achievement, 25% improvement in social and emotional skills, and a 10% decrease in misbehavior, anxiety and depression.<sup>45</sup> As children transition from one learning environment to another—for instance, from face-to-face learning to an online context or from primary to high school—they require the capabilities to choose how they will navigate the change. The transition from primary to secondary schooling, a critical developmental juncture when the risk of educational disengagement is at its

highest,<sup>46</sup> has been complicated by the disruptions due to COVID-19, amplifying negative impacts on student health and well-being. School programs, therefore, should prioritize supporting young people through transitions equipping them with the capacity to draw on resources around them to engage with change. Establishing and enhancing existing health promotion transition and resilience programs in schools as programs are perceived as a key strategy to improve educational engagement and to contribute to social and emotional well-being, especially for students from low socioeconomic backgrounds.

**Implementation of school health programs that address multiple health risk behaviors.** COVID-19 restrictions have undeniably disrupted the daily routines of children, parents, and teachers, exacerbating the already prevalent physical, behavioral and mental health issues for children and adolescents.<sup>39</sup> The WHO's global status report published in October 2022 indicated that 81% of 11 to 17-year-olds are not meeting the recommended daily physical activity guidelines.<sup>47</sup> In addition, sedentary behavior and screen-time have increased since the start of the pandemic, with sleep quality and healthy nutritional intake also on the decline.<sup>17,20</sup> Given that these health outcomes have a bidirectional relationship with mental health, it is imperative for schools to explore ways their school programs can cultivate environments aiming to enhance health across multiple areas.<sup>48</sup> Recent recommendations published in *The Lancet* advocate for teachers to integrate movement opportunities and health-related messages into daily routines and lessons.<sup>16</sup> There is a critical need for multifaceted and holistic school health promotion programs and interventions that address multiple health outcomes such as physical activity, nutrition, sleep and mental health. This underscores the urgency of supporting children and adolescents in managing the ongoing and anticipated longer-term health impacts of COVID-19.

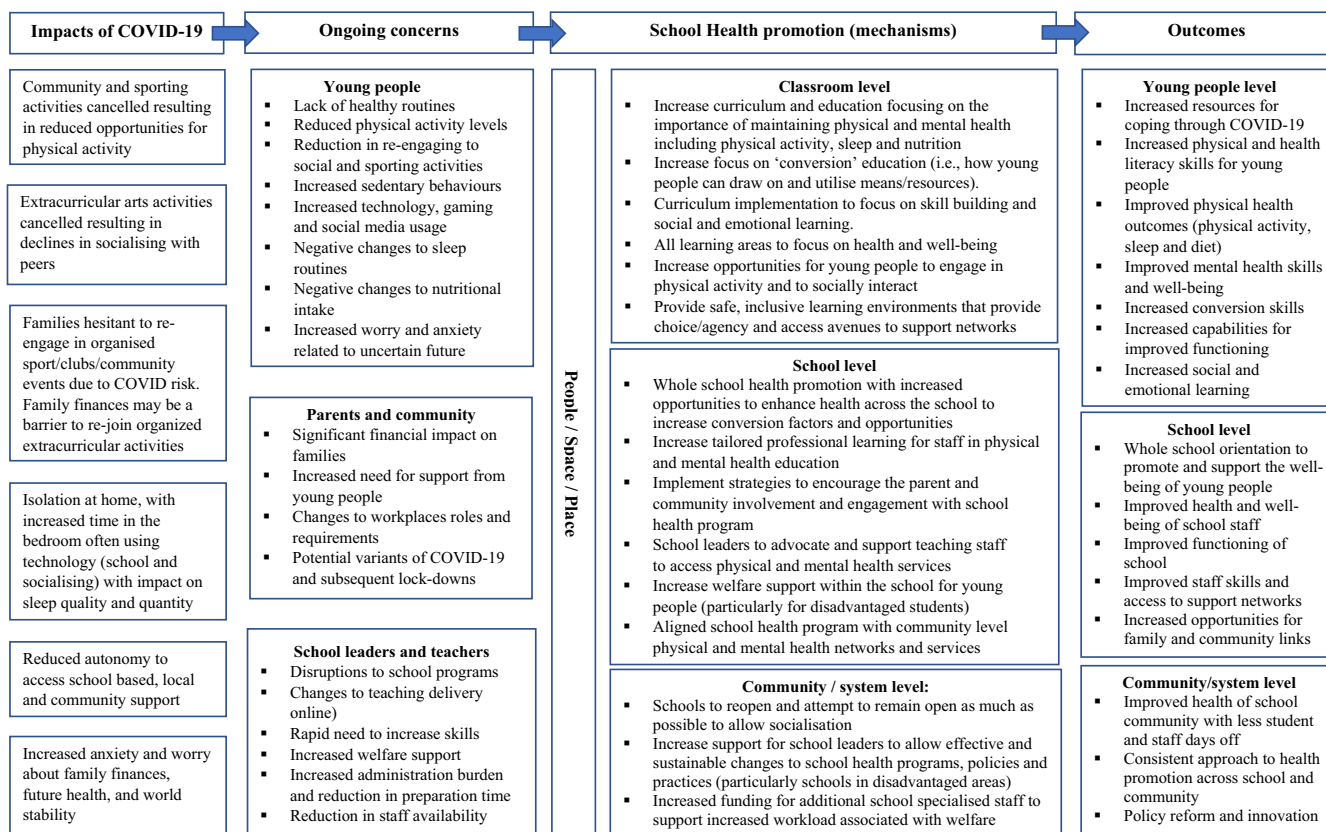
### Design of the IFSHP

Globally, it has been recommended that schools foster environments that facilitate opportunities for healthy behaviors and the development of social and emotional skills.<sup>49</sup> However, current guidance for school leaders on innovating existing school programs to meet young people's escalating health and educational needs is lacking. Given the issues affecting young people today, schools require assistance in implementing comprehensive health programs that empower students with the freedom, knowledge and skills to thrive. Consequently, there is a timely need for a globally relevant framework for school health promotion to guide and support school leaders.

By employing Sen's Capabilities Approach as a theoretical framework and considering ongoing

**Figure 3. An International Framework for School Health Promotion and Flourishing of Young People**

**CONTEXT:** The COVID-19 pandemic has significantly disrupted young people’s daily routines, access to support and health maintenance opportunities.  
**PROBLEM:** Predicted long-term health, social and education impacts for young people as a result of the COVID-19 pandemic.  
**UTILIZATION:** Framework to be utilized by school systems, leaders and teachers to support young people to flourish through and after the pandemic.



concerns and impacts of COVID-19, we have identified existing resources, mechanisms and enablers. These insights informed the design of the IFSHP. This framework aims to support school health programs, their teachers, staff and young people during and beyond the COVID-19 pandemic (see Figure 3).

### Limitation of This Study

It is acknowledged that a limitation of this study is that the utilization of Sen’s Capabilities Approach as a theoretical framework may have narrowed the scope of examined literature, potentially failing to capture all of the current issues impacting children and adolescents due to COVID-19. Nevertheless, the IFSHP framework delineates mechanisms across three levels (classroom, school and community). These are key considerations for those within educational systems and institutions aiming for improved health and educational outcomes. School leaders are encouraged to arrange leadership meetings with their teaching staff to review their existing school health promotion programs and apply our framework to identify feasible implementations within their specific context. We

recognize that some schools may face constraints, limiting the adoption of certain mechanisms. Yet, if schools utilize this framework to innovate their health programs, it may facilitate the attainment of the desired outcomes, thus improving young people’s physical and mental health. In the subsequent sections, we provide a series of implications and recommendations for practice across the classroom, school and system levels in line with Figure 3.

### IMPLICATIONS FOR SCHOOL HEALTH RESEARCH, POLICY, PRACTICE AND EQUITY

#### Classroom Level

At this level, teachers are encouraged to design learning experiences centered on skill-building, including amplifying young people’s understanding of how they can leverage their resources to navigate the COVID-19 pandemic. The creation of safe and inclusive learning environments is paramount, with flexible content delivery and provision of autonomy and opportunities for social interaction and cooperative learning. A holistic approach to physical and mental



health promotion is crucial, underscored by education on the reciprocal relationships between physical activity, sleep, nutrition and mental health. Curriculum programs should educate young people on utilizing their existing capabilities and accessing opportunities wellness and academic success. Prioritization of targeted programs for disadvantaged students is necessary, given the disproportionate health impacts of COVID-19.

### School Level

School leaders are encouraged to strategize how their institutions can implement mechanisms that support young people leveraging their existing skills and building additional, tailored capabilities to navigate the post-COVID-19 world. In light of the significant impact and increased burden COVID-19 has imposed on teachers' daily routines, school leaders should explore options for enhanced professional learning, as the need to support teacher well-being remains critical.<sup>50</sup> Schools should aim to increase opportunities for young people to engage in positive health behaviors, including physical activity and peer socialization. Furthermore, it is recommended that school leaders and teachers strengthen parental and community connections to bolster internal and external support for young people.

### System Level

On this level, prioritizing the continuance of in-person schooling should be a primary focus, ensuring all young people can access their regular face-to-face educational activities with minimal reliance on distance or online delivery. Extra attention should be directed towards vulnerable student groups within the school community, particularly those transitioning from primary to high school—a period known for its challenges. With the complexity of supporting the physical and mental health needs of young people increasing, particularly in disadvantaged areas, school leaders, teachers, and staff require additional funding and support.<sup>51,52</sup> Furthermore, the allocation of resources and time may be necessary for leaders and staff to effectively evaluate current programs, policies and practices to innovate existing school health promotion programs. This will help meet young people's amplified physical and mental health needs during the COVID-19 pandemic and beyond.

### Conclusions

The COVID-19 pandemic has globally disrupted the lives of young people, leading to adverse impacts on their physical and mental health and raising serious concerns about long-term health and educational outcomes. Schools continue to serve as pivotal locations for health promotion, with school leaders and

teachers retaining their influential roles as community members able to positively shape young people's health and well-being. This unique study sought to enhance comprehension and practices in school health promotion by developing an internationally applicable school health promotion framework. This framework aims to assist schools in navigating school-based physical and mental health promotion initiatives for young people during and beyond the COVID-19 pandemic. Our findings underscore that school leaders and teachers require additional support to implement innovative school health promotion programs that align with the increased needs of young people and school communities. We offer an internationally informed framework for school health promotion, which schools can employ to review their existing school health programs, policies, and practices. This framework enables the implementation of effective strategies to support young people across multiple health areas, empowering them to thrive through and after the COVID-19 pandemic.

### Conflict of Interest

The authors declare there are no competing or conflicting interests.

### Author Contribution

All authors contributed to the conception of this study, analysis and construction and revision of the manuscript.

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