



## Schools' context and COVID-19 | Fact-sheets collection from the Portuguese COVID-19 pandemic Task Force on Behavioral Sciences

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### Abstract

Children and adolescents represent a relatively small proportion of total COVID-19 cases, with low rates of severe illness. Transmission in school settings is generally limited, primarily involving staff rather than students. On the other hand, school closures, though minimally effective in reducing mortality, have had severe psychological, developmental, and educational impacts, particularly on vulnerable populations. Educational institutions play a key role in children's cognitive, emotional, and behavioral development and are central in promoting public health behaviors. This policy brief aims to leverage school environments to mitigate COVID-19 transmission, while safeguarding students' well-being and educational development. It integrates behavioral science models to support sustained health-promoting behaviors and addresses equity concerns associated with school closures. Key messages are: schools are essential platforms for health education and the promotion of protective behaviors. Applying the COM-B model, this framework advocates for regular updates on local epidemiological conditions, integration of health topics into curricula, and student-led initiatives to reinforce preventive practices. Schools should remain open with enhanced psychological support and targeted interventions, especially for transition-year students. Intergenerational transmission of protective behaviors, reinforced through structured school activities, can foster widespread community health benefits. Active mobility strategies and health literacy initiatives further complement efforts to maintain safe learning environments. The framework underscores the necessity of inclusive, context-specific measures that prioritize mental health, educational continuity, and long-term public health resilience.

**Keywords:** COVID-19, schools, behavioral science, health education, wellbeing promotion.

### Introduction

Young people of pre-university age represent approximately 15% of the Portuguese population (Statistics Portugal, 2021). Currently, the total number of COVID-19 cases among young people aged 10-12 years of age (1.<sup>o</sup> and 2.<sup>o</sup> school cycle) is very low; worldwide, the

number of COVID-19 cases among young people up to 18 years of age represents 8.5% of the total number of reported cases, with a relatively few severe cases (mostly, these severe cases occurred among young people with pre-existing medical conditions) (WHO, 2020). The majority of cases of COVID-19 transmission within school contexts occurred among education

professionals (less frequently among students) (Ismail et al., 2021). According to recent national-level data from the General Directorate of School Establishments (DGEstE), an estimated 2.6% of the school population (students, teachers and non-teaching staff) was infected by SARS-CoV-2 within school settings, from which only a very marginal percentage account for cases with some severity. Additionally, it is established that the transmission of SARS-CoV-2 within school settings does not have a relevant impact on the increase of community infection levels (WHO, 2020), with school closures estimated to prevent only 2% to 4% of total COVID-19 related deaths (Viner et al., 2020).

There is robust evidence that suggests that severe adversities, such as disasters, natural catastrophes or losses, are associated with significant psychological distress among young people, often resulting in an increased prevalence of cases with learning difficulties (Group of eight - Australia, 2020).

Pre-school education and education throughout the different school cycles allows for cognitive, emotional, motor and interpersonal development-level gains (with very high cost-effectiveness), which cannot be achieved through online teaching (UNESCO, 2021; WHO, 2020). Young people have considered that online schooling was not effective in terms of learning (WHO, 2020), having also potential to aggravate social inequities (Group of eight - Australia, 2020; WHO, 2020), with substantial evidence suggesting that the closing of school as means for controlling the pandemic negatively impacts subjective and psychological well-being, and disproportionately harms low-income families and those in an already vulnerable situation (Van Lancker & Parolin, 2020; WHO, 2020).

## Relevant pieces of knowledge for public health action

- According to the COM-B model of understanding human behavior, explaining and predicting behavioral choices on bases of determinants of (individual) capacity, (contextual) opportunity and motivation, educational settings represent an

opportunity of intervention with enormous relevance for building the individual capacities of young people and (future) adults, as well as for making behavioral choices that prevent (in the short, medium, and long term) the contagion and transmission of infectious diseases (among other health behaviors) (Michie & West, 2021).

- The school represents an opportunity setting for building preventive COVID-19 related habits among young people (and possible future pandemics), with the potential for life-long endurance of those healthy habits (Clark et al., 2020), and with the prospect to promote the same preventive behaviors among adults through the intergenerational construction of social norms (building social norms, from young people to adults) (Knafo & Galansky, 2008; Parth et al., 2020; Žukauskienė et al., 2021).
- The school represents a strategic setting for health education about SARS-CoV-2, COVID-19 and the pandemic (in general), as well as for promoting adherence to health behaviors that can combat the pandemic among young people and their families, especially if teachers and students address and enforce this context in their discussions of the pandemic (Group of eight - Australia, 2020; Jansen et al., 2021; Knafo & Galansky, 2008; Krishnaratne et al., 2020; Lee et al., 2021; Matos & Wainwright, 2021; Žukauskienė et al., 2021).
- Learning protective behaviors by young people promotes the community adoption of health behaviors in the short, medium and long term (learning habits maintained into adulthood) (Clark et al., 2020).
- The school can enhance the acquisition of transversal skills in cognitive self-control and emotional regulation, which in turn is associated with healthier choices throughout life, with immediate effects (Clark et al., 2020; Villa González et al., 2022).
- Promoting active forms of "soft mobility" (e.g., walking or cycling) between home and school may be a promising strategy to minimize the risk of SARS-CoV-2 transmission as they promote physical distancing in open spaces and reduction of grouping of children and parents on

the home-school-home route (including at the school entrance), while at the same time contributing to environmental protection (by reducing pollution emitted by motor vehicles) (Villa González et al, 2022).

## Calls for action

- Based on the existing evidence, the emphasis on keeping schools open is appropriate, with special attention to be placed on certain groups of young people, in particular students of the first learning cycle (children up to 10 years old, mostly) and those that transit between educational cycles (and/or transfer to another school), as these are groups with special needs in terms of socialization and emotional and academic support. Given the impact of the pandemic on public mental health, namely among young people, it is important to reinforce the psychological support offered by schools by increasing the visibility of the existence and easy accessibility of this type of support. Furthermore, it remains important that interventions have also a particular focus on preventing the transmission of SARS-CoV-2 among education professionals (i.e., not limited to young people).
- It is important to reinforce the schools to empower young people and education professionals to make behavioural choices for COVID-19 prevention, promoting health literacy related to SARS-CoV-2, COVID-19 and pandemic control, namely through:
  - a) Biweekly update of the epidemiological status, based on the risk matrix at municipal level, together with the promotion of young people's perspectives on the pandemic and pandemic control; the update must be adapted to the age/level of the students;
  - b) Promoting opportunities for joint reflection about the pandemic within the school, while avoiding use contents that promote negative emotional activation (e.g., references to hospitalizations, deaths), while highlighting the importance of protective behaviors at the individual level (use of mask, physical distancing, hand hygiene), the structural level (number of students per classroom, ventilation of classrooms) and at the organizational level (creation of social bubbles, timetables, etc.), with the maximum possible involvement of students in the process of defining and implementing those measures; this reflection can be done on a weekly basis (for example, by the Class Directors, starting from the second cycle of education and higher); and it is crucial that each moment of reflection focuses on a limited number of preventive behaviors;
  - c) Inclusion of topics related to the pandemic and protective behaviors (use of masks, physical distancing, hand hygiene, ventilation of closed spaces) in the usual curricular programs (i.e., using topics related to COVID-19 to explain the scheduled curricular topics);
  - d) Production of materials by the students that may help to facilitate behavioral activation: signage and posters illustrating protective behaviors (use of masks, physical distancing, hand hygiene, furniture hygiene, ventilation of spaces), and specific instructions on where to post these materials (classrooms, hallways, recreation spaces);
  - e) Involve young people, guardians, and education professionals, in defining risk mitigation measures at school level.
- Maintain/reinforce mitigation measures in the school context: ventilate closed spaces (classrooms), maintain distances between students' desks, regularly sanitize furniture (e.g., desks), maintain the same sitting place in classrooms (Clark et al., 2020; Knafo & Galansky, 2008; UNESCO, 2021; WHO, 2020; Žukauskienė et al., 2021). To maximize the adherence by students, parents and education professionals to COVID-19 related health and protective behaviors, it is crucial that the number of related rules in each school is limited.
- Reinforce self-care literacy outside of school (especially in the case of school closures), including: maintaining social contact with peers, maintaining study routines and healthy habits (nutrition, physical activity, sleep, and sun exposure, whenever possible); promotion of online activity clubs

with the involvement of education professionals (e.g. chess clubs, radio, newspaper, YouTube channel, schools' social network); promotion of creative activities (writing texts, painting, sculptures, videos, etc.) related to the pandemic.

- In the case of closure of schools as a pandemic control measure, it is important that the last schools to close are those located into more socio-economically disadvantaged regions, in order to mitigate the increase in inequities associated with school closures.
- Conduct effectiveness studies of different measures implemented in schools while accounting for: number of infected people (students, from different ages and school levels, and education professionals), attitudes towards COVID-19 (among students, parents, and education professionals), risk perception and perception of barriers, facilitators, usefulness and self-efficacy for carrying out protective behaviours.

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