Greek children's views of COVID-19 preventive practices

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ABSTRACT
This paper explores 4- to 9-year-old children's views of the COVID-19 pandemic preventive practices. The sample consisted of 189 children from different parts of Greece, who expressed their views verbally and through drawings. Content data analysis yielded different categories of preventive practices falling within two main themes: Hygienic (e.g., handwashing), and Social (e.g., staying at home). Overall, children proposed appropriate practices, in line with official guidelines and previous research findings. Moreover, they seem to focus on social preventive practices more than hygienic ones. Age-related differences as well as differences between the two modes of expression were also recorded.

KEYWORDS
Children, COVID-19, preventive practices

RÉSUMÉ
Cet article explore le point de vue des enfants de 4 à 9 ans par rapport aux pratiques de prévention de la pandémie de COVID-19. Cent quatre-vingt-neuf enfants de différentes régions de la Grèce ont exprimé leurs opinions verbalement et par des dessins. L'analyse de contenu des données a conduit à la formation des catégories de pratiques préventives relevant de deux thèmes principaux: hygiénique (par exemple, se laver les mains) et social (par exemple, rester à la maison). Tous les enfants ont proposé des pratiques appropriées, conformes aux directives officielles; ce qui est en accord avec les résultats de recherches antérieures. De plus, ils semblent se concentrer sur les pratiques sociales préventives plus que sur les pratiques hygiéniques. Des différences liées à l'âge ainsi que des différences entre les deux modes d'expression ont également été identifiées.

MOTS-CLÉS
Enfants, COVID-19, pratiques de prévention

INTRODUCTION

The COVID-19 pandemic has put humanity in an unprecedented situation, with people of all ages receiving an abundance of messages regarding SARS-CoV-2 infection and pertinent preventive measures, which they were expected to manage and adopt appropriate hygienic and social practices (Soma, 2020; Valadez et al., 2020). Facing this emergency early in 2020, many countries have imposed severe restrictive measures and broadcasted campaigns involving visual and verbal slogans to promote citizen adherence to safe behaviour (Berasategi et al., 2020; Bray et al., 2021a). In Greece, a strict lockdown has been imposed between March 23th and May 4th, 2020 during which citizens have been required permission to leave their homes for specific reasons. Also, nursery and primary schools closed between March 11th and June 1st. These measures were vastly communicated through the media and a 'We Stay Home' visual logo (Figure 1) has been launched by the Greek Ministry of Health.

FIGURE 1

The 2020 "We Stay Home" campaign logo ["Logo of the "We Stay Home" campaign", by the Hellenic Ministry of Health (2020) (CC BY 3.0)]

As a result, everyday life has been overly disrupted by the imposed restrictions, among which school closures and remote schooling, social distancing, and limited contact with friends and elderly family members. Although not being the most physically vulnerable parts of the population in regards to the infection, children are not invulnerable to the pandemic (Berasategi Sancho et al., 2021) as regards their overall wellbeing (Assante & Candel, 2020; Avila et al., 2020; Bray et al., 2021a; Soma, 2020), since the latter is far more than the absence of disease, but a multifaceted concept involving psychological, physical, academic, and social dimensions (Berasategi et al., 2020). Specifically, children's wellbeing has deteriorated by the confinement in terms of physical activity and high values of sedentary time (up to 72% of the daily activities) have been reported during the first phase of the pandemic (Cordovil et al., 2021). Other factors affecting children's wellbeing involved schoolwork overload, negative emotions such as sadness, nervousness, anxiety, uncertainty, emotional fatigue, and anger (Melo et al., 2021; Idoiaga Mondragon et al., 2021), fears of catching the disease and transmitting it to their family members, eating habits, and time spent in front of screens (Cordovil et al., 2021). Children reported being deprived of fresh air for weeks, which also made them primarily sedentary, and they missed outdoor exercise as well as peers and caregivers (Berasategi Sancho et al., 2021). On the other hand, everyday life has been reported to improve in terms of family routines and indoor play with family members (Idoiaga et al., 2020; Folino et al., 2021).

To date, most information campaigns about the pandemic have been designed by and addressed to adults. However, effective management of the pandemic requires that children are taken into account as important social actors, and as equal co-learners of scientific knowledge

(Bray et al., 2021b). Thus, exploring children's views about ways of responding to the crisis is crucial to determine possibly inappropriate conceptualizations of the available information, to formulate age-appropriate, simple, and accurate explanations that they could meaningfully handle, and to preserve their overall wellbeing (Assante & Candel, 2020; Avila et al., 2020; Berasategi et al., 2020; Bray et al., 2021b; Idoiaga et al., 2020).

So far, research underlines children's sensitivity to perceive and adopt adults' reactions to the pandemic (Valadez et al., 2020) and their preliminary understanding of COVID-19, its transmission, and necessary mitigation practices such as social distancing or handwashing (Bray et al., 2021b; Idoiaga et al., 2020). However, existing studies have focused on children's understanding of COVID-19, with most of them relying on verbal data collection instruments (Bray et al., 2021b; Idoiaga et al., 2020; Kayemba et al., 2020), while only one (Bray et al., 2021a) used children's drawings, acknowledging their potential to capture the range and variety of their conceptions, especially when combined with verbal tasks (Driessnack & Gallo, 2013). Furthermore, questions about the development of these conceptions with age have not been adequately addressed. In the present study, we attempted to investigate children's views of the COVID-19 preventive practices by using two modes of expression, namely verbal and drawing. Furthermore, we explored whether these views vary as a function of children's age and mode of expression.

METHOD

Participants

The sample consisted of 189 children divided in two age groups (a) 4- to 6-year-olds (N = 105, 45 boys and 60 girls, M_{age} = 5.64) and (b) 7- to 9-year-olds (N = 84, 44 boys και 40 girls, M_{age} = 7.76). Participants were approached through a snowball sampling procedure and were drafted from different parts of Greece after parental consent was obtained.

Procedure

Data were collected during the first wave of the COVID-19 pandemic (April and May 2020), and due to the strict lockdown conditions, the procedure was completed through video calls. Specifically, each child was examined individually while being in his/her home, and his/her parents were asked to provide -if needed- their technical assistance and support for the completion of the procedure.

First, children were asked to describe verbally the preventive practices they adopt to avoid the spread of the disease ("*Please tell me, what can we do to protect ourselves from the coronavirus disease?"*). Next, they were prompted to use a white page and their crayons and to draw their relevant precautions ("*Please make a picture, showing what you are doing in order to protect yourself from coronavirus*"). After completing their drawings, they were also asked to describe their picture.

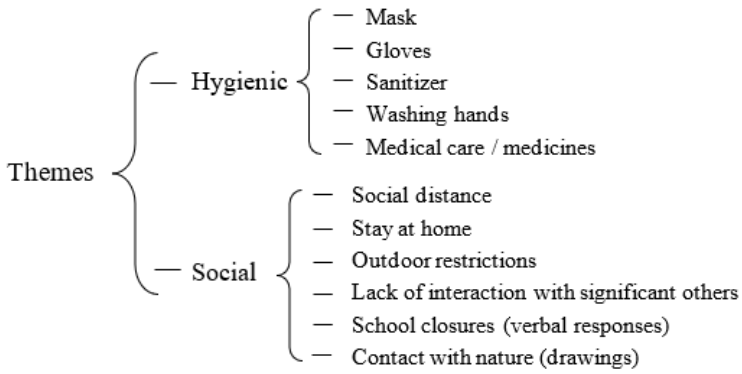
Children's verbal quotes were transcribed verbatim, while photos of their drawings were emailed to the researchers by their parents. Data were content analyzed to identify the general themes and specific categories of preventive practices described and depicted by participants.

RESULTS

Content analysis revealed two main themes i.e., the Hygienic and the Social, each one involving the categories indicated in Figure 2. It should be noted that the category of school closures was only mentioned verbally, while contact with nature was only found in children's drawings.

Overall, children predominantly referred to Outdoor restrictions and then to Stay at home, while their drawing representations included mainly signs of Staying at home (see Table 1).

FIGURE 2



Themes and categories in children's verbal responses and drawings

TABLE 1

Frequencies of preventive practices in children's verbal quotes and drawings by age group

Preventive practices	**Verbal descriptions**			**Drawings**		
	Age groups					
	4-6 yrs	**7-9 yrs**	**Total**	**4-6 yrs**	**7-9 yrs**	**Total**
Hand washing	46	51	97	24	23	47
Sanitizer	15	20	35	10	14	24
Gloves	16	20	36	11	15	26
Mask	30	32	62	22	22	44
Medical care	8	2	10	3	1	4
Distance	26	31	57	13	14	27
Stay Home	63	53	116	65	64	129
Outdoor restrictions	80	68	157	5	6	11
School	31	18	49	0	0	0
Significant Others	40	29	69	6	1	7
Contact with Nature	0	0	0	14	7	21

For example, an 8-year-old girl, when asked to propose appropriate preventive practices said: *"We should stay at home and wash our hands, we can't go out or hug"*, while a 5-year-old boy suggested: *"We should stay inside, only inside. Because if we go out the coronavirus will get in our body and we will die. Only the adults can go out to bring us food and stuff, not the children. And we should forget about travel"*. Figure 3 illustrates two examples of drawings.

FIGURE 3

Drawings of a 7-year-old boy (left) and a 6-year-old girl (right) indicating hygienic and social preventive practices respectively

In a next step, we calculated two composite scores for each type of response (verbal vs drawing) by summing up the incidences of hygienic and social categories (range 0-5). These data were analyzed by a 2 (*age group:* 4-6, 7-9) X 2 (*type of practices*: hygienic, social) X 2 (*mode of expression*: verbal, drawing) mixed ANOVA with repeated measures on the two last factors. The analysis showed (a) a significant main effect of age group, $F(1, 187) = 6.95$, $p = .009$, showing that older children ($M = 1.46$) presented higher scores than younger ones ($M = 1.26$), (b) a significant main effect of mode of expression, $F(1,187) = 227.362$, $p < .001$, indicating that children reported more preventive practices in their verbal responses ($M = 1.81$) than in their drawings ($M = .91$), (c) a significant main effect of type of practices $F(1,187) = 51.69$, $p < .001$, showing that social practices ($M = 1.68$) were reported more often than hygienic ones ($M = 1.04$), and (d) a statistically significant interaction between type of practices and mode of expression, $F(1,187) = 37.42$, $p < .001$.

DISCUSSION

The results of the present study indicate that during the first wave of the pandemic in Greece, 4- to 9-year-old children showed a considerable level of awareness of the practices needed to mitigate the spread of the disease. In line with previous research (Bray et al., 2020a), children did not express inappropriate views and seemed to align with the dominating slogans at the time of the first lockdown, especially the "Stay at home" message, widely diffused by the government through the media at the time of data collection. This could account for the high incidence of the relevant category in both their verbal responses and their drawings.

As may be expected, older children described more preventive practices than their younger counterparts, a finding that could be attributed to the increasing with age understanding of illness causality (Myant & Williams, 2005). Moreover, verbal descriptions proved more fruitful than drawings, since children tended to report more practices verbally than graphically. Interestingly, children focused more on social than on hygienic practices, a finding which might reflect the negative consequences of COVID-19 restrictions on children's everyday life and well-being (Soma, 2020; Valadez et al., 2020).

In the present study, children were asked to describe verbally and graphically the preventive practices for COVID-19. However, the extent to which children adopted these practices (Bray et al., 2021a) or understood the reason they were suggested, remains a question to be answered. Although children seem capable of grasping relevant information public health messages should not address the 'public' at large, as an undifferentiated ensemble, but -at least

in the case of children- distinct and meaningful strategies are required to engage them and support their participation in mitigating the pandemic (Bray et al., 2020a).

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