

# Reflections of Global Crises in Childrens' Maps of 2019–2023: Lithuania and Hungary

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## Abstract:

Global crises have a high impact on the world – on the social, cultural and economic development, and on the way people perceive their environment and on our core values. In other words, they inevitably affect each and every one of us, and while the impact is not uniform, it is certainly there. Studies on the impact of global crises on children (Brooks-Gunn, et. al., 2013) have demonstrated that certain events have a negative impact on their psychological state. Children often find it difficult and sometimes frightening to express their thoughts verbally, but these thoughts can be conveyed through drawings. Map drawings are multimodal means of expression that use direct representations, symbols, colours and other connotations to convey different social messages.

In 2019, S.E. Rose and R.P. Jolley carried out a study to find out where children get ideas for their drawings. They found that children's immediate surroundings, personal experiences, and what they see in the media are often considered – all of which obviously shape a child's self-awareness, values, and attitudes towards various world issues. Each mental map of a child is unique and distinctive, but fundamental differences and trends can be analysed and compared between different groups and even different countries. The map drawings submitted to the global biennial B. Petchenik children map contest, organised by the International Cartographic Association in its member countries since 1993, provide a unique research material for this purpose. We present the results of a study carried out in 2023–2024 on children maps focusing on the four recent global crises and issues: the Covid-19 pandemic, military invasion of Russia in Ukraine, environmental problems and socio-economic inequality issues. Expert assessment and cross-checking was used to identify possible manifestations of these issues in children's drawings. Positive identification was based on the direct content, symbols, labels and visual connotations of the drawings. The analysis covered the drawings submitted for the 2019–2023 children map competitions in Lithuania and Hungary. The study involved professional researchers and students from both countries and revealed differences between the countries – some of which were expected and some rather surprising.

The sample from Lithuania included 1393 map drawings. It was the primary research material for this study, analysed in detail and from different angles. The sample from Hungary was much smaller – 315 map drawings, and only covered the submissions of 2023. The Hungarian sample was used to validate the methods of the research, to discuss and compare the results in the live workshop of an international team.

In the Lithuanian sample, at least one of the issues considered was reflected in 276 entries, i.e., in 19.8% of all drawings. This does not mean that the remaining entries did not convey any ideas, themes or issues – only that there were no clearly identifiable links to the themes analysed in this study. Of the 276 entries, 18 were linked to more than one issue: 13 to two and 5 to three issues simultaneously.

The drawings most often depicted the environmental problems – they were reflected in 200 children maps (72% of all 276 maps with the issues considered). Messages on socio-economic inequality were identified in 47 maps (17%), the Covid-19 pandemic in 26 (9.4%) and war in 27 maps (9.8%). 12 maps clearly depicted military actions of Russia in Ukraine.

244 girls and 62 boys clearly represented the issues under investigation. Thus, almost 22% of all girls and about 17% of all boys aimed to convey their dispositions. It was observed that girls were slightly more concerned about environmental and socio-economic issues, while boys were more concerned about the covid-19 pandemic and military aggression. Naturally, the maps by older children had more links to the issues than those by younger children.

In addition to the themes under investigation, colour harmony and spatial coverage were assessed. Colours convey the emotions, which allows for a more objective assessment of the conveyed message. Among all maps that reflected the crises and issues, use of warm colours was very limited. Works depicting military aggression and socio-economic problems had a slightly higher proportion of mixed colour harmonies, on the other hand, a significant share of military aggression drawings were in black-and-white or neutral colour combination. Spatial extent helped to understand the scale of the problem depicted. The majority of the works containing the investigated messages had entire world coverage. The exception is the military aggression theme, where about 40% of the works depict a country or a region. Works on the theme of war have been particularly explicit in their extreme attitudes of indignation.

The method of assessment proved to be appropriate for any children maps. In the Hungarian sample, the most expressed themes were: environmental problems (pollution and global warming) found in 85 works and the space (as exploration or background to represent the Earth) found in 47 works.

Some additional interesting insights were made during the study. In both countries, there is a recurring prominent theme of space exploration, leaving Earth and contact with aliens. Interest in this theme has increased significantly since the 2020–2021. Although both countries have faced recent refugee crises, this theme is completely absent from the children's drawings. It would be interesting to look into the reasons behind this.

Only 2 of the 315 Hungarian drawings analysed depicted war and only one represented the war in Ukraine. There are three more drawings with very slight and general allusion to the war, but in none of them does it appear as the main theme. The submission of drawings representing military topics is very rare in Hungary, e.g. in the competition organized in 2019 only one drawing included a general (and small) allusion to the war. Conversely, in 2023, the main theme of 22 drawings was the friendship and solidarity between peoples. Inequality as main theme was represented in two drawings, but there are references to inequality in drawings e.g. mainly related to environmental crisis. In the same competition the Covid-19 theme was completely ignored. Only one drawing included a girl with a mask, but obviously due to environmental pollution, not pandemic. Hungarian colleagues also classified the drawings according to the type of message that the authors wished to convey: 193 works transmitted an unequivocal positive message, and only 29 were negative, the rest can be considered “neutral” (e.g. representation of countries with flags, physical world, etc).

The representations made by children obviously reflect the influence of the whole environment around them: from their teachers and schools, from what they hear in conversations between adults, from what they see on the internet or on television. The topic is sometimes more important, than whether the message that children convey in their maps has a positive or negative vision, whether it shows a tendency towards a possible positive solution of crises or not.

Children's messages on maps provide an evidence of the inherent diversity in today's cartography, which we adults often limit to the use of the most modern tools to represent information (data) using traditional methods of representation. We often forget that the representation of reality by cartography can not only be complemented, but also often needs more artistic expressions to convey its message to all users, including those people with minimal experience using maps.

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