Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Editorial

Creating a kinder world for children with food allergies

Lessons from the coronavirus disease 2019 pandemic

The coronavirus disease 2019 (COVID-19) pandemic has accelerated the pediatric mental health crisis, with increased rates of anxiety and depression among children, especially during school closures.[1] In-person interactions shifted online, racial and ethnic tensions heightened, and socioeconomic disparities increased. A survey comparing parents' concerns about their children being bullied during the pandemic vs prepandemic revealed decreased concerns when children attended school remotely, which parents attributed to remote learning, and increased concerns in non-Hispanic Black and Hispanic parents, which parents attributed to racism.[2] The definition of bullying is controversial, and prevalence reports depend on measures used.[3] The US Centers for Disease Control and Prevention defines bullying as "any unwanted aggressive behavior(s) . . . that involves an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated."[4]

Children with food allergy (FA) experience increased psychosocial burdens compared with peers.[5] Children with FA are twice as likely to be bullied vs children without FA.[5] Nearly 50% of children with FA report bullying for any reason, and 23% to 34% report bullying owing to FA.[6] FA-related bullying mainly occurs at school, perpetrated by classmates.[3,6] Methods of bullying include relational acts (ie, spreading rumors, excluding), overt nonphysical acts (ie, verbally threatening, teasing), and overt physical acts (ie, throwing or being forced to touch allergens, having food intentionally contaminated with allergens, being pushed or kicked).[3,6] Common reasons for being bullied include simply having FA, being isolated in special groups (eg, sitting at special lunch tables), or carrying allergy medications.[3,6] As a result of bullying, children with FA experience increased depression, anxiety, humiliation, loneliness, and decreased quality of life.[3,6]

School FA policies could have substantial psychosocial impacts. Many schools have policies restricting allergens despite limited evidence for effectiveness in preventing allergic reactions. Specially designated areas such as "nut-free" tables are one of the most common policies.[7] However, students sitting at "nut-free" tables may feel isolated and become targets for bullying. In a study of ethnic minority children with low socioeconomic status, children with FA rated higher for overall anxiety and on subscales of humiliation rejection and social anxiety compared with children without FA.[8] A potential explanation is that in under-resourced schools that may be more likely to have allergen-free tables,[9] children with FA sitting at those tables may feel more isolated.

In this issue of the *Annals of Allergy, Asthma & Immunology*, Merrill et al[10] analyzed the outcomes of remote learning on social well-being in children with and without FA. They used the following 2 distinct cohorts from Manitoba, Canada: a prepandemic cohort collected the year before the COVID-19 pandemic and a pandemic cohort collected for 2 months during the pandemic, when schools were primarily closed to in-person learning. Both cohorts consisted of children with and without FA. Parents of children completed the questionnaires. Mean ages of the cohorts were 7 to 9 years old.

Similar to other studies,[1] anxiety increased in all children during the pandemic. During the pandemic, all children likely experienced similar anxiety triggers, including losses of known and valued activities and interpersonal connections, and experiencing COVID-19 –related illness.

Consistent with other studies,[5] children with FA experienced more bullying prepandemic vs children without FA. An important finding was decreased bullying in children with but not without FA during the pandemic, which the authors proposed as evidence that FA-related bullying occurs primarily at school.[3,6] Another explanation may be that along with school closures, social gatherings outside of school decreased, further reducing opportunities for FA-related bullying.

Although the pandemic underscored the benefits of in-person schooling, this study highlights challenges for certain populations. Children with FA are at high risk of being bullied in schools,[3,6] and shifting to remote learning likely mitigated these risks. Because FA is an "invisible disability," becoming "visible" in situations where food is present, removing opportunities such as school meals or other food-based social interactions may have provided a reprieve for children with FA.

The most surprising finding was that although social isolation during the pandemic increased in children without FA, it was unchanged in children with FA. Through stay-at-home orders, school closures, and social distancing, the pandemic has caused everyone loss of interpersonal connections, leading to loneliness and isolation. An explanation the authors offered for their findings was that children with FA feel less food-related pressure at virtual social events. However, another possibility is that children with FA experience such considerable baseline isolation that the added isolation of the pandemic had little impact. Many coping strategies people with FA use—constant and high levels of vigilance, not sharing foods or utensils, physical distance around allergens, and cleaning surfaces to avoid cross-contact—are strategies emphasizing isolation that people without FA have had to newly adopt during the pandemic.

This study has several limitations. A weakness is not having assessed child race or ethnicity, because these may have important impacts on social well-being. Specific domains of anxiety were not

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assessed. It would be interesting to see whether social or FA-specific anxiety decreased in children with FA during the pandemic. Bullying was not defined, and measures to assess bullying were not presented, which could lead to inaccurate labeling of bullying and misrepresentation of prevalence. It would have been informative to assess reasons for being bullied, including whether owing to FA or other reasons such as race or ethnicity. Finally, findings from cohorts in Manitoba, Canada, may not be generalizable to other populations.

The study by Merrill et al[10] raises important considerations for social well-being among children with FA, with meaningful lessons to be carried beyond this pandemic. It highlights the bullying children with FA face in school and other in-person social interactions. We can use this opportunity to create and implement antibullying curricula in schools and promote zero tolerance of bullying. In addition, the isolation we have all struggled with during the pandemic offers a lens for those without FA to better empathize with those with FA. As we transition to life beyond the pandemic, these lessons can help us work together, through policy and education, to create a kinder environment for children with FA.

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References

1. Viner R, Russell S, Saulle R, Croker H, Stansfield C, Packer J, et al. School closures during social lockdown and mental health, health behaviors, and well-being among children and adolescents during the first COVID-19 wave: a systematic review. *JAMA Pediatr*. 2022;176(4):400–409.
2. Mercado MC, Wang J, Mercer Kollar LM. Parents' self-reported changes in concern about children's bullying—Fall ConsumerStyles and Estilos surveys, United States, 2020 [e-pub ahead of print]. *J Interpers Violence*. doi:10.1177/08862605221078810. Accessed March 16, 2022.
3. Shemesh E, Annunziato RA, Ambrose MA, Ravid NL, Mullarkey C, Rubes M, et al. Child and parental reports of bullying in a consecutive sample of children with food allergy. *Pediatrics*. 2013;131(1):e10–e17.
4. Gladden RM, Vivolo-Kantor AM, Hamburger ME, Lumpkin CD. *Bullying Surveillance Among Youths: Uniform Definitions for Public Health and Recommended Data Elements*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention and US Department of Education; 2014. Version 1.0.
5. Herbert L, Shemesh E, Bender B. Clinical management of psychosocial concerns related to food allergy. *J Allergy Clin Immunol Pract*. 2016;4(2):205–213.
6. Cooke F, Ramos A, Herbert L. Food allergy-related bullying among children and adolescents. *J Pediatr Psychol*. 2022;47(3):318–326.
7. Bartnikas LM, Huffaker MF, Sheehan WJ, Kanchongkittiphon W, Petty CR, Leibowitz R, et al. Impact of school peanut-free policies on epinephrine administration. *J Allergy Clin Immunol*. 2017;140(2):465–473.
8. Goodwin RD, Rodgin S, Goldman R, Rodriguez J, deVos G, Serebrisky D, et al. Food allergy and anxiety and depression among ethnic minority children and their caregivers. *J Pediatr*. 2017;187:258–264.e1.
9. Bartnikas LM, Huffaker MF, Sheehan WJ, Kanchongkittiphon W, Petty CR, Leibowitz R, et al. Racial and socioeconomic differences in school peanut-free policies. *J Allergy Clin Immunol Pract*. 2020;8(1):340–342.e1.
10. Merrill KA, Abrams EM, Simons E, Protudjer JLP. Social well-being amongst children with vs. without food allergy before and during coronavirus disease 2019. *Ann Allergy Asthma Immunol*. 2022;129(4):519–521.