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Mini-symposium: COVID 19: The second year

What we have learnt about trauma, loss and grief for children in response to COVID-19



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Educational Aims

The reader will be able to appreciate that:

- The COVID-19 precautions of social distancing, school closures and community lockdowns have impacted adversely upon children's mental health.
- The pandemic has compounded the already disadvantaged situations of children in areas affected by conflict.
- Having schoolchildren at home full-time is traumatic for children, puts stress on families and increases the risk of domestic violence.
- Grief is characterised by a heaviness, hardship, burden, sorrow, sense of grievance and protest that the world is what it is.

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SUMMARY

The disruption of daily life resulting from COVID-19 and its precautions has taken an enormous emotional toll on children and families. The consequences of disrupted schooling, changed social interactions and altered family dynamics has had some unanticipated positives such as improved on-line educational upskilling and personal resilience. However, the potential longer term implications for educational outcomes, economic impacts of job loss and prolonged financial insecurity, physical wellbeing and mental health remain unclear. The potential for post-traumatic stress disorders from what is experienced by children with imposed isolation from friends and extended family, domestic violence and death of relatives remains concerning. Confronting images and stories relayed through social media and the popular press will challenge children's views of safety, security, trust and potentially rob them of much of the innocence of youth. In an overwhelming global response to the "adult" problems of the COVID-19 pandemic, this article reflects on the consequences of trauma, loss and grief through the perspective of children and how they may alter their view of the world.

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INTRODUCTION

Life is seldom predictable, but less so in the midst of a pandemic. Situations and livelihoods for adults change quickly, and often traumatically, with diverse effects upon the physical and mental wellbeing of children and families. Many of these abrupt

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changes are challenging and bring with them both predictable physical and nutritional problems as well as the less obvious emotional consequences. Food security is a problem across the globe, exacerbated by COVID-19 with its interruption of the schooling programme. School is a sanctuary where education is delivered as well as where so many children receive their most reliable nutrition, enjoy protection from the threat of daytime domestic violence and build companionship and resilience [1].

Many of the emotional consequences of COVID-19 within families have been exacerbated by the precautions of social distancing,

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school closures and community lockdowns. These have impacted upon mental health, which has been shown to be disproportionately worse for younger rather than older children, female parents and unmarried parents [2]. In this US study, 25% of parents and 14% of children had worsening mental health or behavioural problems during the first three months of the pandemic between March and June 2020. Building on this is the observation that disruption to routines is detrimental for children, especially those with preexisting behavioural problems [3]. The changing emotional dynamic of COVID-19 and its impact upon families can be considered as children suffer trauma, experience loss and endure grief in everyday aspects of their lives.

TRAUMA

Symptoms of trauma

Children's responses to trauma are varied, but the manifestations of post-traumatic stress disorder (PTSD), which can follow a single traumatic event or prolonged trauma, are well-known [4] and can include:

- Reliving the event over and over in thought or in play or at night-time
- Nightmares
- Sleep problems: difficulty getting off to sleep or early waking
- Fnuresis
- Irritability and angry outbursts
- Lack of positive emotions
- Intense ongoing fear or sadness
- Acting helpless, hopeless or withdrawn
- Feeling numb

Behaviour problems at home and school, including violence with siblings, parents or peers, may be a response to trauma, including trauma resulting from COVID-19. A history should try to elicit symptoms of PTSD, but also triggers that are unlikely to be revealed without sensitive enquiry such as emotional, physical or sexual abuse at home or elsewhere and bullying at school, which may be directly or indirectly linked to COVID-19.

Trauma and school closures

School closures as a response to COVID-19 are traumatic for children [5] and are arguably often an over-reaction, given that children are less likely to transmit SARS-CoV-2 infection than adults [6]. School closures stop children seeing their friends in person, an important source of mental health support. Having schoolchildren at home puts stress on families and increases the risk of domestic violence.

Sarah Jannat Iqbal, an 11-year-old student from Sheffield, UK designed and conducted an online survey via Google Forms, comprising 15 questions on the social, emotional, physical health and educational impacts of the lockdown and the COVID-19 situation on children and adolescents [7]. The survey, distributed via teachers and social media between April and May 2020, was completed by 162 students age 5–15 (60% female). Sarah found that 98% of children and adolescents were confined to the house during lockdown, 90% with one or both parents; 82% indicated socially missing friends and relatives during the time of the lockdown and 43% stayed in touch by phone or social media. Regarding mental health, 72% indicated they were "concerned or worried", 13% were scared, although 15% were not bothered by the situation. Most (75%) were worried they, their family or friends would get ill from coronavirus, and 31% worried about dying as a result. There were

significant impacts on physical health behaviours, with 47% of young people engaging in no or minimal exercise, 55% snacking more than usual and 24% having gained weight. Most (93%) stated their daily screen time had increased, for educational or entertainment purposes, or both; 88% felt the lockdown affected their education, despite receiving home or online education. Among those sitting exams, 72% were concerned, worried or sad, but 28% were happy not to be experiencing exam stress [7].

While school closures are traumatic in resource-rich countries, their effect is considerably greater in low-income countries, where school is an important source of nutrition for many children [8].

Since the beginning of the pandemic, an estimated 1.6 billion children in 199 countries have been affected by school closures, while nearly 370 million children in 150 countries did not receive a school meal [8]. Girls are at greater risk of not being sent to school or of being taken out of school early, which may not only impair their nutrition and health, but that of their own children [5]. Well-designed school feeding programmes can mitigate early growth failure and allow catch-up, so effective school meal schemes are essential as schools re-open in order to correct the deprivation children experience during closures and to provide an incentive for parents to send their children, especially girls, to school [5].

Child abuse

The available evidence shows that restrictive measures taken to contain the COVID-19 pandemic have been accompanied by increased violence against children and women in both resource-rich [9,10] and resource-poor countries [11]. Calls to child helplines have risen markedly during the pandemic in most but not all countries. It is expected that girls will be at particularly high risk of child marriage due to loss of livelihoods and at increased risk for trafficking [9].

Children in institutional care or on the streets

It is important not to forget the needs of the many children across the world that live outside of family care. Children who live on the streets will face special challenges during COVID-19, especially when the national response includes isolation and physical distancing. Other children may be placed in a variety of forms of institutional care, from large orphanages to group homes [9]. Despite global efforts to provide such children with family care and reintegrate them into families, the COVID-19 pandemic may have a profound adverse effect on their situation. The needs of children outside of family care must be included in child-sensitive responses to the crisis [9].

Conflict

The pandemic has compounded the already disadvantaged situations of children in areas affected by conflict.

Pregnancy and infancy

The COVID-19 pandemic has had widespread impacts on pregnancy, early childhood and parenthood. Pregnant women and their families are experiencing substantial uncertainty and anxiety, with social isolation measures removing them from support structures [12]. Reduced access to antenatal care and fear of healthcare facilities suggest risks of unsafe delivery, low immunisation coverage and late detection and treatment of children with developmental difficulties. In some countries, newborn infants of women with COVID-19 are being separated from their mothers for up to two weeks' isolation/quarantine. Given the extremely low risk infants

face of being infected with SARS-CoV-2 virus, or developing symptoms if infected, this is unnecessary and will interfere with breast-feeding and attachment, so important for child and adolescent development.

Mental health

While the COVID-19 pandemic can negatively affect youth mental health, this is a particular problem for children and adolescents with prior mental health issues, many of whom will need extra support which they may struggle to get [7].

Positives

Some youth from a high-income country with COVID-19, the UK, have described positives of the COVID-19 lockdown [7]:

- Improved life circumstances, e.g. new job, new relationship, changed home arrangements
- Coping mechanisms: learnt as a result of previous lockdowns
- Improved school support
- Structure provided by school or work: feeling productive and accountable
- Mental health support: some cited support received as a result of lockdown

LOSS

Dealing with loss is an important aspect of maturation from childhood to adulthood, as it builds resilience. It is a skill that is typically gained gradually through life experience. Abrupt traumas, such as may occur as a consequence of the pandemic, or indeed in response to the precautions designed to mitigate the anticipated but unrealised consequences of the pandemic, may cause losses that are harder to accept and bring with them lifelong consequences. Losses may be primary such as death and major life changes or secondary, where they may be more covert initially but manifest consequences in time, such as the loss of companionship and altered family dynamics [13].

Loss of loved ones

An untimely death of a parent, sibling or grandparent can be particularly confronting for a child, especially if they are struggling to comprehend the ravages of the pandemic across the globe. Additionally, the threat of death in elderly relatives who live remotely provides an ongoing source of stress to families in the setting of fear of infection. Death is a painful experience for the whole family, exacerbated by the quarantining restrictions and the inability to have contact in the final days, provide comfort, say good-byes, be able to attend funerals and provide mutual support to grieving friends and relatives [14]

Loss of parental work

Economic adversity is recognised as a precursor to harsh parenting [15] and parental depression is predictive of harsh parenting [16]. A history of child abuse is predictive of further child abuse as seen in one on-line questionnaire study of 342 American parents which reported that the odds of being psychologically maltreated (parental belittling, ridiculing and threatening harm) and physically abused (corporal punishment or assault) during the pandemic were 112 and 20 times higher respectively among American children who were maltreated in the year prior to the pandemic [17]. Parents who lost their jobs were 5 times more likely to be depressed in the same study. Coupled with school closures

and community lockdowns, the disruption to lives from unanticipated unemployment brought heightened stress and economic instability resulting in an increased risk of domestic violence and child abuse. The loss of parental work due to the pandemic is a major risk factor for child maltreatment, which has been associated with impairments in psychological, behavioural and physiological functioning throughout life [18].

Loss of routine activities

The pandemic has brought a loss of normalcy. Children and adolescents respond well to structure in their lives as it brings familiarity, enjoyment, reassurance and a sense of expectation that allows them to feel comfortable and safe [19]. That structure is evident within their families and the activities that they undertake such as day care, school, sport and recreation. Whilst the prompt response of educators, with little experience and support, to provide on-line learning resources was admirable, the adequacy of the experience for students and their families was variable [20], inequities in technology availability exist [21] and the knowledge retention is yet to be well assessed [22]. The loss of organised sporting competitions and training opportunities was challenging for many children as they missed socialising as well as the benefits of exercise for physical and mental health wellbeing [23].

Loss of presumed safety

For many children, a sense of optimism pervades their outlook on life which is built upon love, support and a secure, nurturing environment [24]. This has been lost with the invisible threat of the COVID-19 virus, its lethal potential, its highly infectious nature and the frequency of asymptomatic infection evident especially in children. The impact is to make the world seem unpredictable and unjust [14]. Anxious family members, especially parents may express their heightened fears and insecurities. Their children, possibly with an anxious disposition themselves and seeing media reports, may find this exaggerates their sense of vulnerability in the setting of the pandemic. Parental fears may prove overwhelming and compromise their ability to recognise distress in their own children which may manifest as challenging externalising behaviours rather than more typical sadness or worried responses [25].

Loss of autonomy

The loss of freedom to do as one wishes can lead to losses of relationships and social support [13]. Peer friendships are important for emotional growth in children [26]. Social distancing minimises emotional and physical intimacy [13]. The ability to communicate comfortably however involves the opportunity to relate to people of all ages and this is considerably curtailed with a lack of direct social engagement within the community. Online interactions with educators, friends and relatives are a compromise but lack the spontaneity, enjoyment and intimacy of the embrace of a friend or relative or the togetherness of an extended family celebration. The loss of childcare by relatives creates a physical, emotional and economic loss to families of young children in many parts of the world. Visiting friends and extended families when on vacation, and indeed the ability to travel locally or internationally to visit friends and relatives, has been particularly emotionally challenging for many families [27]. Overseas travel had become far more affordable and accessible for many families and, with its abrupt loss and limitation likely to persist for some years, this will provide many children and families with a sense of unease during this time.

Loss of celebrations and group gatherings

Childhood should be happy and supportive. Coming to appreciate who one is during childhood and adolescence emanates from a sense of identity within one's family, among friends and relatives. Central to this within a family is an appreciation of the importance of celebrating life events such as birthdays, weddings, baptisms and indeed funerals. Within a community this may reflect religious practices such as attending church, attending school, playing sport or simply exercising in the local park. Social distancing and community lockdowns removed this for lengthy periods of time. Beyond the immediate frustrations of restricted social interactions, the psychological implications in terms of anxiety, altered social cohesion and friendship disruption remain uncertain, especially with more vulnerable members of society with pre-existing mental health problems [28].

Gains to counterbalance the losses

Any consideration of loss must be juxtaposed against an appreciation of positives to emerge from the ravages of COVID-19. The losses outlined have highlighted the importance of relationships with family and friends in the local community, working collaboratively across the nation and with the international community. Crisis brings a unity of purpose and generally a desire to help others. Some examples of the upside of our experiences to date with COVID-19 are listed in Table 1.

GRIEF

An international grief observed and a nostalgia for what has not yet been

We have seen across the globe in the last 12 months the threat we cannot avoid, the harm that is hurting us now, the sense we cannot make, people we cannot rescue and the difficulty of finding a clear path out. This is the essence of trauma both personal and vicarious. We have bid farewell to the normalcy of past freedoms, found unfamiliar comforts and unwanted conflicts in the closeness of lockdowns. It is clear there have been major losses, whatever gains, and a clarification of inequity which cannot now be unseen.

The heaviness, hardship, burden, sorrow, sense of grievance and protest that the world is what it is, which characterise grief, slowly continue to transition into the acceptance of what has happened. For some, things are much better and for many, much worse. For some trauma, loss and death have touched personally and for others these are other people's problems and beyond our circle of empathic reach. For those whose empathic horizon reaches further, especially children and young people, watching harrowing

scenes in other countries in the media, countries with poor leadership and poor services, has been a grief observed with no meaningful possible response.

This remote grief becomes more immediate [29-31]. A virtual experience, even for many medical and nursing staff, has become more visceral. A grief that in the modern developed world seemed often at the edges, associated with old age, preventable, happening to others has become menacing and more real. Grief falters forward toward acceptance and the reality it faces for a society that sees death as fictional and virtual instead of irrevocable and ineradicable. The loss of family members, especially the elderly, has highlighted a guilty grief that has devalued its elders, not counted their passing, but believed their time had come whether they thought so or not. The poor quality of aged care, care for the disabled, the mentally ill, the homeless, prisoners and indigenous peoples has all been etched in relief against a world that was more worried about the market and the economy, fearful that these twin beasts might die. Grief has been frustrated by altered access to the dying, funeral arrangements, fewer to say goodbye and the fear of contagion.

Development of grief

Grief is so different at different ages. The virus may not be experienced by the young in the same way as those older. But grief is contagious too. Older people have children, grandchildren and sometimes great grandchildren and friends and loved ones. The R - value (reproduction number) for grief is very much greater than for the virus. The grandmother never known by a newborn, the 4-year-old who will remember this past year as the time when her mother was sad, remote and emotionally unavailable, grieving for her own mother, the teenager who fears that he brought the virus home, the husband who lost his wife and his job in the same month, are all different ways of experiencing grief.

The varieties of grief

The expression of grief itself is so varied with some, especially children, speaking their grief with their bodies in somatoform identification [32]: headaches, abdominal pain, difficulty breathing, all while being medically well. Others sleep more because they don't know what to do in anxious lockdown while some rest fitfully in the broken sleep of no longer living in a settled world. The negotiation of intimacy and sex by teenagers and young adults is a little more complex. For this generation, the complexity is not primarily the normal raft of sexually transmitted diseases and HIV but a seemingly less exotic virus that can cause death in days or weeks.

Table 1Some unexpected positives to emerge from COVID precautions and restrictions.

- A rethinking of the work-life balance has been undertaken by many families, emboldened by the COVID-19 mandated forced realignment of the working day to include more flexibility around schedules
- · A rapid uptake of on-line communication for work purposes
- The appreciation by employers and governments of the ability to work efficiently from home.
- Notwithstanding the challenges of educating children at home for considerable periods of time, families came together with an appreciation of how productivity can be achieved at home in deference to an overarching sense of presenteeism in the traditional office workspace
- · International conferencing being conducted on-line at greatly reduced cost has facilitated greater reach to people across the globe
- Greater collaboration to improve medical knowledge of COVID-19 has been well served by the major journal publishers placing their COVID-19 content on line with unrestricted access
- Vaccine development has been dramatically hastened by collaboration and the application of technology to the point where millions of lives will be saved through immunisation of the global population
- It is likely that the travel restrictions have fostered a greater appreciation of what one's own country has to offer and reduced the pollution generated throughout the world from airline travel
- Further, a time to reflect upon the nature of zoonotic infections has prompted an appreciation of mankind's role within the biosphere and ultimately, how tenuous our presence may be on the planet

For young people there is often an irritable grief of resentment that their youth is being captured by bigger forces and will not return; a grief for what cannot be while larger meanings stretch across the world and consume their own small lives. Life and love and play have all been changed and the resources of our country, the education of our people, the leaders of our communities hold our young people's future to poll-driven ransom.

A morbid or complicated grief

As if grief were not complicated at any time [33], this international grief, this multiform and culturally crafted grief, can shift from an experience that represents our shifting adaptation and struggle to accept, to a truly morbid grief. When griefs are too many, last too long, occur too close on the heels of each other, are too grievous and lacerating in nature and call a halt to too many aspects of our lives, we call this morbid or complicated grief. When the preoccupation with the dead merges with a loathing of the self, the trauma of the loss with a shame that we have contributed in some way to bringing on that loss, we are likely to identify it as depression rather than an unmixed grief. Depression, anxiety and loneliness flowing out of grief, or preceding and made worse by grief, fortify a morbid grief into a disabling condition for which expert help is often required.

When this constellation of adversity occurs in the young, the impact can be devastating. Strangely, adults often underestimate this impact as if 'grown-ups' have a monopoly on worry. Depression in the young is often more severe, more likely to persist, more readily dismissed as fleeting or 'a stage' to be 'grown out of'. When children cannot trust adults to manage the world, the community or the family, then anxiety pervades their thought lives and the interstitium of their security [34]. Dismissing children's anxiety is a foolishness of adults failing to appreciate that children develop anxiety when their hopes are in jeopardy.

Grief is further modified by cultural marginalisation and disability. With conditions complicating grief such as autism, intellectual disability, expressive and receptive communication disorders [35,36], grief can remain unaddressed for years or misinterpreted as challenging behaviour due to the inexplicable nature of any neurodevelopmental condition.

A nostalgia for what has not yet been

The unmasking of inequities of migrant workers in luxury ocean liners, meat works, age care facilities, and the farms of developed countries, paid so little, protected so inadequately, cannot be unseen. High end restaurants with unremunerated workers who live in communal settings to make ends meet form a perfect communicating ground for a spreading virus. The 'blind' virus, does not discriminate and will spread from these most vulnerable to those whom they serve.

Our children begin to yearn for a world where such blatant inequities do not occur and grieve when it isn't made so. It is this nostalgia for what might have been, the grief for what our society isn't that may yet drive the children we care for and love to do a better job at international communal and family cooperation than we have.

CONCLUSION

The pandemic was in many ways like an earthquake with a devastating initial impact and ongoing aftershocks as the ground keeps shifting. Nothing feels normal and we accept that what we had before COVID-19 appeared remains a long way off. The physical and emotional experiences of trauma, loss and grief have des-

cended upon children and their families with uncertain long-term consequences which will require our ongoing willingness to respond openly and appropriately to all across the globe.

DIRECTIONS FOR FUTURE RESEARCH

- To explore the longer term consequences of COVID-19 related school closures on levels of anxiety, academic progression, peer relationships and domestic cohesion.
- To quantitate the resources required to meet the mental health needs for children and families related to trauma, loss and grief emanating from COVID-19.

CONFLICT OF INTEREST

There are no conflicts of interest for any of the authors.

References

- [1] Masonbrink AR, Hurley E. Advocating for children during the COVID-19 school closures. Pediatrics 2020;146:e20201440.
- [2] Patrick SW, Henkhaus LE, Zickafoose JS, et al. Well-being of parents and children during the COVID-19 pandemic: a national survey. Pediatrics 2020;146:e2020016824
- [3] Lee J. Mental health effects of school closures during COVID-19. The Lancet Child & Adolescent Health. Published Online April 14, 2020 https://doi.org/ 10.1016/S2352-4642(20)30109-7.
- [4] Centers for Disease Control. Post-traumatic stress disorder in children. March 22, 2021. Link: https://www.cdc.gov/childrensmentalhealth/ptsd.html (accessed 24/04/2021).
- [5] Jeffs E, Lucas N, Walls A. CoVID-19: Parent and caregiver concerns about reopening New Zealand schools. J Paediatr Child Health 2021;57:403–8.
- [6] Isaacs D, Britton P, Howard-Jones A, et al. To what extent do children transmit SARS-CoV-2 virus? J Paediatr Child Health 2020;56:978–9.
- [7] Young Minds. Impact on young people with mental health issues. Survey 4: Feb 2021. Link: https://youngminds.org.uk/media/4350/coronavirus-reportwinter.pdf (accessed 24/04/2021).
- [8] Borkowski A, Correa O, Santiago J, et al. COVID-19: Missing More Than a Classroom. The impact of school closures on children's nutrition. Innocenti Working Papers no. 2021-01, UNICEF Office of Research - Innocenti, Florence, 2021. Link: https://www.unicef-irc.org/publications/pdf/COVID-19_ Missing_More_Than_a_Classroom_The_impact_of_school_closures_on_ childrens_nutrition.pdf (accessed 24/04/2021).
- [9] Sherr L, Cluver L, Tomlinson M, et al. Beyond Masks: Societal impacts of COVID-19 and accelerated solutions for children and adolescents, Innocenti Research Report. UNICEF Office of Research - Innocenti, Florence, 2020. Link: https://www.unicef-irc.org/publications/pdf/UNICEF-Beyond-Masks-Report-Societal-impacts-of-COVID-19.pdf (accessed 24/04/2021).
- [10] Teo SS, Griffiths G. Child protection in the time of COVID-19. J Paediatr Child Health 2020;56:838–40.
- [11] Sserwanja Q, Kawuki J, Kim JH. Increased child abuse in Uganda amidst COVID-19 pandemic. J Paediatr Child Health 2020;56:188–91.
- [12] Rozycki HJ, Kotecha S. Covid-19 in pregnant women and babies: what pediatricians' need to know. Paediatr Respir Rev 2020;35:31-7.
- [13] Zhai Y, Du X. Brain Behaviour Immunity 2020;87:80-1.
- [14] Walsh F. Loss and resilience in the time of COVID-19: meaning making, hope, and transcendence. Fam Process 2020;59:898–911.
- [15] Evans GW. The environment of childhood poverty. Am Psychol 2004;59 (2):77–92.
- [16] Cicchetti D, Toth SL. Child maltreatment. Annu Rev Clin Psychol 2005;1:409–38.
- [17] Lawson M, Piel MH, Simon M. Child maltreatment during the COVID-19 pandemic: consequences of parental job loss on psychological and physical abuse towards children. Child Abuse Negl 2020;110:104709.
- [18] Cicchetti D. Socioemotional, personality, and biological development: illustrations from a multilevel developmental psychopathology perspective on child maltreatment. Annu Rev Psychol 2016;67:187–211.
- [19] Spagnola M, Fiese BH. Family routines and rituals: a context for development in the lives of young children. Infants Young Children 2007;20(4):284–99.
- [20] Brom C, Lukavský J, Greger D, Hannemann T, Straková J, Švaříček R. Mandatory home education during the COVID-19 lockdown in the Czech Republic: A rapid survey of 1st-9th graders' parents. Frontiers. PsyArXiv. April 18. doi:10.3389/ feduc.2020.00103.
- [21] Escueta M, Nickow AJ, Oreopoulos P, Quan V. Upgrading education with technology: insights from experimental research. J Econ Lit 2020;58 (4):897–996.
- [22] Sintema EJ. Effect of COVID-19 on the performance of grade 12 students: implications for STEM education. Eurasia J Math Sci Technol Educ 2020;16(7): apr 1951

- [23] Dunton GF, Do B, Wang SD. Early effects of the COVID-19 pandemic on physical activity and sedentary behavior in children living in the US. BMC Public Health 2020;20(1):1–3.
- [24] Bossard JH, Boll ES. Ritual in family living. Pennsylvania: University of Pennsylvania Press; 2021.
- [25] Dalton L, Rapa E, Stein A. Protecting the psychological health of children through effective communication about COVID-19. Lancet Child Adolescent Health 2020;4(5):346–7.
- [26] Bagwell CL, Schmidt ME. Friendships in childhood and adolescence. Guilford Press; 2011: https://psycnet.apa.org/record/2011-27874-000.
- [27] Vahia VN, Shah AB. COVID-19 Pandemic and mental health care of older adults in India. Int Psychogeriatr 2020;32(10):1125–7.
- [28] Turna J, Zhang J, Lamberti N, Patterson B, Simpson W, Francisco AP, et al. Anxiety, depression and stress during the COVID-19 pandemic: results from a cross-sectional survey. J Psychiatr Res 2021;137:96–103.
- [29] Hein G, Silani G, Preuschoff K, Batson CD, Singer T. Neural responses to ingroup and outgroup members suffering predict individual differences in costly helping. Neuron 2010;68(1):149–60.

- [30] Tone EB, Tully EC. Empathy as a 'risky strength': a multilevel examination of empathy for internalizing disorders. Develop Psychopathol 2014;26(4 Pt 2):1547–65.
- [31] Bloom P. Against Empathy: The Case for Rational Compassion, Ecco; 2016.
- [32] Colizzi M. Bortoletto R. Silvestri M. et al. Medically unexplained symptoms in the times of COVID-19 pandemic: A case-report. Brain. Behav. Immun. Health 2020; 5: 100073.
- [33] Shear MK. Complicated grief. N Engl J Med 2015;372:153-60.
- [34] Zeytinoglu S., Morales S., Lorenzo NE., et al. A developmental pathway from early behavioral inhibition to young adults' anxiety during the COVID-19 pandemic. J Am Acad Child Adolescent Psychiatry.2021; https://www.jaacap.org/action/showPdf?pii=S0890-8567%2821%2900073-3.
- [35] Courtenay K, Perera P. COVID-19 and people with intellectual disability: impacts of a pandemic. Irish J Psychol Med 2020;37:231-6.
- [36] Noelle J, Blackman PG. Grief and intellectual disability. J Gerontol Social Work 2003;38(1-2):253-63.