

Adolescence, Interrupted:

A Narrative Review of the Impact of Covid-19 on Adolescent Wellbeing¹

(Working Paper)

Erin Oakley, George Washington University (emoakley@gwu.edu)

Joost Vintges, Gender and Adolescence: Global Evidence (GAGE) Programme

(joostvintges@hotmail.com)

Bassam Abu Hamad, Al Quds University (ghsrcb@gmail.com)

Khadija Mitu, University of Chittagong (mituju@gmail.com)

Jennifer Seager, George Washington University (jseager@gwu.edu)

Workneh Yadete, Quest Consulting (worknehyadete@gmail.com)

Nicola Jones, ODI (n.jones@odi.org.uk)

Sarah Baird, George Washington University² (sbaird@gwu.edu)

April 2, 2023

¹ This narrative review builds on Baird et al. (2021). We thank Kathryn O'Neill for copyediting.

² Corresponding author: sbaird@gwu.edu

Abstract

The Covid-19 pandemic has had far-reaching impacts across the globe, with divergent experiences across the life course. Although mortality and morbidity effects have been disproportionately felt among older generations, there is growing recognition that adolescents have also faced multidimensional consequences, fueled by closure of schools and recreational spaces, and widespread disruption to services. While much has been written about the educational and health effects of the pandemic on adolescents, less attention has been given to other aspects of their wellbeing.

This narrative review therefore summarizes the current evidence on the effects of the pandemic on adolescent wellbeing. We draw on the United Nations (UN) H6+ Technical Working Group on Adolescent Health and Well-being's conceptualization of adolescent wellbeing (Ross et al., 2020), focusing on three domains: connectedness, positive values and contribution to society; safety and supportive environments; and agency and resilience. Drawing on both peer-reviewed and grey literature from high-, middle- and low-income contexts, we focused our search on adolescents (aged 10-19) and Covid-19 pandemic-related effects on wellbeing in these three domains.

We searched using Google Scholar, PubMed and Scopus, as well as working paper series at the National Bureau of Economic Research (NBER) and the World Bank, to identify published and grey literature across the three domains of interest. We restricted the search to articles that presented new, original data, included adolescents (aged 10-19), and were published in English, between January 1, 2020 and April 30, 2022. We expanded the search to make use of the bibliographies uncovered through this review to check for other citations that might meet the search criteria.

The search yielded 193 articles on adolescent wellbeing in the three domains of interest during the Covid-19 pandemic. Adolescents in high-income countries (HICs) were overrepresented compared to those in low- and middle-income countries (LMICs) (126 vs. 60 articles). Furthermore, more articles focused on social connectedness (117 studies) than on adolescent wellbeing in terms of agency and resilience (73 studies) and safety and supportive environments (61 studies).

Nearly three years after the Covid-19 pandemic's onset, the literature on adolescent wellbeing highlights the multiple and intersecting challenges that adolescents faced, especially those living in LMICs. Service disruptions (notably school closures) combined with financial stress, heightened vulnerability to age- and gender-based violence, and social isolation have placed unprecedented pressures on young people, taking a toll on their physical and mental health. Evidence that the pandemic has exacerbated existing inequalities – with the most vulnerable adolescents (such as refugees, adolescents with disabilities and married girls) seemingly worst affected – is particularly salient for policy makers. While many adolescents are finding ways to cope (by relying on family and teacher support, connecting with peers through online networks or volunteering), understanding how to promote adolescent resilience more effectively – particularly in LMIC contexts – will be essential to ensure a rapid post-Covid-19 recovery.

Keywords: Adolescence; Covid-19; social-emotional development; safety; agency; resilience

Highlights

- Research on adolescents during the Covid-19 pandemic focused more on education and health than on social connectedness, safety and agency.
- Adolescents in high-income countries are overrepresented in the literature compared to those in low- and middle-income countries.
- During the pandemic, adolescents lost access to protective institutions and enriching opportunities, with potential long-term consequences.
- Parental affection, routine, activity, prosocial behavior, and problem-focused coping strategies contribute to adolescent resilience.

Introduction

Adolescence is a time of major physical, cognitive and psychosocial development that relies heavily on peer relationships, developing a growing sense of autonomy, and preparing for the transition to adulthood. While the onset of the Covid-19 pandemic interrupted the lives of billions of people, at all stages of life, for adolescents, the pandemic arrived during this critical developmental window, with impacts cutting across multiple areas of adolescent development and wellbeing. In order to fully understand the multifaceted impacts of the pandemic on adolescents, we need to take a broad approach to the complexity of wellbeing indicators. Ross et al. (2020) developed a capabilities framework that captures both subjective and objective wellbeing, thereby combining individual, social and structural capabilities that determine adolescents' wellbeing and the adaptation abilities of boys and girls. The framework delineates five interconnected domains: (1) good health and optimum nutrition; (2) learning, competence, education, skills and employability; (3) connectedness, positive values, and contribution to society; (4) safety and a supportive environment; and (5) agency and resilience.

In assessing the impacts of the pandemic on adolescents, there has been considerable focus on the first two domains. Several recent reviews focus on the impacts of the pandemic on education and learning for children and adolescents (Hammerstein et al., 2021; Moscoviz & Evans, 2022; Panagouli et al., 2021). On the whole, these reviews find mixed-to-negative results on academic performance for adolescents engaging in online or other virtual learning during the pandemic. For example, Moscoviz and Evans (2022) find that learning losses documented across 40 empirical studies from high-, middle- and low-income countries were, on average, negative but smaller in magnitude than the catastrophic predictions made early in the pandemic. The reviews highlight inequalities in learning during the pandemic, with greater negative impacts for younger children and adolescents (compared to those in their later teens) and those with cognitive or learning disabilities (Panagouli et al., 2021), as well as students from poorer socioeconomic backgrounds (Hammerstein et al., 2021; Moscoviz & Evans, 2022). This disproportionate

impact on students from poorer households (based on local standards) held across high-income countries (HICs) and low- and middle-income countries (LMICs) alike (Moscoviz & Evans, 2022).

While adolescents are generally at low risk of direct severe health complications from Covid-19 (Götzinger et al. 2020), several reviews focus on the broader health impacts of the pandemic for adolescents (Chaabane et al., 2021; Nobari et al., 2021; Rajmil et al., 2021). Studies suggest that decreases in adolescents' physical activity (Neville et al., 2022) and increased consumption of “unhealthy” or “ultra-processed” foods were common in both HICs and LMICs early in the pandemic (Ruíz-Roso et al., 2020). Reviews of the literature also identify health implications for adolescents cut off from school- or community-based healthcare, food and therapeutic services during pandemic-related closures and lockdowns (Chaabane et al., 2021; Nobari et al., 2021; Rajmil et al., 2021). As the pandemic continued, further negative impacts on adolescent nutrition can be attributed to the magnitude of the economic shock, as food insecurity increased globally (Headey et al., 2020). Finally, multiple reviews incorporating global data on thousands of adolescents detail the adverse impacts of the pandemic on their mental health (Panchal et al., 2021; Samji et al., 2022).

Given the greater focus of the literature on the first two domains of Ross et al. (2020), this review focuses on the latter three capability domains, for which there remain significant evidence lacunae (see Figure 1). The first of these – connectedness – focuses on the adolescent's access to supportive social and cultural connections and relationships, as well as their own opportunities to show care and respect for others, develop their own sense of ethics and values, and contribute meaningfully to their community (Ross et al., 2020). The second domain – safety and a supportive environment – addresses the physical and social-emotional resources available to the adolescent to support their healthy development. This includes having both their physical and emotional needs met, having a felt sense of safety, as well as access to positive opportunities for growth, and space for personal privacy. This domain also considers equity concerns, including adolescents' protection from discrimination, experiences of fairness and equality, and protection of their rights and freedoms (Ross et al., 2020). Finally, the agency and resilience domain

addresses adolescents' developmental need for growing autonomy and sense of purpose during the transition to adulthood. This domain deals with self-image and self-esteem, agency, empowerment, identity, and ability to make one's own decisions and life choices. It also includes developing resilience to handle adversities and difficulties appropriate to adolescents' developmental stage and abilities (Ross et al., 2020).

Figure 1. Three domains of interest for adolescent wellbeing, as adapted from Ross et al., 2020

| | |
|---|---|
| <i>Connectedness, positive values, and contribution to society</i> | |
| The adolescent ... | |
| Is part of positive social and cultural networks and has positive, meaningful relationships with others, including family, peers, and, where relevant, teachers and employers. | Is valued and respected by others and accepted as part of the community. |
| Is responsible, caring, and has respect for others. Has a sense of ethics, integrity, and morality. | Has interpersonal skills, including empathy, friendship skills and sensitivity. |
| Is socially, culturally and civically active. | Is equipped to contribute to change and development in their own lives and/or in their communities. |
| <i>Safety and a supportive environment</i> | |
| The adolescent ... | |
| Has emotional and physical safety. | Is treated fairly and has an equal chance in life. |
| Has their material needs met. | Experiences equal distribution of power, resources, rights, and opportunities for all. |
| Does not experience discrimination. | Has privacy. |
| Has access to responsive, enriching opportunities. | |
| <i>Agency and resilience</i> | |
| The adolescent ... | |
| Has self-esteem, a sense of agency and of being empowered to make meaningful choices and to influence their social, political and material environment and has the capacity for self-expression and self-direction appropriate to their evolving capacities and stage of development. | Feels comfortable in their own self and with their identity(ies), including their physical, cultural, social, sexual and gender identity. |
| Has a sense of purpose, desire to succeed, and optimism about the future. | Is equipped to handle adversities both now and in the future, in a way that is appropriate to their evolving capacities and stage of development. |
| Feels that they are fulfilling their potential now and that they will be able to do so in the future. | |

Notes: The language in this figure is drawn verbatim (with minor adaptation) from Ross et al., 2020

Almost three years on from the start of the Covid-19 pandemic, this review of the literature finds that the pandemic has disrupted the healthy development of adolescents across all three domains. School closures, cancellation of activities, stay-at-home orders and pandemic-related economic shocks disrupted adolescents' social connections, increased the likelihood of household tensions, threatened household financial stability and ability to meet daily needs, and decreased adolescents' autonomy – all of which contributed to mental health challenges for adolescents experienced during the height of the pandemic. Lack of contact with institutions that typically engage in monitoring and reporting on child safety meant that adolescents were at greater risk of domestic violence, while adolescent girls in some settings were at greater risk of early marriage. Adolescents from more affluent families, and particularly those in HICs, were likely to report short-term worries and fears about the future, but believed that the pandemic would not derail their long-term goals and plans. However, more vulnerable adolescents in both LMICs and HICs were more likely to express concerns about their long-term future, with some facing difficult situations with long-term consequences, such as having to drop out of school to support their family and coming under family pressure to marry early. Even so, adolescents across a range of backgrounds and settings displayed great resilience in the face of pandemic-related challenges, and the research highlights coping strategies and adolescent-focused programming that are associated with greater resilience, including prosocial behavior and volunteering.

Adolescents' experiences, based on individual characteristics and circumstances such as gender, race/ethnicity and income level, varied across HIC and LMIC contexts, as well as across countries and cultures. However, it is clear that the pandemic has exacerbated pre-existing inequalities across settings, with the greatest harms generally falling on adolescents and families with the fewest resources (economic and social) to cope with pandemic-related shocks.

Although nearly 90% of all adolescents globally live in LMICs (World Health Organization, n.d.), they are underrepresented in the research across these domains. Recognizing this gap, throughout this paper, we will draw out similarities and differences in how the Covid-19 pandemic and related public health

policies have influenced adolescent outcomes in LMICs as well as in HICs. Furthermore, we will highlight research findings related to the impacts of the pandemic on some of the most vulnerable adolescents. These include married girls (an estimated 20% of all adolescent girls globally marry before the age of 18) (UNICEF, 2022a), adolescents with disabilities (who account for approximately 10% of all adolescents globally) (UNICEF, 2021a), and adolescent refugees (who number among the 12.5 million refugees under the age of 18 worldwide in 2020) (UNICEF, 2022b).

Methods

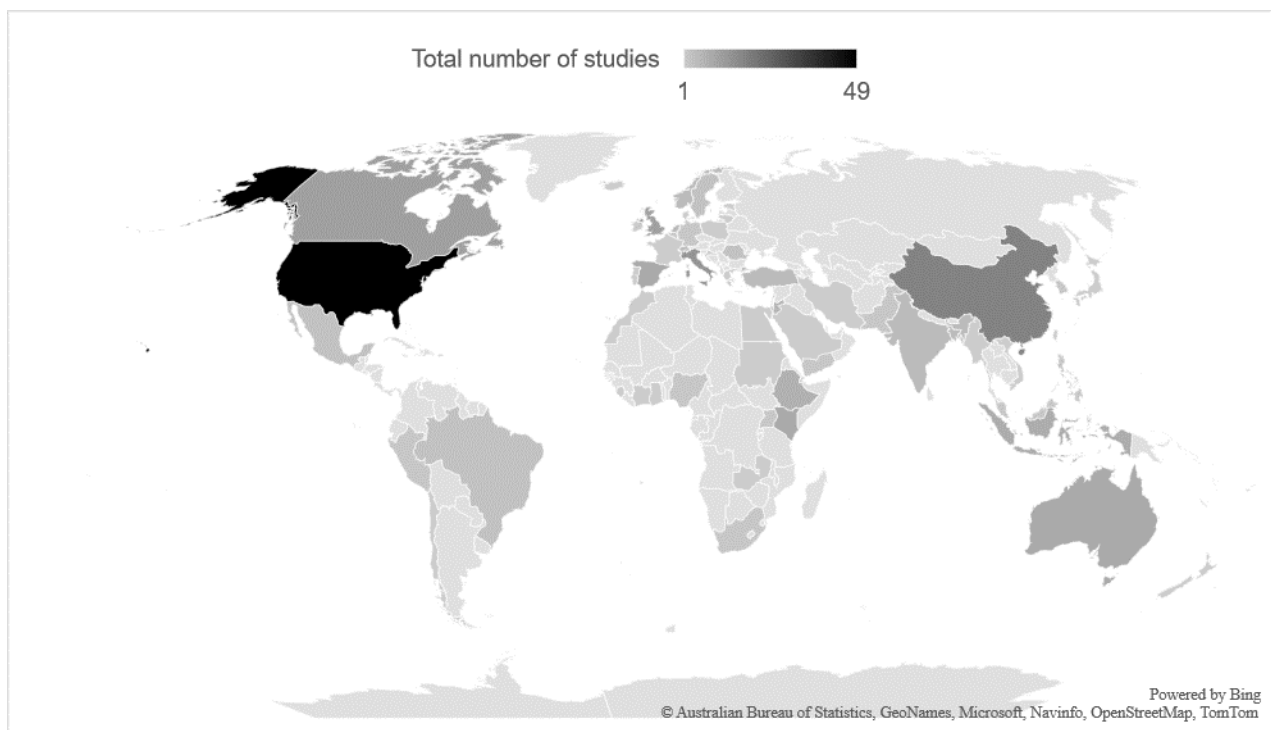
To identify relevant sources for impact of Covid-19 across the three domains of interest, we conducted a literature review using the scholarly databases Google Scholar, Scopus and PubMed, as well as the working paper collections on the National Bureau of Economic Research (NBER) and World Bank databases. The search encompassed articles published between January 2020 and April 2022. We reviewed search results to remove duplicate and irrelevant entries as well as to ensure that each article or paper met the following criteria: (1) it was focused partially or entirely on adolescents (aged 10-19 years); (2) it assessed the impacts of the Covid-19 pandemic; (3) it related to one or more of the domains of interest (connectedness, safety and supportive environment, and agency and resilience); and (4) it presented new, original data (excluding systematic reviews, narratives or recommendation papers). The complete list of search terms by domain is presented in the Appendix (Table S1). After the initial search process, we also reviewed the bibliographies of sources to identify additional material that met the search criteria.

Upon collecting the final list of sources, we grouped the articles by domain. This paper presents the results of this literature search as a narrative review of the evidence across each of the three domains of interest. We also present the results of the full literature search in the Appendix (Table S2).

Results

After removing duplicates and reviewing the results for relevance, we identified 193 unique papers on the impacts of the Covid-19 pandemic on adolescents in one or more of the three domains. Most articles focused on adolescents in HICs (126), with fewer articles focused on adolescents in LMICs (60); among these, very few presented findings on a mixed sample of adolescents across HICs and LMICs (7). A variety of countries were represented in the search results (Figure 2), with greater representation in North America, Europe and China than in other parts of the world. The United States of America (USA) was the most highly represented individual country (49 articles), followed by China (18), Italy (14), Canada (11) and the United Kingdom (UK) (11).

Figure 2. Heatmap of search results for adolescent wellbeing domains by country



Notes: This map was created using Microsoft Excel. The figure displays a heatmap of the total count of studies that include adolescents from each country. For studies that cover multiple countries, we count each country once for that study, with one exception; for the study Varma et al., 2021 (which includes a survey that covered 63 countries in total), we only highlight the main 6 countries that make up the majority of the sample used in the relevant analysis as indicated by the authors in the study: Australia, USA, UK, India, South Africa and Spain. Note that countries and territories with no articles appearing in our search results appear in the lightest gray shade.

Furthermore, articles were most likely to focus on social connectedness, values, and contributions to society (117), followed by agency and resilience (73) and safety and security (61). We determined that 50 articles applied across multiple domains (see Table S2).

Social connectedness, positive values, and contributions to society

Covid-19 significantly altered the social lives and social resources available to adolescents. Schools closed, face-to-face peer contact decreased, and physical distancing became the norm. Many aspects of adolescents' social connectedness were moved to the digital sphere, changing how these activities were experienced at a critical time in adolescents' social-emotional development. Those adolescents without the resources or ability to use technology were particularly isolated. Developing positive and meaningful relationships with peers became more difficult, threatening adolescents' overall wellbeing.

During the Covid-19 pandemic, many adolescents experienced feelings of loneliness, as well as depression, fear of the virus, unhappiness and anxiety (Barendse et al., 2022; McArthur et al., 2021; Porter et al., 2021; Sharma et al., 2021; Stoecklin et al., 2021). One online survey with respondents from more than 60 countries found that loneliness was connected to higher anxiety symptoms (Varma et al., 2021), and many other studies suggested a link between social isolation and poor mental health outcomes in adolescents across continents (Cao et al., 2022; Hamatani et al., 2022; S. E. Jones et al., 2022; Magson et al., 2021; O'Sullivan et al., 2021; Samji et al., 2022; Sharma et al., 2021; Waselewski et al., 2020).

In tandem with increased adverse mental health symptoms, adolescents reported harmful coping mechanisms such as increased fast-food consumption and substance abuse, with multiple studies in the USA documenting an increase in suicidal ideation and/or suicide attempts among high school students (Canady, 2021; Horigian et al., 2021; Hutchinson et al., 2021; S. E. Jones et al., 2022; Kapetanovic et al., 2022; Sen et al., 2021; Sharma et al., 2021). A study in the USA showed that during the pandemic, almost 50% of participants had strong feelings of loneliness, 80% reported significant depressive symptoms, and 61% showed symptoms of moderate-to-severe anxiety. These numbers were significantly lower prior to

the onset of the pandemic (Horigian et al., 2021), and particularly affected already vulnerable communities, including those from lower socioeconomic backgrounds, and racial and ethnic minorities (Blackwell et al., 2022).

During the pandemic, social media became a key forum that facilitated young people to maintain contacts with peers; youth who reported increased use of digital socialization were more connected to fellow peers and were less likely to develop mental health problems (Boursier et al., 2022; Cockerham et al., 2021; Feng & Tong, 2022; Rodman et al., 2021; Wright & Wachs, 2022). However, increased use of social media brings dangers and risks for adolescents and children, which we discuss further in the section on safety and supportive environments (Dedryver & Knai, 2021; Fernandes et al., 2020; Lin, 2020).

Evidence indicates that not everyone had access to the internet during the pandemic, due to lack of connectivity and affordability challenges (N. Jones, Sanchez Tapia et al., 2021; M.S. Rahman et al., 2021; Seah, 2020). Adolescents without access to mobile devices or without consistent internet connectivity were particularly socially isolated during times of physical distancing (N. Jones et al., 2020). Refugee adolescents – whose families were often already economically disadvantaged due to being forcibly displaced – tended to have lower connectivity and access to online peer networks than non-refugee adolescents in the same communities (Baird et al., 2020; N. Jones et al., 2022). Adolescent girls in humanitarian contexts tend to have less access to digital devices, often due to conservative gender norms and poverty (Baird et al., 2020; Decker et al., 2021). In many contexts characterized by conservative gender norms, adolescent girls often had less access to mobile devices than their male peers and less ability to use the internet for socializing (Baird et al., 2020; Banati et al., 2020; N. Jones et al., 2022). Even when mobile phones were available in the household, adolescents with disabilities in low-income settings were often unable to use devices to keep in touch with friends as easily as their peers could due to lack of accessibility supports for those with hearing or visual impairments or other disabilities that make it more difficult to engage online (Baird et al., 2020).

Taken together, studies present nuanced and sometimes opposing findings on risk factors for greater distress and negative mental health symptoms among adolescents due to pandemic-related isolation and loneliness. For example, several studies highlighted pre-existing, supportive peer relationships as a protective factor against poor mental health outcomes during periods of social distancing (Porter et al., 2021; Rodman et al., 2021; Sharpe et al., 2021). Based on studies in Ethiopia, Lebanon and Côte d'Ivoire (Banati et al., 2020), South Africa (Duby et al., 2022), and Bangladesh and Jordan (Baird et al., 2020), adolescent girls in some communities with strongly conservative gender norms – who typically had very limited mobility and opportunity to socialize before the pandemic compared to boys – reported distress and sadness over losing access to those already limited peer networks due to school closures and physical distancing. By contrast, girls in such settings who faced some of the tightest restrictions pre-pandemic – such as those who were married as children and/or became mothers during adolescence – seemed to experience less distress and display greater resilience during the pandemic on some measures (N. Jones et al., 2022). For example, a qualitative study of adolescent Roma girls and young women in Romania found that those who had become mothers before the age of 18 had already experienced such a high degree of social exclusion from peers that the pandemic had relatively little impact on their wellbeing (Velicu et al., 2022). Interestingly, in Kenya, Bellerose et al. (2020) found that adolescents who had relatively higher levels of social support before Covid-19 were experiencing the most distress during pandemic-related closures – perhaps because they had ‘more to lose’. Furthermore, a study of Dutch adolescents found that family functioning, but not peer connectedness, was a predictor of adolescents experiencing depressive symptoms early in the pandemic (Vacaru et al., 2022).

In addition to the pandemic's impacts on peer relationships and social connections in the community, the literature highlights the impacts of pandemic-related stressors on household relationships and especially the relationship between adolescents and their caregivers. Although some studies found that adolescents and youth reported stronger family ties and improved relationships because of increased family time (Cost et al., 2022; McKinlay et al., 2022), many studies found the opposite. Indeed, evidence from some HICs

suggests that increased family time has led to less positive parenting of adolescents (Donker et al., 2021). The multifaceted pandemic-related stressors on parents and children alike resulted in increased “family chaos”, as well as strained parent–child and sibling–sibling relationships early in the pandemic (May-June 2020) (Cassinat et al., 2021). This was particularly the case for families, caregivers and adolescents who experienced the highest levels of stress or hardships during the pandemic (Low & Mounts, 2022; X. Yang et al., 2021). In a study of adolescents and youth in LMICs, adolescent girls reported an increase in intra-household tensions and violence, with increased stress on adults and adolescents alike related to living in close quarters and under economically strained conditions (Banati et al., 2020). Adolescent girls who were married or living with partners were particularly at risk for strained relationships with partners or in-laws due to increased household tensions and stresses during the pandemic (Banati et al., 2020; Duby et al., 2022).

Strain on parental and family relationships can have a profound impact on adolescent wellbeing. Across contexts, children and adolescents with a lack of parental affection and peer contact in their lives were more vulnerable to depression, anxiety and unhappiness during the pandemic (Bai et al., 2022; Espinoza & Hernandez, 2022; Juvonen et al., 2022; Kiss et al., 2022; McArthur et al., 2021; Preston & Rew, 2022; Rodman et al., 2021; Vacaru et al., 2022; Wang et al., 2021).

Other supportive features highlighted in the literature are those that help the adolescent feel connected to family, friends and community, and to nature. For example, adolescents who had access to outdoor spaces and nature reported better wellbeing (Jackson et al., 2021; Mitra et al., 2021). A study of adolescent athletes in Israel found that those who continued to engage in organized sports practices online – connecting with peers and coaches virtually as well as continuing to engage in physical activity – had greater resilience than peers whose activities were canceled entirely (Constantini et al., 2021).

In some cases, protective and risk factors for connectedness were specific to a given community or setting. For example, a longitudinal study in Jordan showed that Syrians living in camps had greater

social connectedness than their Jordanian peers; the space within the camp offered more interactions with peers, neighbors and extended family (especially for girls) (N. Jones et al., 2022). However, in other areas, the social fabric of communities was under threat due to physical distancing and heightened tensions (N. Jones, Guglielmi, et al., 2021). Adolescent Syrian and Palestinian refugees living in host communities in Lebanon reported experiencing increased discrimination during the pandemic (Banati et al., 2020).

Interestingly, studies of adolescent volunteerism and acts of prosocial behavior (i.e., engaging in positive social behavior that benefits others) present a nuanced picture of adolescent contributions to the community. Although relatively few studies delved into this topic, a recent systematic review suggests that prosocial behavior is a protective factor that promotes adolescent resilience (Preston & Rew, 2022). One study in the USA found that adolescents who *received* help or support from others during an early pandemic lockdown period reported lower symptoms of depression and anxiety. However, adolescents who engaged in *giving* help or support to others at that time – such as making a donation, grocery shopping for someone at higher risk of severe illness, giving a gift, or offering social support – actually reported higher levels of anxiety than their peers who had not done such acts. Notably, the authors posit that adolescents with higher levels of anxiety may be more likely to engage in these prosocial acts in the first place, suggesting that adolescents who were more troubled by the pandemic were more likely to search for ways to help or give back (Alvis et al., 2022). Similarly, undergraduate students in China who expressed high levels of concern for public interest were most likely to engage in pandemic-related volunteer work (Geng et al., 2022). These studies suggest that while volunteering and opportunities for prosocial behavior can be beneficial, elements of self-selection into these types of activities may be a factor determining which adolescents actually participate.

Studies conducted with adolescent populations in LMICs highlight that pandemic-related economic insecurity amplified pre-existing inequalities because social protection schemes were not always in place or functional. Evidence suggests that these household financial stressors had a negative effect on

adolescents' mental health and increased family conflicts (Lee et al., 2021; Low & Mounts, 2022). In Nairobi, where even pre-pandemic many people are working under precarious conditions, loss of parental income was associated with depressive symptoms among adolescents and increased tensions in the household (Karp et al., 2021; Pinchoff, Friesen et al., 2021). A study of adolescent girls and young women in South Africa found that the additional stressors of the Covid-19 pandemic, such as loss of income and strained family relationships, exacerbated pre-existing conditions that produced poor mental health outcomes among the most vulnerable women and girls (Duby et al., 2022).

Pandemic-related implications for social-emotional development may have more severe effects for some adolescent subgroups. For example, in many contexts, girls seem more vulnerable to the mental health effects of lockdowns than boys (Engel de Abreu et al., 2021; Hoyt et al., 2021; S.E. Jones et al., 2022; S.R. Liu et al., 2022; Lu et al., 2022; Lyyra et al., 2021; Magson et al., 2021). This reflects a pre-pandemic pattern of higher levels of anxiety and depression among adolescent girls than boys – well-documented and observed in both HIC and LMIC contexts – with gendered differences increasing as children go through adolescence (Biswas et al., 2020; Patalay & Fitzsimons, 2018). Research on the reasons for this gendered difference presents mixed theories, including the greater importance of social networks in girls' lives and girls' greater likelihood of internalizing distress (Biswas et al., 2020; Hoyt et al., 2021; Magson et al., 2021; Mitchell et al., 2022). Alternative explanations highlight stresses that adolescent girls may experience due to gender inequality, as well as girls' greater likelihood of having experienced interpersonal violence, which could make them more susceptible to mental health symptoms than their male peers (Biswas et al., 2020; Racine et al., 2021) – both of which could be exacerbated by pandemic-related stressors. In some settings, stresses linked to gender inequality also include the vastly differing expectations of girls and boys when it comes to supporting the household, with girls expected to complete hours of domestic work and childcare that adolescent boys are not typically expected to do. Evidence suggests that girls have spent increasingly more time on household chores than boys during pandemic-related school closures (Abu Hamad et al., 2021).

In some settings, adolescents from racial or ethnic minority backgrounds were more likely to experience poor mental health outcomes; however, these trends appear to vary for different subgroups and tend to be highly contextual. For example, longitudinal studies of adolescents in the USA showed that race or ethnicity was a significant modifier of changes in mental health outcomes compared to before the pandemic (Barendse et al., 2022; S.E. Jones et al., 2022). Notably, Asian American adolescents had higher increases in anxiety, while Hispanic/Latino and Black adolescents experienced smaller increases or, in some cases – for Hispanic/Latino populations – decreases in the rate of depression and anxiety compared to the changes observed among their white peers (Barendse et al., 2022). Some studies suggest that increases in anxiety observed among adolescents of East Asian or Southeast Asian descent may have been fueled by discriminatory, anti-Asian sentiment in some communities due to the pandemic’s perceived association with China (Exner-Cortens et al., 2022; Tao & Fisher, 2022).

Several studies highlighted poor mental health effects among lesbian, gay, bisexual, transgender, queer/questioning or intersex (LGBTQi) adolescents (Hoyt et al., 2021; S.E. Jones, 2022; Mitchell et al., 2022; Tüzün et al., 2022). One study of pandemic wellbeing in the USA found that sexual and gender minority adolescents were less likely to feel connected to their family and less likely to feel safe at home than cisgender, heterosexual peers (Mitchell et al., 2022). Furthermore, gender and sexual minority adolescents were also more likely to report experiences of bullying and/or violence during the pandemic (Bravo-Sanzana et al., 2022). Therefore, the loss of access to social relationships outside of the immediate family during lockdowns was a particular challenge for this cohort (Hoyt et al., 2021; Magson et al., 2021; Mitchell et al., 2022).

Safety and supportive environments

Being safeguarded from emotional and physical violence and having material and developmental needs appropriately met is another crucial condition for adolescent wellbeing (Ross et al., 2020). Evidence on

adolescent safety and access to supportive environments during the Covid-19 pandemic is almost equally divided between HICs (31 studies) and LMICs (33 studies).

Besides the fear of the virus itself, many adolescent boys and girls lost a sense of safety both inside and outside the household during the pandemic. During lockdowns, many families and partners were confined in the same space, sometimes under precarious economic conditions, leading to an increase in child abuse and intimate partner violence, across continents (Holland et al., 2021; Martins-Filho et al., 2020; Mbushi et al., 2022; R. Rahman et al., 2022; Thomas et al., 2020). In Ethiopia, almost two out of every five girls experienced violence during lockdown (Kassie et al., 2022). In Kenya, adolescent girls were 8 percentage points more likely than their male peers to report an increased risk of household violence (Pinchoff, Austrian et al., 2021). Other studies point to the increased risk of violence against women and LGBTQi individuals (Bourgault et al., 2021; Bravo-Sanzana et al., 2022; Decker et al., 2022; Karp et al., 2021; Krause et al., 2022). Being married, unemployed and economically insecure increased the risk of household violence during the pandemic (Bourgault et al., 2021; Getinet et al., 2022).

Evidence on household violence, however, is more difficult to collect in the context of the pandemic because of a decrease in contact between adolescents and their schools or other institutions that may offer support, referrals or protection (Thomas et al., 2020), which means that under-reporting is more likely. During lockdowns in various places, adolescents disappeared from view of the vital communal or institutional services that sometimes served as a last safe haven for survivors of household violence. Without these contacts, household violence was not always reported, and survivors were left with no support (Sinko et al., 2022). Many studies caution that a decrease in emergency department visits or referrals for suspected child abuse or intimate partner violence may not actually indicate a decrease in such occurrences during the pandemic – an extended time period when children and adolescents had little or no contact with institutions outside of the household (Holland et al., 2021; Martins-Filho et al., 2020).

Just as heightened tensions and stresses during the pandemic increased the risk of violence in the household, some adolescents were at greater risk of institutional violence outside the household due to heightened societal tensions surrounding lockdowns and other Covid-19 regulations (e.g., masks). In some contexts, young people (especially young men) faced extreme violence when defying governmental regulations. For example, adolescent boys and young men in Kenya and Uganda reported more law enforcement interaction during the pandemic, including incidences of extortion by law enforcement officers (Decker et al., 2021; Katana et al., 2021). Syrian refugee boys living in Lebanon reported experiencing increased tensions with law enforcement in the community, resulting in their staying at home more often due to fears of being targeted by local authorities (Banati et al., 2020). In Ethiopia, more than a third of adolescent boys surveyed during the pandemic reported that boys were experiencing increased violence from the police, local militia or other local security forces compared to before the pandemic (N. Jones, Guglielmi et al., 2021). The pandemic had come at a time of heightened ethnic tensions and political unrest in many areas of the country, eventually erupting into military violence in some regions of Ethiopia by the end of 2020.

Another safety risk exacerbated by the pandemic in some contexts was the risk of child marriage for girls. Combined with prevalent conservative gender norms and family pressure, girls in some contexts faced an increased pressure to get married early because of the pandemic (Baird et al., 2022; Hossain et al., 2021; Putri et al., 2022; Rahiem, 2021; UNICEF, 2021b). For example, a recent UNICEF report on child marriage in the Middle East and North Africa during the pandemic suggested that increasing poverty rates, as well as school closures, contributed to a rise in child marriage as a mechanism for families to reduce household expenses and attempt to improve the economic situation of their daughters in the face of economic strain brought on by the health crisis (UNICEF, 2021b). In other settings, however, adolescent girls reported decreased likelihood of early marriage during the pandemic. For example, 5% of adolescent girls in Ethiopia expressed concern about being expected to marry sooner than anticipated because of the pandemic (N. Jones, Sanchez Tapia et al., 2021), and Bangladesh has seen a 13% increase in child

marriages between 2020 and 2021, coinciding with the onset of the pandemic (Hossain et al., 2021). Girls living in fragile, conflict-affected settings faced particular insecurities due to the closure of schools, social isolation, and financial setbacks in the household. For example, adolescent girls in Lebanon reported that pressure to marry had decreased due to the high cost of weddings (Banati et al., 2020).

Even within a country, regional trends varied. A study involving urban adolescents living in slum communities in Dhaka, Bangladesh, found that many older girls felt the pandemic had little impact on the rate of child marriage (N. Jones, Guglielmi et al., 2021). Another study of rural adolescents in Bangladesh found that although child marriages were likely to be delayed because of restrictions on travel and large social gatherings, some pandemic stressors (such as a household member becoming ill) were associated with increased marriage planning discussions for adolescent girls in the household (Makino et al., 2021). In addition, several studies warned that the pandemic could lead to an increase of cases of female genital mutilation/cutting (FGM/C) due to a complete standstill of policing and awareness programming (Murewanhema, 2020; Musa et al., 2021). Qualitative research findings from Ethiopia suggest that this was indeed the case in some communities (Jones et al., 2020).

Being increasingly engaged with technology and social media also places adolescents into potentially risky situations online, with increased risks of escapism, internet or gaming addiction, peer-pressure sexting, and online bullying, which can exacerbate feelings of loneliness and low self-esteem (Choukas-Bradley et al., 2022; Fernandes et al., 2021; Han et al., 2021; Marengo et al., 2022). Evidence on these impacts of the crisis was primarily from HICs, highlighting a gap in the literature around adolescent internet safety in LMICs.

The existing literature underscores that, whereas boys seem to be more vulnerable to gaming addiction (Rozgonjuk et al., 2022), girls' low self-esteem and body dissatisfaction are recurring effects of social media use. In Spain, increased use of Instagram during the Covid-19 pandemic led to body dissatisfaction among older adolescents (Vall-Roqué et al., 2021). Adolescents are also vulnerable to cyberbullying. A

study among students in Croatia during the pandemic showed that 12.75% of participants were victims of online bullying (Vejmelka & Matković, 2021). Girls and adolescents of colour seem to be more affected than boys and white youths (Gultom, 2021; Kusumawaty et al., 2021; Malanga, 2020; Tao & Fisher, 2022).

Equal treatment and protection against discrimination are also important components of adolescent wellbeing that were impacted by the pandemic in some settings. In the USA and Canada, for example, growing anti-Asian sentiment and the virus's perceived affiliation with China led to bullying and mistreatment of Asian American and Asian Canadian adolescents, with some adolescents and youth reporting feeling unsafe and being targeted with racial slurs or violence in both physical and digital spaces (Exner-Cortens et al., 2022; C.C. Yang et al., 2020).

Finally, in addition to protection from physical and emotional violence, it is critical to adolescents' wellbeing to have access to supportive environments where their material and emotional needs are met. The literature on adolescent material wellbeing during the pandemic suggests that its economic impacts compounded pre-existing inequalities for adolescents from the poorest households – those who already had the fewest resources and struggled the most to cope with the shock. In LMICs, adolescents from poor households, refugees and migrants were faced with increased food insecurity and inability to pay for necessities like housing and healthcare (Jones et al., 2020; N. Jones et al., 2022). Even among refugee populations, evidence suggests that adolescents faced different challenges based on living conditions and the support resources in place prior to the pandemic's onset. In Jordan, for example, Syrian refugees in camps appeared to have some protection from food insecurity compared to those living in host communities and in informal tented settlements (N. Jones et al., 2022), possibly because of it being easier to provide social protection to a population living in a concentrated setting. Alternatively, adolescent Palestinian refugees in the West Bank and Gaza appeared to have similar outcomes for food security across camp and non-camp settings, while those living in Gaza were significantly disadvantaged

compared to those in the West Bank, likely due to pre-existing economic strife in Gaza (Abu Hamad et al., 2021).

Evidence from LMICs suggests that families with children have not received sufficient social protection support to meet basic needs during the most acute periods of the pandemic's impacts (Marcos Barba et al., 2020). Globally, households unable to afford mobile phones or adequate and consistent internet access, who were already disadvantaged before Covid-19, were further cut off from educational, health and social resources that moved online during the pandemic (N. Jones, Sanchez Tapia et al., 2021; Mbushi et al., 2022; Seah, 2020).

While poverty is a cross-cutting risk factor, several other groups of adolescents were disproportionately dealing with unmet needs due to discrimination and unequal access to opportunities during the pandemic. In some settings, adolescents with disabilities were particularly disadvantaged due to the lack of access to appropriate, disability-friendly distance educational and health services (N. Jones, Sanchez Tapia et al., 2021; Sharpe et al., 2021). In settings where girls already faced discriminatory gender norms, adolescent girls sometimes had less access than their male peers to the technology needed to engage in distance learning (N. Jones, Guglielmi et al., 2021; N. Jones, Sanchez Tapia et al., 2021; Mbushi et al., 2022). Young adolescents (aged 11-14) in the USA who witnessed or experienced discrimination during the pandemic were more likely to report high levels of distress than their peers (Kiss et al., 2022), reinforcing the idea that the pandemic can be a compounding factor for adolescents who already experience disproportionate stressors in their day-to-day life.

Agency and resilience

The pandemic had multifaceted implications for adolescents' agency and resilience, and especially their autonomy and plans for the future. Like adults, adolescents in many countries were asked to stay at home and adhere to social distancing measures to prevent the spread of the virus. However, adolescents may have experienced this challenge differently, being in a developmental stage characterized by the

importance of peer engagement and growing autonomy. The abrupt reduction in mobility and curtailment of their choices around travel and socialization, limiting their agency, affected adolescents in many ways. For example, Chinese youths reported a significant decrease in their willingness to travel (J. Liu et al., 2022). Dutch adolescents reported experiencing many new household rules (e.g., not seeing friends), affecting their mobility and connectedness with peers (Bülow et al., 2021). Many adolescents believed that pandemic-related household rules were legitimate; however, restrictions also appeared to contribute to increased household frictions in many settings, as adolescents perceived a decrease of parental support for their autonomy (Bülow et al., 2021). In Australia, adolescents' adherence to government stay-at-home orders was actually associated with lower levels of psychological distress, despite adolescents rating "not being able to see friends" as the most severe source of personal distress due to the pandemic (Magson et al., 2021).

The impacts of the pandemic on adolescents' agency and resilience varied by setting. For example, cultural differences shape how adolescents experience agency, with those from collectivist cultures (such as China) less likely to feel out of control than those from cultures that emphasize individual freedoms (such as the USA) and more likely to feel they are contributing to the social good by following disease-control regulations (Zhu et al., 2020). In China, both awareness and parental fear of Covid-19 infection led to greater engagement of younger adolescents with the Covid-19 regulations; however, this strategy of using the fear of infection to ensure adherence to protective measures also appeared to affect early adolescents' mental health and led to an increase of depressive symptoms among Chinese children (Ren et al., 2021).

Some research with adolescents in HICs, including Europe and North America, finds a widespread sense of uncertainty about the near future, with rules introduced to curb the pandemic creating an unpredictability about what their lives would look like in the coming months (Commodari & La Rosa, 2020). Studies showed that some adolescents from HICs also developed a sense of solidarity and political agency during the pandemic (Émon et al., 2021; Grütter & Buchmann, 2021; Yazdani et al., 2022); they

started expressing their political opinions about the prolonged lockdown through social media, and emailed politicians about the consequences for their education (Émon et al., 2021). By contrast, in LMICs, this type of engagement with the wider community was less evident, according to the literature.

Adolescents in LMICs are underrepresented in the literature on the effects of the pandemic on agency and autonomy. In our search, 29 studies were carried out in LMICs compared to 45 in HICs. However, the available literature highlights how pre-existing inequalities were exacerbated by pandemic-related control measures and economic shocks. For example, in some settings where strongly conservative gender norms already overload young girls with household domestic work and caretaking responsibilities, adolescent girls reported being increasingly occupied with household chores during the pandemic, compared to their male peers (Abu Hamad et al., 2021; Makino et al., 2021). Likewise, in settings where adolescent girls already faced considerable restrictions on their agency and freedom of movement due to cultural norms, pandemic restrictions on mobility sometimes completely cut off their already limited opportunities. For example, in low-income communities in Dhaka, Bangladesh, 85% of adolescents reported a decline in mobility early in the pandemic (May–June, 2020), and around 47% of youth had stayed home all day for the past 7 days. Restrictions on movement were particularly felt among adolescent girls; only 26% of Bangladeshi girls in Dhaka had been in contact with a friend in the past week (vs. 38% of boys) (N. Jones, Guglielmi et al., 2021). Adolescent boys and girls living in the West Bank and Gaza reported similar experiences of complete or moderate restrictions on their mobility due to the pandemic, but girls were more than twice as likely as boys to have stayed at home without leaving at all and without having had visitors for the past 7 days (Abu Hamad et al., 2021), reflecting pre-existing differences in mobility by gender.

By contrast, a study of adolescents in Pakistan found that boys reported more extreme effects from Covid-related restrictions than girls. In a society where male agency is privileged, boys have more freedoms to lose. Therefore, the greater effects reported by boys may be attributed to the fact that they already had

much greater mobility, fewer responsibilities in the household, and more privacy prior to the pandemic and thus had “more to lose” when restrictions were enforced (Imran et al., 2022).

In addition to worries about the short-term impacts of the pandemic, many adolescents also experienced fear of its long-term consequences. School closures and the economic malaise following the pandemic made UK youths worry about their own future prospects, and severely constrained their dreams of what the future could hold (Émon et al., 2021). A national survey of adolescents (aged 13–18) in Norway found a small but significant decrease in optimism for the future one year into the pandemic compared to the years prior (von Soest et al., 2022). Across studies, girls and adolescents with pre-existing health issues developed stronger anxiety about contracting Covid-19, while older adolescents and people with lower incomes were more scared of the long-term consequences of the pandemic, presumably related to economic shocks (Émon et al., 2021; von Soest et al., 2022).

Adolescents’ anxieties about the long-term consequences of the pandemic were particularly high in some LMICs, where social safety nets and institutions to support adolescent wellbeing during and after the pandemic are weaker. In Uganda, loss of income made adolescents anxious about their future; they worried that they might not be able to continue their education, squandering their future prospects (Parkes et al., 2020). Adolescent girls in Kenya experienced great difficulties during pandemic-related school closures, with older girls feeling pressure to drop out of school permanently due to economic strains on the household (Bellerose et al., 2020). In Palestine, adolescent refugees living in camps reported high levels of concern about not being able to return to school, with 15% reporting that they feared not being able to return to school compared to just 2% of non-refugees and refugees living outside of camps (Abu Hamad et al., 2021). Ethiopian adolescents, especially girls, reported feeling increased pressure to marry during school closures because they were out of school, particularly as the period when schools were closed coincided with the traditional marriage season (Banati et al., 2020).

For some adolescents, these anxieties about loss of future opportunities came to pass as lockdown measures eased but pandemic impacts persisted. Ethiopia provides an early example of the potential long-term impacts of school closures on students' educational trajectories after most schools reopened during mid-to-late 2020. Although schools began a gradual process of reopening relatively early on compared to some other countries, Ethiopian adolescents in rural areas, those with disabilities and adolescent girls were all less likely to be able to engage in distance learning *and* less likely to return to schools when they reopened (N. Jones, Devonald et al., 2021). Girls in rural areas of the country experienced multifaceted pressures to marry, leading some to marry earlier than they would have done otherwise and losing the opportunity to return to school (N. Jones, Guglielmi et al., 2021).

Anxiety about the pandemic derailing individuals' future was not, however, a common concern in all contexts. According to studies in the Netherlands and Italy, the pandemic does not appear to have altered adolescents' aspirations and future prospects. In the Netherlands, loss of agency was only reported in the short-term future, and adolescents in that study reported feeling a sense of flexibility and optimism about the future (Henkens et al., 2022). Research on adolescents in Italy finds that early lockdowns deprived them of autonomy, but also gave them more time to explore their own interests (Fioretti et al., 2020). Indeed, a study in Ireland of secondary school students who graduated in 2020 found that the pandemic had diverse impacts, with some shielded from negative impacts by internal and external resources and others struggling with anxiety and worries about the future (Émon et al., 2021). The evidence thus indicates that interventions to support adolescent development and recovery post-pandemic should not be "one-size-fits-all".

The literature on adolescent resilience identifies the strategies adolescents themselves use to maintain optimism about the future as well as various protective and risk factors that can promote resilience during times of crisis. Research suggests that adolescents with greater self-esteem, perceived feelings of control over (or purpose in) life, and more developed coping abilities are better able to develop resilience to cope with any radical changes in their life (Besser et al., 2022; Chaharbaghi et al., 2022; Constantini et al.,

2021; Huang et al., 2022; Hussong et al., 2021; Kuhlman et al., 2021; Prala et al., 2021; Yu et al., 2022).

Younger age, a structured life, higher socioeconomic position and being male were all associated with greater resilience or improved wellbeing outcomes during the pandemic (Antoniou et al., 2021; Jusienė et al., 2022).

However, some of the literature on resilience during the Covid-19 pandemic highlights several more modifiable factors associated with higher levels of adolescent resilience. Research from southern Europe (Orgilés et al., 2020) and the USA (Hussong et al., 2021) suggests that problem-focused coping strategies and higher self-efficacy are associated with post-pandemic resiliency. Problem-focused coping strategies rely on efforts to change the situation or source of stress to improve coping, as opposed to emotion-focused coping strategies that rely on efforts to change one's own emotional state in response to a stressor (Hussong et al., 2021). One study in the USA found that adolescents with higher levels of cognitive reappraisal (an emotional regulation strategy for reframing the situation to change one's own thinking) and self-enhancing humor (the tendency to find humor in day-to-day situations and in oneself in a good-natured way) were associated with resilience and lower psychological distress during the pandemic, noting that these two strategies are modifiable and can be targeted in resilience-related interventions (Kuhlman et al., 2021). Physical activity emerged as a protective factor and an adaptive coping strategy that supported greater resilience or improved wellbeing outcomes among adolescents in a variety of settings (Constantini et al., 2021; Jusienė et al., 2022; Kiss et al., 2022; Mitra et al., 2021; Pigaiani et al., 2020; Zhang et al., 2020). Furthermore, evidence from Italy and Israel showed positive outcomes for adolescents who engaged in structured, adolescent-focused activities during the pandemic (Constantini et al., 2021; Pigaiani et al., 2020). Finally, as noted in the connectedness section, volunteering and prosocial behavior were associated with increased resilience among adolescents (Preston & Rew, 2022).

Discussion

Our findings highlight the myriad challenges facing adolescents during the Covid-19 pandemic. Service disruptions, social isolation and household financial stress not only affected adolescents' education and physical health but also other key aspects of wellbeing and healthy development, including feelings of connectedness to peers and community, safety and stability, and agency over their own futures.

Across the literature, several risk factors emerge that may place adolescents at greater risk of poor short-term and long-term outcomes from pandemic shocks. It is important to identify groups that experienced disproportionate burdens from the Covid-19 crisis, so that adolescent-focused interventions to support post-pandemic recovery target those who were most impacted by pandemic-related shocks. Perhaps unsurprisingly, adolescents from lower socioeconomic groups appear to have borne a disproportionate burden of pandemic shocks across contexts and wellbeing domains, from material resources and food insecurity (Jones et al., 2020) to educational outcomes (Moscoviz & Evans, 2022) to mental health (Blackwell et al., 2022; Engel de Abreu et al., 2021) and agency and resilience (Antoniou et al., 2021; N. Jones et al., 2022). Household economic stress brought on by the pandemic affected parenting practices and put adolescents at risk for poor or strained family relationships, household violence and poor wellbeing outcomes (Bourgault et al., 2021; Getinet et al., 2022; Low & Mounts, 2022). Households that faced the greatest burdens of economic instability and loss during the Covid-19 pandemic, and which should receive special priority for social protection and recovery resources, include refugees and migrants.

Across the research, and particularly in fragile settings and LMICs, several studies highlight how the pandemic has intersected with pre-existing and/or simultaneous crisis situations, taking a toll on adolescent wellbeing in situations that were already among the worst in terms of at-risk adolescents. For example, several studies highlight how the pandemic has further marginalized adolescents in conflict-affected settings like Palestine (Abu Hamad et al., 2021) and Ethiopia (Banati et al., 2020; N. Jones, Guglielmi et al., 2021), where the pandemic was but one of multiple major stressors on individuals, households and communities.

Multiple studies suggest that the mental health impacts of the pandemic could be more severe for adolescent girls (Canady, 2021; Samji et al., 2022). However, the reasons for this gender difference are unclear, and may vary by context. Some studies posit that gendered differences in socialization, and in internalizing versus externalizing problem behaviors when faced with distressing situations, may partly explain this; girls are more likely than boys to be socialized to engage in internalizing behaviors – such as withdrawing from others, experiencing depression and anxiety symptoms, over-analyzing situations, and experiencing somatic symptoms of distress (Hoyt et al., 2021; Magson et al., 2021). Other studies suggest that the relative importance for girls of close peer relationships and reliance on social support from peers as a primary coping strategy may also be a factor explaining the pandemic's greater mental health impacts on girls compared to boys (Magson et al., 2021). In addition, underlying gender differences in adolescent mental health outcomes, both prior to and during the pandemic, have been attributed in part to the stress of gender inequality and the greater risks that young girls face for interpersonal violence, including sexual violence, during childhood and adolescence (Biswas et al., 2020; Racine et al., 2021).

During the pandemic, girls were more likely than boys to experience cyberbullying as well as distress related to self-esteem and body image issues, given increased social media use during the pandemic (Kusumawaty et al., 2021; Vall-Roqué et al., 2021). Furthermore, in settings where girls faced more stringent restrictions pre-pandemic based on conservative gender norms, girls bore a greater burden of household responsibilities during school closures (Makino et al., 2021). Moreover, girls living in cultures with strong conservative gender norms were often deprioritized in favour of male siblings for family resources (including access to mobile devices and internet) to support distance learning, online socialization, or privacy during the pandemic (Baird et al., 2020; N. Jones, Guglielmi et al., 2021; N. Jones, Sanchez Tapia et al., 2021).

Married adolescent girls were an especially at-risk group during the pandemic, as they were already at greater risk of experiencing household tensions and violence, decreased access to supportive peer networks, and limited interaction with protective institutions even before the pandemic struck (Baird et

al., 2022; N. Jones, Guglielmi et al., 2021). Therefore, interventions designed to support adolescent wellbeing and recovery from pandemic-related shocks should prioritize gender-responsive resources that are context-specific and speak to the particular needs of married girls.

Despite the immense challenges brought on or exacerbated by the pandemic, many adolescents found ways to cope with adversity by relying on family and teacher support, connecting with peers online or volunteering. Understanding how to further promote adolescents' resilience will be essential in ensuring a rapid post-Covid-19 recovery. This narrative review has highlighted several factors associated with resilience (such as being male or having higher socioeconomic status) that highlight underlying inequalities. However, the review has also identified several protective factors that could support resilience among adolescents from a variety of backgrounds, including opportunities to socialize and connect with peers, structured and adolescent-focused activities or programming that continues virtually during times of social isolation, access to nature and the outdoors, physical activity, and opportunities to volunteer (Constantini et al., 2021; Jackson et al., 2021; McArthur et al., 2021; Preston & Rew, 2022). Furthermore, several studies highlight coping strategies that adolescents can be supported to learn and develop, such as cognitive reappraisal and problem-focused coping strategies, which can support adolescent wellbeing during times of crisis (Hussong et al., 2021; Kuhlman et al., 2021).

The findings from this literature review make clear that the pandemic affected the world's 1.6 billion adolescents in different ways. They also indicate that efforts to support adolescents for post-Covid-19 recovery should be gender- and age-responsive, and should be tailored to respond to the different ways in which the pandemic has affected younger and older adolescent girls and boys across different countries and contexts. Finally, the literature confirms that the wellbeing of the household overall – including its ability to meet day-to-day needs and to manage parent/guardian levels of stress and anxiety – is a critical component of adolescent wellbeing. Pandemic recovery efforts that provide additional support and fill the gaps for households with the fewest resources prior to the pandemic – as well as those who may have

been pushed into poverty due to pandemic-related shocks – will also help adolescents' recovery across wellbeing domains as the Covid-19 generation of adolescents become young adults.

References

- Abu Hamad, B., Baird, S., Jones, J., Małachowska, A., Oakley, E., Bani Odeh, K., Diab, R., Abu Hamad, S., Abu Hamra, E., Qandeel, A., & Al-Redaisy, N. (2021). Adolescent well-being and the COVID-19 pandemic: experiences and perspectives from the State of Palestine. London: Gender and Adolescence: Global Evidence. <https://www.gage.odi.org/publication/living-with-the-covid-19-pandemic-adolescent-experiences-in-the-state-of-palestine/>
- Alvis, L. M., Douglas, R. D., Shook, N. J., & Oosterhoff, B. (2022). Associations between adolescents' prosocial experiences and mental health during the COVID-19 pandemic. *Current Psychology*. <https://doi.org/10.1007/s12144-021-02670-y>
- Antoniou, A.-S., Palivakou, E., & Polychroni, F. (2021). Resilience in children and adolescents during the Covid-19 pandemic. *Developmental and Adolescent Health*, 1(4), 34–41. <https://dah-journal.com/index.php/dah/article/view/29>
- Bai, Y., Liu, X., Zhang, B., Fu, M., Huang, N., Hu, Q., & Guo, J. (2022). Associations of youth mental health, parental psychological distress, and family relationships during the COVID-19 outbreak in China. *BMC Psychiatry*, 22(1), 275. <https://doi.org/10.1186/s12888-022-03938-8>
- Baird, S., Alheiwidi, S., Dutton, R., Mitu, K., Oakley, E., Woldehanna, T., & Jones, N. (2020). Social isolation and disrupted privacy. *Girlhood Studies*, 13(3), 98–115. <https://doi.org/10.3167/ghs.2020.130308>
- Baird, S., Murphy, M., Seager, J., Jones, N., Malhotra, A., Alheiwidi, S., Emirie, G., Rashid, S., & Sultan, M. (2022). Intersecting disadvantages for married adolescents: Life after marriage pre- and post-COVID-19 in contexts of displacement. *Journal of Adolescent Health*, 70(3S), S86–S96. <https://doi.org/10.1016/j.jadohealth.2021.12.001>
- Banati, P., Jones, N., & Youssef, S. (2020). Intersecting vulnerabilities: the impacts of COVID-19 on the psycho-emotional lives of young people in low- and middle-income countries. *European Journal of Development Research*, 32, 1613–1638. <https://doi.org/10.1057/s41287-020-00325-5>
- Barendse, M. E. A., Flannery, J., Cavanagh, C., Aristizabal, M., Becker, S. P., Berger, E., Breaux, R.,

- Campione-Barr, N., Church, J. A., Crone, E. A., Dahl, R. E., Dennis-Tiwary, T. A., Dvorsky, M. R., Dziura, S. L., van de Groep, S., Ho, T. C., Killoren, S. E., Langberg, J. M., Larguinho, T. L., ... & Pfeifer, J. H. (2022). Longitudinal change in adolescent depression and anxiety symptoms from before to during the COVID-19 pandemic. *Journal of Research on Adolescence*.
<https://doi.org/10.1111/jora.12781>
- Bellerose, M., Diaw, M., Pinchoff, J., Kangwana, B., & Austrian, K. (2020). Pre-pandemic influences on Kenyan girls' transitions to adulthood during COVID-19. *Girlhood Studies*, 13(3), 113–150.
<https://doi.org/10.3167/ghs.2020.130310>
- Besser, A., Flett, G. L., Nepon, T., & Zeigler-Hill, V. (2022). Personality, cognition, and adaptability to the COVID-19 pandemic: Associations with loneliness, distress, and positive and negative mood states. *International Journal of Mental Health and Addiction*, 20(2), 971–995.
<https://doi.org/10.1007/s11469-020-00421-x>
- Biswas, T., Scott, J.G., Munir, K., Renzaho, A. M. N., Rawal, L. B., Baxter, J., & Mamun, A. A. (2020). Global variation in the prevalence of suicidal ideation, anxiety and their correlates among adolescents: A population based study of 82 countries, *eClinicalMedicine*, 24: 100395.
<https://doi.org/10.1016/j.eclinm.2020.100395>
- Blackwell, C. K., Mansolf, M., Sherlock, P., Ganiban, J., Hofheimer, J. A., Barone, C. J., ... & Wright, R. J. (2022). Youth well-being during the Covid-19 pandemic. *Pediatrics*, 149(4).
<https://doi.org/10.1542/peds.2021-054754>
- Bourgault, S., Peterman, A., & O'Donnell, M. (2021, April 12). Violence against women and children during COVID-19—one year on and 100 papers in: a fourth research round up. CGD note. Center for Global Development. <https://www.cgdev.org/publication/violence-against-women-and-children-during-covid-19-one-year-and-100-papers-fourth>
- Boursier, V., Gioia, F., Musetti, A., & Schimmenti, A. (2022). COVID-19-related fears, stress and depression in adolescents: The role of loneliness and relational closeness to online friends. *Journal of Human Behavior in the Social Environment*, 1–23.

<https://doi.org/10.1080/10911359.2022.2059605>

- Bravo-Sanzana, M., Oriol, X., & Miranda, R. (2022). Characterization of wellbeing and its relationship with exposure to violence in Mexican and Chilean early and late adolescents during the COVID-19 pandemic. *Child Indicators Research*, 1–26. <https://doi.org/10.1007/s12187-021-09905-1>
- Bülow, A., Keijsers, L., Boele, S., van Roekel, E., & Denissen, J. J. A. (2021). Parenting adolescents in times of a pandemic: Changes in relationship quality, autonomy support, and parental control? *Developmental Psychology*, 57(10), 1582–1596. <https://doi.org/10.1037/dev0001208>
- Canady, V. A. (2021). CDC data finds sharp rise in suicide attempts among teen girls amid COVID-19. *Mental Health Weekly*, 31(24), 1. <https://doi.org/10.1002/mhw.32836>
- Cao, C., Wang, L., Fang, R., Liu, P., Bi, Y., Luo, S., Grace, E., & Olf, M. (2022). Anxiety, depression, and PTSD symptoms among high school students in China in response to the COVID-19 pandemic and lockdown. *Journal of Affective Disorders*, 296, 126–129. <https://doi.org/10.1016/j.jad.2021.09.052>
- Cassinat, J. R., Whiteman, S. D., Serang, S., Dotterer, A. M., Mustillo, S. A., Maggs, J. L., & Kelly, B. C. (2021). Changes in family chaos and family relationships during the COVID-19 pandemic: Evidence from a longitudinal study. *Developmental Psychology*, 57(10), 1597–1610. <https://doi.org/10.1037/dev0001217>
- Chaabane, S., Doraiswamy, S., Chaabna, K., Mamtani, R., & Cheema, S. (2021). The impact of COVID-19 school closure on child and adolescent health: A rapid systematic review. *Children*, 8(5). <https://doi.org/10.3390/children8050415>
- Chaharbaghi, Z., Hosseini, F. B., Baniasadi, T., Moradi, L., & Dana, A. (2022). Impact of physical activity on resilience among teenage girls during the COVID-19 pandemic: A mediation by self-esteem. *Women's Health Bulletin*, 9(2). <https://doi.org/10.30476/whb.2022.94451.1166>
- Choukas-Bradley, S., Maheux, A. J., Roberts, S. R., Hutchinson, E. A., Lu, C., Ladouceur, C. D., & Silk, J. S. (2022). Picture perfect during a pandemic? Body image concerns and depressive symptoms in U.S. adolescent girls during the COVID-19 lockdown. *Journal of Children and Media*, 1–12.

<https://doi.org/10.1080/17482798.2022.2039255>

- Cockerham, D., Lin, L., Ndolo, S., & Schwartz, M. (2021). Voices of the students: Adolescent well-being and social interactions during the emergent shift to online learning environments. *Education and Information Technologies*, 26(6), 7523–7541. <https://doi.org/10.1007/s10639-021-10601-4>
- Commodari, E., & La Rosa, V. L. (2020). Adolescents in quarantine during COVID-19 pandemic in Italy: Perceived health risk, beliefs, psychological experiences and expectations for the future. *Frontiers in Psychology*, 11, 559951. <https://doi.org/10.3389/fpsyg.2020.559951>
- Constantini, K., Markus, I., Epel, N., Jakobovich, R., Gepner, Y., & Lev-Ari, S. (2021). Continued participation of Israeli adolescents in online sports programs during the COVID-19 pandemic is associated with higher resilience. *International Journal of Environmental Research and Public Health*, 18(8). <https://doi.org/10.3390/ijerph18084386>
- Cost, K. T., Crosbie, J., Anagnostou, E., Birken, C. S., Charach, A., Monga, S., Kelley, E., Nicolson, R., Maguire, J. L., Burton, C. L., Schachar, R. J., Arnold, P. D., & Korczak, D. J. (2022). Mostly worse, occasionally better: Impact of COVID-19 pandemic on the mental health of Canadian children and adolescents. *European Child & Adolescent Psychiatry*, 31(4), 671–684. <https://doi.org/10.1007/s00787-021-01744-3>
- Decker, M. R., Bevilacqua, K., Wood, S. N., Ngare, G. W., Thiongo, M., Byrne, M. E., Williams, A., Devoto, B., Glass, N., Heise, L., & Gichangi, P. (2022). Gender-based violence during COVID-19 among adolescent girls and young women in Nairobi, Kenya: A mixed-methods prospective study over 18 months. *BMJ Global Health*, 7(2). <https://doi.org/10.1136/bmjgh-2021-007807>
- Decker, M. R., Wood, S. N., Thiongo, M., Byrne, M. E., Devoto, B., Morgan, R., Bevilacqua, K., Williams, A., Stuart, H. C., Wamue-Ngare, G., Heise, L., Glass, N., Anglewicz, P., Gummerson, E., & Gichangi, P. (2021). Gendered health, economic, social and safety impact of COVID-19 on adolescents and young adults in Nairobi, Kenya. *PloS One*, 16(11), e0259583. <https://doi.org/10.1371/journal.pone.0259583>
- Dedryver, C. C., & Knai, C. (2021). “It’s easily the lowest I’ve ever, ever got to”: A qualitative study of

- young adults' social isolation during the COVID-19 lockdowns in the UK. *International Journal of Environmental Research and Public Health*, 18(22). <https://doi.org/10.3390/ijerph182211777>
- Donker, M. H., Mastrotheodoros, S., & Branje, S. (2021). Development of parent-adolescent relationships during the COVID-19 pandemic: The role of stress and coping. *Developmental Psychology*, 57(10), 1611–1622. <https://doi.org/10.1037/dev0001212>
- Duby, Z., Bunce, B., Fowler, C., Bergh, K., Jonas, K., Dietrich, J. J., Govindasamy, D., Kuo, C., & Mathews, C. (2022). Intersections between COVID-19 and socio-economic mental health stressors in the lives of South African adolescent girls and young women. *Child and Adolescent Psychiatry and Mental Health*, 16(1), 23. <https://doi.org/10.1186/s13034-022-00457-y>
- Émon, A., Greene, J., & Timonen, V. (2021). Generation Covid: Experiences of the coronavirus pandemic among secondary school graduates of 2020 in Ireland. *Cogent Education*, 8(1), 1947014. <https://doi.org/10.1080/2331186X.2021.1947014>
- Engel de Abreu, P. M. J., Neumann, S., Wealer, C., Abreu, N., Coutinho Macedo, E., & Kirsch, C. (2021). Subjective well-being of adolescents in Luxembourg, Germany, and Brazil during the COVID-19 pandemic. *Journal of Adolescent Health*, 69(2), 211–218. <https://doi.org/10.1016/j.jadohealth.2021.04.028>
- Espinoza, G., & Hernandez, H. L. (2022). Adolescent loneliness, stress and depressive symptoms during the COVID-19 pandemic: The protective role of friends. *Infant and Child Development*, 31(3), e2305. <https://doi.org/10.1002/icd.2305>
- Exner-Cortens, D., Schwartz, K. D., McMorris, C., & Makarenko, E. (2022). Stress among Asian youth during COVID-19: Moderation by educational, spiritual, and cultural sources of belonging. *Journal of Adolescent Health*, 70(3), 500–503. <https://doi.org/10.1016/j.jadohealth.2021.10.007>
- Feng, Y., & Tong, Q. (2022). Staying online, staying connected: Exploring the effect of online chatting on adolescents' psychological well-being during COVID-19 quarantine. *Youth & Society*, 0044118X211067553. <https://doi.org/10.1177/0044118X211067553>
- Fernandes, B., Biswas, U. N., Tan-Mansukhani, R., Vallejo, A., & Essau, C. A. (2020). The impact of

- COVID-19 lockdown on internet use and escapism in adolescents. *Revista de Psicología Clínica Con Niños Y Adolescentes*, 7(3), 59–65. <https://doi.org/10.21134/rpcna.2020.mon.2056>
- Fernandes, B., Uzun, B., Aydin, C., Tan-Mansukhani, R., Vallejo, A., Saldaña-Gutierrez, A., Nanda Biswas, U., & Essau, C. A. (2021). Internet use during COVID-19 lockdown among young people in low- and middle-income countries: Role of psychological wellbeing. *Addictive Behaviors Reports*, 14, 100379. <https://doi.org/10.1016/j.abrep.2021.100379>
- Fioretti, C., Palladino, B. E., Nocentini, A., & Menesini, E. (2020). Positive and negative experiences of living in COVID-19 pandemic: Analysis of Italian adolescents' narratives. *Frontiers in Psychology*, 11, 599531. <https://doi.org/10.3389/fpsyg.2020.599531>
- Geng, Y., Cheung, S. P., Huang, C.-C., & Liao, J. (2022). Volunteering among Chinese college students during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 19(9). <https://doi.org/10.3390/ijerph19095154>
- Getinet, W., Azale, T., Getie, E., Salelaw, E., Amare, T., Demilew, D., Lemma, A., Kibret, D., Aklilu, A., Tensae, T., Srahbzu, M., & Shumet, S. (2022). Intimate partner violence among reproductive-age women in central Gondar zone, northwest, Ethiopia: A population-based study. *BMC Women's Health*, 22(1), 109. <https://doi.org/10.1186/s12905-022-01685-2>
- Götzinger, F., Santiago-García, B., Noguera-Julián, A., Lanasa, M., Lancella, L., Carducci, F., ... & Tebruegge, M. (2020). COVID-19 in children and adolescents in Europe: A multinational, multicentre cohort study. *The Lancet Child & Adolescent Health*, 4(9), 653–661.
- Grütter, J., & Buchmann, M. (2021). Developmental antecedents of young adults' solidarity during the Covid-19 pandemic: The role of sympathy, social trust, and peer exclusion from early to late adolescence. *Child Development*, 92(5), e832–e850. <https://doi.org/10.1111/cdev.13660>
- Gultom, E. S. (2021). Eroding online violence towards Indonesian women during Covid-19. *Keluwih: Jurnal Sosial Dan Humaniora*, 2(2), 90–95. <https://doi.org/10.24123/soshum.v2i2.4593>
- Hamatani, S., Hiraoka, D., Makita, K., Tomoda, A., & Mizuno, Y. (2022). Impact of COVID-19 pandemic on mental health of children: A longitudinal survey in the ABCD Study cohort. *Research*

- Square (preprint)*. <https://doi.org/10.21203/rs.3.rs-1503720/v1>.
- Hammerstein, S., König, C., Dreisörner, T., & Frey, A. (2021). Effects of COVID-19-related school closures on student achievement – A systematic review. *Frontiers in Psychology, 12*, 746289. <https://doi.org/10.3389/fpsyg.2021.746289>
- Han, Z., Wang, Z., & Li, Y. (2021). Cyberbullying involvement, resilient coping, and loneliness of adolescents during Covid-19 in rural China. *Frontiers in Psychology, 12*, 664612. <https://doi.org/10.3389/fpsyg.2021.664612>
- Headey, D., Heidkamp, R., Osendarp, S., Ruel, M., Scott, N., Black, R., Shekar, M., Bouis, H., Flory, A., Haddad, L., Walker, N., & Standing Together for Nutrition consortium (2020). Impacts of COVID-19 on childhood malnutrition and nutrition-related mortality. *The Lancet, 396*(10250), 519–521. [https://doi.org/10.1016/S0140-6736\(20\)31647-0](https://doi.org/10.1016/S0140-6736(20)31647-0)
- Henkens, J. H. D., Visser, K., Finkenauer, C., & Stevens, G. W. J. M. (2022). “I think it’ll all blow over in the end”: How young people perceive the impact of COVID-19 on their future orientations. *Young Children, 30*(4), 309–326. <https://doi.org/10.1177/11033088221085137>
- Holland, K. M., Jones, C., Vivolo-Kantor, A. M., Idaikkadar, N., Zwald, M., Hoots, B., Yard, E., D’Inverno, A., Swedo, E., Chen, M. S., Petrosky, E., Board, A., Martinez, P., Stone, D. M., Law, R., Coletta, M. A., Adjemian, J., Thomas, C., Puddy, R. W., ... & Houry, D. (2021). Trends in US emergency department visits for mental health, overdose, and violence outcomes before and during the COVID-19 pandemic. *JAMA Psychiatry, 78*(4), 372–379. <https://doi.org/10.1001/jamapsychiatry.2020.4402>
- Horigian, V. E., Schmidt, R. D., & Feaster, D. J. (2021). Loneliness, mental health, and substance use among US young adults during COVID-19. *Journal of Psychoactive Drugs, 53*(1), 1–9. <https://doi.org/10.1080/02791072.2020.1836435>
- Hossain, M. J., Soma, M. A., Bari, M. S., Emran, T. B., & Islam, M. R. (2021). COVID-19 and child marriage in Bangladesh: Emergency call to action. *BMJ Paediatrics Open, 5*(1), e001328. <https://doi.org/10.1136/bmjpo-2021-001328>

- Hoyt, L. T., Cohen, A. K., Dull, B., Maker Castro, E., & Yazdani, N. (2021). “Constant stress has become the new normal”: Stress and anxiety inequalities among U.S. college students in the time of COVID-19. *Journal of Adolescent Health, 68*(2), 270–276. <https://doi.org/10.1016/j.jadohealth.2020.10.030>
- Huang, H. Y., Li, H., & Hsu, Y.-C. (2022). Coping, COVID knowledge, communication, and HBCU student’s emotional well-being: Mediating role of perceived control and social connectedness. *Journal of Community Psychology, 50*(6), 2703–2725. <https://doi.org/10.1002/jcop.22824>
- Hussong, A. M., Midgette, A. J., Thomas, T. E., Coffman, J. L., & Cho, S. (2021). Coping and mental health in early adolescence during COVID-19. *Research on Child and Adolescent Psychopathology, 49*(9), 1113–1123. <https://doi.org/10.1007/s10802-021-00821-0>
- Hutchinson, E. A., Sequeira, S. L., Silk, J. S., Jones, N. P., Oppenheimer, C., Scott, L., & Ladouceur, C. D. (2021). Peer connectedness and pre-existing social reward processing predicts U.S. adolescent girls’ suicidal ideation during COVID-19. *Journal of Research on Adolescence, 31*(3), 703–716. <https://doi.org/10.1111/jora.12652>
- Imran, N., Naz, F., Sharif, M. I., Liaqat, S., Riaz, M., Khawar, A., & Azeem, M. W. (2022). Multidimensional impacts of coronavirus pandemic in adolescents in Pakistan: A cross sectional research. *PloS One, 17*(1), e0262325. <https://doi.org/10.1371/journal.pone.0262325>
- Jackson, S. B., Stevenson, K. T., Larson, L. R., Peterson, M. N., & Seekamp, E. (2021). Outdoor activity participation improves adolescents’ mental health and well-being during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health, 18*(5). <https://doi.org/10.3390/ijerph18052506>
- Jones, N., Baird, S., Abu Hamad, B., Bhutta, Z. A., Oakley, E., Shah, M., Sajdi, J., & Yount, K. M. (2022). Compounding inequalities: Adolescent psychosocial wellbeing and resilience among refugee and host communities in Jordan during the COVID-19 pandemic. *PloS One, 17*(2), e0261773. <https://doi.org/10.1371/journal.pone.0261773>
- Jones, N., Devonald, M., Dutton, R., Baird, S., Yadete, W., & Gezahegne, K. (2021). Disrupted education trajectories: Exploring the effects of Covid-19 on adolescent learning and priorities for “building

back better” education systems in Ethiopia. *Development Policy Review*.

<https://doi.org/10.1111/dpr.12607>

- Jones, N., Guglielmi, S., Małachowska, A., Hamad, B. A., Yadete, W., Hamad, S. A., Hamra, E. A., Alam, F., Alheiwidi, S., Alabbadi, T., Al-Redaisy, N., Amaireh, W., Amdeselassie, T., Banioweda, K., Diab, R., Gebeyehu, Y., Gezahegne, K., Iyasu, A., Qandeel, A., & Workneh, F. (2021). “Some got married, others don’t want to attend school as they are involved in income-generation”: Adolescent experiences following Covid-19 lockdowns in low-and middle-income countries. London: Gender and Adolescence: Global Evidence. <https://adolescent-girls-plan.org/wp-content/uploads/2021/04/Adolescent-experiences-following-covid-19-lockdowns-in-low-and-middle-income-countries-1.pdf>
- Jones, N., Małachowska, A., Guglielmi, S., Alam, F., Abu Hamad, B., Alheiwidi, S., & Yadete, W. (2020). “I have nothing to feed my family...” Covid-19 risk pathways for adolescent girls in low-and middle-income countries. London: Gender and Adolescence: Global Evidence. <https://www.gage.odi.org/wp-content/uploads/2020/08/Covid-19-risk-pathways-for-adolescent-girls-1.pdf>
- Jones, N., Sanchez Tapia, I., Baird, S., Guglielmi, S., Oakley, E., Yadete, W. A., Sultan, M., & Pincock, K. (2021). Intersecting barriers to adolescents’ educational access during COVID-19: Exploring the role of gender, disability and poverty. *International Journal of Educational Development*, 85, 102428. <https://doi.org/10.1016/j.ijedudev.2021.102428>
- Jones, S. E., Ethier, K. A., Hertz, M., DeGue, S., Le, V. D., Thornton, J., Lim, C., Dittus, P. J., & Geda, S. (2022). Mental health, suicidality, and connectedness among high school students during the COVID-19 pandemic – Adolescent behaviors and experiences survey, United States, January-June 2021. *MMWR Supplements*, 71(3), 16–21. <https://doi.org/10.15585/mmwr.su7103a3>
- Jusienė, R., Breidokienė, R., Sabaliauskas, S., Mieziene, B., & Emeljanovas, A. (2022). The predictors of psychological well-being in Lithuanian adolescents after the second prolonged lockdown due to COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 19(6).

<https://doi.org/10.3390/ijerph19063360>

- Juvonen, J., Lessard, L. M., Kline, N. G., & Graham, S. (2022). Young adult adaptability to the social challenges of the COVID-19 pandemic: The protective role of friendships. *Journal of Youth and Adolescence*, 51(3), 585–597. <https://doi.org/10.1007/s10964-022-01573-w>
- Kapetanovic, S., Ander, B., Gurdal, S., & Sorbring, E. (2022). Adolescent smoking, alcohol use, inebriation, and use of narcotics during the Covid-19 pandemic. *BMC Psychology*, 10(1), 44. <https://doi.org/10.1186/s40359-022-00756-1>
- Karp, C., Moreau, C., Sheehy, G., Anjur-Dietrich, S., Mbushi, F., Muluve, E., Mwanga, D., Nzioki, M., Pinchoff, J., & Austrian, K. (2021). Youth relationships in the era of COVID-19: A mixed-methods study among adolescent girls and young women in Kenya. *Journal of Adolescent Health*, 69(5), 754–761. <https://doi.org/10.1016/j.jadohealth.2021.07.017>
- Kassie, A., Handebo, S., Adugna, A., & Shitu, K. (2022). Violence against girls during COVID-19 pandemic and associated factors in Gondar city, north west Ethiopia. *Epidemiology and Infection*, 150, e31. <https://doi.org/10.1017/S0950268822000140>
- Katana, E., Amodan, B. O., Bulage, L., Ario, A. R., Fodjo, J. N. S., Colebunders, R., & Wanyenze, R. K. (2021). Violence and discrimination among Ugandan residents during the COVID-19 lockdown. *BMC Public Health*, 21(1), 467. <https://doi.org/10.1186/s12889-021-10532-2>
- Kiss, O., Alzueta, E., Yuksel, D., Pohl, K. M., de Zambotti, M., Müller-Oehring, E. M., Prouty, D., Durley, I., Pelham, W. E., 3rd, McCabe, C. J., Gonzalez, M. R., Brown, S. A., Wade, N. E., Marshall, A. T., Sowell, E. R., Breslin, F. J., Lisdahl, K. M., Dick, A. S., Sheth, C. S., ... & Baker, F. C. (2022). The pandemic's toll on young adolescents: Prevention and intervention targets to preserve their mental health. *Journal of Adolescent Health*, 70(3), 387–395. <https://doi.org/10.1016/j.jadohealth.2021.11.023>
- Krause, K. H., Verlenden, J. V., Szucs, L. E., Swedo, E. A., Merlo, C. L., Niolon, P. H., Leroy, Z. C., Sims, V. M., Deng, X., Lee, S., Rasberry, C. N., & Underwood, J. M. (2022). Disruptions to school and home life among high school students during the COVID-19 pandemic – Adolescent behaviors

- and experiences survey, United States, January-June 2021. *MMWR Supplements*, 71(3), 28–34.
<https://doi.org/10.15585/mmwr.su7103a5>
- Kuhlman, K. R., Straka, K., Mousavi, Z., Tran, M.-L., & Rodgers, E. (2021). Predictors of adolescent resilience during the COVID-19 pandemic: Cognitive reappraisal and humor. *Journal of Adolescent Health*, 69(5), 729–736. <https://doi.org/10.1016/j.jadohealth.2021.07.006>
- Kusumawaty, I., Yunike, Y., Elviani, Y., & Arifin, H. (2021). Contributing factors of cyberbullying behavior among youths during Covid-19. *Jurnal NERS*, 16(1), 54–59.
<https://doi.org/10.20473/jn.v16i1.24751>
- Lee, J., Lim, H., Allen, J., & Choi, G. (2021). Multiple mediating effects of conflicts with parents and self-esteem on the relationship between economic status and depression among middle school students since COVID-19. *Frontiers in Psychology*, 12, 712219.
<https://doi.org/10.3389/fpsyg.2021.712219>
- Lin, M.-P. (2020). Prevalence of internet addiction during the COVID-19 outbreak and its risk factors among junior high school students in Taiwan. *International Journal of Environmental Research and Public Health*, 17(22). <https://doi.org/10.3390/ijerph17228547>
- Liu, J., Cao, Q., & Pei, M. (2022). Impact of COVID-19 on adolescent travel behavior. *Journal of Transport & Health*, 24, 101326. <https://doi.org/10.1016/j.jth.2021.101326>
- Liu, S. R., Davis, E. P., Palma, A. M., Sandman, C. A., & Glynn, L. M. (2022). The acute and persisting impact of COVID-19 on trajectories of adolescent depression: Sex differences and social connectedness. *Journal of Affective Disorders*, 299, 246–255.
<https://doi.org/10.1016/j.jad.2021.11.030>
- Low, N., & Mounts, N. S. (2022). Economic stress, parenting, and adolescents' adjustment during the COVID -19 pandemic. *Family Relations*, 71(1), 90–107. <https://doi.org/10.1111/fare.12623>
- Lu, T., Yu, Y., Zhao, Z., & Guo, R. (2022). Mental health and related factors of adolescent students during Coronavirus disease 2019 (COVID-19) pandemic. *Psychiatry Investigation*, 19(1), 16–28.
<https://doi.org/10.30773/pi.2020.0416>

- Lyyra, N., Thorsteinsson, E. B., Eriksson, C., Madsen, K. R., Tolvanen, A., Löfstedt, P., & Välimaa, R. (2021). The association between loneliness, mental well-being, and self-esteem among adolescents in four Nordic countries. *International Journal of Environmental Research and Public Health*, 18(14). <https://doi.org/10.3390/ijerph18147405>
- Magson, N. R., Freeman, J. Y. A., Rapee, R. M., Richardson, C. E., Oar, E. L., & Fardouly, J. (2021). Risk and protective factors for prospective changes in adolescent mental health during the COVID-19 pandemic. *Journal of Youth and Adolescence*, 50(1), 44–57. <https://doi.org/10.1007/s10964-020-01332-9>
- Makino, M., Shonchoy, A. S., & Wahhaj, Z. (2021). *Early effects of the COVID-19 lockdown on children in rural Bangladesh*. University of Kent, School of Economics Discussion Paper. <https://www.kent.ac.uk/economics/repec/2102.pdf>
- Malanga, D. F. (2020, June). Tackling gender-based cyber violence against women and girls in Malawi amidst the COVID-19 pandemic. The African Declaration on Internet Rights and Freedoms. https://africaninternetrights.org/sites/default/files/Donald_Flywell-1.pdf
- Marcos Barba, L., van Regenmortel, H., & Ehmke, E. (2020). *Shelter from the storm: The global need for universal social protection in times of COVID-19*. Oxford: Oxfam International. <https://doi.org/10.21201/2020.7048>
- Marengo, D., Angelo Fabris, M., Longobardi, C., & Settanni, M. (2022). Smartphone and social media use contributed to individual tendencies towards social media addiction in Italian adolescents during the COVID-19 pandemic. *Addictive Behaviors*, 126, 107204. <https://doi.org/10.1016/j.addbeh.2021.107204>
- Martins-Filho, P. R., Damascena, N. P., Lage, R. C., & Sposato, K. B. (2020). Decrease in child abuse notifications during COVID-19 outbreak: A reason for worry or celebration? *Journal of Paediatrics and Child Health*, 56(12), 1980–1981. <https://doi.org/10.1111/jpc.15213>
- Mbushi, F., Wyss, N., Cho, E. E., Austrian, K., Muluve, E. I., Muthoni, L., & Kangwana, B. (2022). Gendered effects of COVID-19 school closures: Kenya case study. GIRL Center Research Brief no.

11. New York: Population Council. <https://doi.org/10.31899/sbsr2022.1003>
- McArthur, B. A., Racine, N., McDonald, S., Tough, S., & Madigan, S. (2021). Child and family factors associated with child mental health and well-being during COVID-19. *European Child & Adolescent Psychiatry*. <https://doi.org/10.1007/s00787-021-01849-9>
- McKinlay, A. R., May, T., Dawes, J., Fancourt, D., & Burton, A. (2022). “You’re just there, alone in your room with your thoughts”: A qualitative study about the psychosocial impact of the COVID-19 pandemic among young people living in the UK. *BMJ Open*, 12(2), e053676. <https://doi.org/10.1136/bmjopen-2021-053676>
- Mitchell, K. J., Ybarra, M. L., Banyard, V., Goodman, K. L., & Jones, L. M. (2022). Impact of the COVID-19 pandemic on perceptions of health and well-being among sexual and gender minority adolescents and emerging adults. *LGBT Health*, 9(1), 34–42. <https://doi.org/10.1089/lgbt.2021.0238>
- Mitra, R., Waygood, E. O. D., & Fullan, J. (2021). Subjective well-being of Canadian children and youth during the COVID-19 pandemic: The role of the social and physical environment and healthy movement behaviours. *Preventive Medicine Reports*, 23, 101404. <https://doi.org/10.1016/j.pmedr.2021.101404>
- Moscoviz, L., & Evans, D. (2022, March). *Learning loss and student dropouts during the COVID-19 pandemic: A review of the evidence two years after schools shut down*. Center for Global Development. <https://www.cgdev.org/publication/learning-loss-and-student-dropouts-during-covid-19-pandemic-review-evidence-two-years>
- Murewanhema, G. (2020). Adolescent girls, a forgotten population in resource-limited settings in the COVID-19 pandemic: Implications for sexual and reproductive health outcomes. *The Pan African Medical Journal*, 37. <https://doi.org/10.11604/pamj.suppl.2020.37.1.26970>
- Musa, S. S., Odey, G. O., Musa, M. K., Alhaj, S. M., Sunday, B. A., Muhammad, S. M., & Lucero-Prisno, D. E. (2021). Early marriage and teenage pregnancy: The unspoken consequences of COVID-19 pandemic in Nigeria. *Public Health in Practice*, 2, 100152. <https://doi.org/10.1016/j.puhip.2021.100152>

- Neville, R. D., Lakes, K. D., Hopkins, W. G., Tarantino, G., Draper, C. E., Beck, R., & Madigan, S. (2022). Global changes in child and adolescent physical activity during the COVID-19 pandemic: A systematic review and meta-analysis. *JAMA Pediatrics*.
<https://doi.org/10.1001/jamapediatrics.2022.2313>
- Nobari, H., Fashi, M., Eskandari, A., Villafaina, S., Murillo-Garcia, Á., & Pérez-Gómez, J. (2021). Effect of COVID-19 on health-related quality of life in adolescents and children: A systematic review. *International Journal of Environmental Research and Public Health*, 18(9).
<https://doi.org/10.3390/ijerph18094563>
- Orgilés, M., Morales, A., Delvecchio, E., Mazzeschi, C., & Espada, J. P. (2020). Immediate psychological effects of the COVID-19 quarantine in youth from Italy and Spain. *Frontiers in Psychology*, 11.
<https://doi.org/10.3389/fpsyg.2020.579038>
- O’Sullivan, K., Clark, S., McGrane, A., Rock, N., Burke, L., Boyle, N., Joksimovic, N., & Marshall, K. (2021). A qualitative study of child and adolescent mental health during the COVID-19 pandemic in Ireland. *International Journal of Environmental Research and Public Health*, 18(3).
<https://doi.org/10.3390/ijerph18031062>
- Panagouli, E., Stavridou, A., Savvidi, C., Kourti, A., Psaltopoulou, T., Sergeantanis, T. N., & Tsitsika, A. (2021). School performance among children and adolescents during COVID-19 pandemic: A systematic review. *Children*, 8(12). <https://doi.org/10.3390/children8121134>
- Panchal, U., Salazar de Pablo, G., Franco, M., Moreno, C., Parellada, M., Arango, C., & Fusar-Poli, P. (2021). The impact of COVID-19 lockdown on child and adolescent mental health: Systematic review. *European Child & Adolescent Psychiatry*. <https://doi.org/10.1007/s00787-021-01856-w>
- Parkes, J., Datzberger, S., Howell, C., Knight, L., Kasidi, J., Kiwanuka, T., Nagawa, R., Naker, D., & Devries, K. (2020). Young people, inequality and violence during the COVID-19 lockdown in Uganda. CoVAC Working Paper. SocArXiv, 6 Oct. 43. <https://doi.org/10.31235/osf.io/2p6hx>
- Patalay, P., & Fitzsimons, E. (2018) Development and predictors of mental ill-health and wellbeing from childhood to adolescence. *Social Psychiatry and Psychiatric Epidemiology*, 53, 1311–1323.

<https://doi.org/10.1007/s00127-018-1604-0>

Pigaiani, Y., Zoccante, L., Zocca, A., Arzenton, A., Menegolli, M., Fadel, S., Ruggeri, M., & Colizzi, M.

(2020). Adolescent lifestyle behaviors, coping strategies and subjective wellbeing during the COVID-19 pandemic: An online student survey. *Healthcare*, 8(4).

<https://doi.org/10.3390/healthcare8040472>

Pinchoff, J., Austrian, K., Rajshekhar, N., Abuya, T., Kangwana, B., Ochako, R., Tidwell, J. B., Mwanga,

D., Muluve, E., Mbushi, F., Nzioki, M., & Ngo, T. D. (2021). Gendered economic, social and health effects of the COVID-19 pandemic and mitigation policies in Kenya: Evidence from a prospective cohort survey in Nairobi informal settlements. *BMJ Open*, 11(3), e042749.

<https://doi.org/10.1136/bmjopen-2020-042749>

Pinchoff, J., Friesen, E. L., Kangwana, B., Mbushi, F., Muluve, E., Ngo, T. D., & Austrian, K. (2021).

How has COVID-19-related income loss and household stress affected adolescent mental health in Kenya? *Journal of Adolescent Health*, 69(5), 713–720.

<https://doi.org/10.1016/j.jadohealth.2021.07.023>

Porter, C., Favara, M., Hittmeyer, A., Scott, D., Sánchez Jiménez, A., Ellanki, R., Woldehanna, T., Duc,

L. T., Craske, M. G., & Stein, A. (2021). Impact of the COVID-19 pandemic on anxiety and depression symptoms of young people in the global south: Evidence from a four-country cohort study. *BMJ Open*, 11(4), e049653. <https://doi.org/10.1136/bmjopen-2021-049653>

Prala, H. W., Susanti, D. E., Matulessy, A., & Aju, H. P. (2021). Adolescent resilience in response to the

Covid-19 pandemic. *Social Values & Society*, 3(2), 70–73.

<https://doi.org/10.26480/svs.02.2021.70.73>

Preston, A. J., & Rew, L. (2022). Connectedness, self-esteem, and prosocial behaviors protect adolescent

mental health following social isolation: A systematic review. *Issues in Mental Health Nursing*, 43(1), 32–41. <https://doi.org/10.1080/01612840.2021.1948642>

Putri, N. D., Pulubuhu, D. A. T., & Achmad, H. (2022). Pre and post Covid-19 pandemic: Demography,

education, and welfare related to child marriage in South Sulawesi, Indonesia. *I T A L I E N I S C H*,

- 12(1), 103–108. <https://www.italienisch.nl/index.php/VerlagSauerlander/article/view/176>
- Racine, N., McArthur, B. A., Cooke, J. E., Eirich, R., Zhu, J., & Madigan, S. (2021). Global prevalence of depressive and anxiety symptoms in children and adolescents during COVID-19: A meta-analysis. *JAMA Pediatrics*, 175(11), 1142–1150. doi:10.1001/jamapediatrics.2021.2482
- Rahiem, M. D. H. (2021). COVID-19 and the surge of child marriages: A phenomenon in Nusa Tenggara Barat, Indonesia. *Child Abuse & Neglect*, 118, 105168. <https://doi.org/10.1016/j.chiabu.2021.105168>
- Rahman, M. S., Sabbir, M. M., Kaium, D. M. A., Nomi, M., Zahan, I., & Islam, M. (2021). Consequences of the Covid-19 pandemic on zero access to technology users in Bangladesh. *International Journal of Early Childhood Special Education*, 13(1), 62–70. <https://doi.org/10.9756/int-jecse/v13i1.211008>
- Rahman, R., Huysman, C., Ross, A. M., & Boskey, E. R. (2022). Intimate partner violence and the COVID-19 pandemic. *Pediatrics*, 149(6). <https://doi.org/10.1542/peds.2021-055792>
- Rajmil, L., Hjern, A., Boran, P., Gunnlaugsson, G., Kraus de Camargo, O., Raman, S., & International Society for Social Pediatrics & Child Health (ISSOP) and International Network for Research on Inequalities in Child Health (INRICH) COVID-19 Working Group (2021). Impact of lockdown and school closure on children's health and well-being during the first wave of COVID-19: A narrative review. *BMJ Paediatrics Open*, 5(1), e001043. <https://doi.org/10.1136/bmjpo-2021-001043>
- Ren, H., Cheah, C. S. L., & Liu, J. (2021). The cost and benefit of fear induction parenting on children's health during the COVID-19 outbreak. *Developmental Psychology*, 57(10), 1667–1680. <https://doi.org/10.1037/dev0001205>
- Rodman, A. M., Rosen, M. L., Kasparek, S. W., Mayes, M., Lengua, L., McLaughlin, P., Katie A., & Meltzoff, A. N. (2021). Social behavior and youth psychopathology during the COVID-19 pandemic: A longitudinal study. Preprint. <https://doi.org/10.31234/osf.io/y8zvg>
- Ross, D. A., Hinton, R., Melles-Brewer, M., Engel, D., Zeck, W., Fagan, L., Herat, J., Phaladi, G., Imbago-Jácome, D., Anyona, P., Sanchez, A., Damji, N., Terki, F., Baltag, V., Patton, G., Silverman, A., Fogstad, H., Banerjee, A., & Mohan, A. (2020). Adolescent well-being: A definition and conceptual framework. *Journal of Adolescent Health*, 67(4), 472–476.

<https://doi.org/10.1016/j.jadohealth.2020.06.042>

- Rozgonjuk, D., Pontes, H. M., Schivinski, B., & Montag, C. (2022). Disordered gaming, loneliness, and family harmony in gamers before and during the COVID-19 pandemic. *Addictive Behaviors Reports*, 15, 100426. <https://doi.org/10.1016/j.abrep.2022.100426>
- Ruíz-Roso, M. B., de Carvalho Padilha, P., Matilla-Escalante, D. C., Brun, P., Ulloa, N., Acevedo-Correa, D., Arantes Ferreira Peres, W., Martorell, M., Rangel Bousquet Carrilho, T., de Oliveira Cardoso, L., Carrasco-Marín, F., Paternina-Sierra, K., Lopez de Las Hazas, M.-C., Rodriguez-Meza, J. E., Villalba-Montero, L. F., Bernabè, G., Pauletto, A., Taci, X., Cárcamo-Regla, R., ... & Dávalos, A. (2020). Changes of physical activity and ultra-processed food consumption in adolescents from different countries during Covid-19 pandemic: An observational study. *Nutrients*, 12(8). <https://doi.org/10.3390/nu12082289>
- Samji, H., Wu, J., Ladak, A., Vossen, C., Stewart, E., Dove, N., Long, D., & Snell, G. (2022). Review: Mental health impacts of the COVID-19 pandemic on children and youth – a systematic review. *Child and Adolescent Mental Health*, 27(2), 173–189. <https://doi.org/10.1111/camh.12501>
- Seah, K. M. (2020). COVID-19: Exposing digital poverty in a pandemic. *International Journal of Surgery*, 79, 127–128. <https://doi.org/10.1016/j.ijisu.2020.05.057>
- Sen, L. T., Siste, K., Hanafi, E., Murtani, B. J., Christian, H., Limawan, A. P., Adrian, & Siswidiani, L. P. (2021). Insights into adolescents' substance use in a low-middle-income country during the COVID-19 pandemic. *Frontiers in Psychiatry*, 12, 739698. <https://doi.org/10.3389/fpsy.2021.739698>
- Sharma, M., Idele, P., Manzini, A., Aladro, C. P., Ipince, A., Olsson, G., Banati, P., & Anthony, D. (2021). Life in lockdown: Child and adolescent mental health and well-being in the time of COVID-19. Florence: UNICEF Office of Research - Innocenti. <http://files.eric.ed.gov/fulltext/ED615551.pdf>
- Sharpe, D., Rajabi, M., Chileshe, C., Joseph, S. M., Sesay, I., Williams, J., & Sait, S. (2021). Mental health and wellbeing implications of the COVID-19 quarantine for disabled and disadvantaged children and young people: Evidence from a cross-cultural study in Zambia and Sierra Leone. *BMC Psychology*, 9(1), 79. <https://doi.org/10.1186/s40359-021-00583-w>

- Sinko, L., He, Y., Kishton, R., Ortiz, R., Jacobs, L., & Fingerman, M. (2022). “The stay at home order is causing things to get heated up”: Family conflict dynamics during COVID-19 from the perspectives of youth calling a national child abuse hotline. *Journal of Family Violence*, 37(5), 837–846.
<https://doi.org/10.1007/s10896-021-00290-5>
- Stoecklin, D., Gervais, C., Kutsar, D., & Heite, C. (2021). Lockdown and children’s well-being: Experiences of children in Switzerland, Canada and Estonia. *Childhood Vulnerability Journal*, 3(1), 41–59. <https://doi.org/10.1007/s41255-021-00015-2>
- Tao, X., & Fisher, C. B. (2022). Exposure to social media racial discrimination and mental health among adolescents of color. *Journal of Youth and Adolescence*, 51(1), 30–44.
<https://doi.org/10.1007/s10964-021-01514-z>
- Thomas, E. Y., Anurudran, A., Robb, K., & Burke, T. F. (2020). Spotlight on child abuse and neglect response in the time of COVID-19. *The Lancet Public Health*, 5(7), e371.
[https://doi.org/10.1016/S2468-2667\(20\)30143-2](https://doi.org/10.1016/S2468-2667(20)30143-2)
- Tüzün, Z., Başar, K., & Akgül, S. (2022). Social connectedness matters: Depression and anxiety in transgender youth during the COVID-19 pandemic. *The Journal of Sexual Medicine*, 19(4), 650–660. <https://doi.org/10.1016/j.jsxm.2022.01.522>
- UNICEF. (2021a). Seen, counted, included: Using data to shed light on the well-being of children with disabilities. New York: UNICEF. <https://data.unicef.org/resources/children-with-disabilities-report-2021/>
- UNICEF. (2021b, June). Child marriage in the context of COVID-19.
<https://www.unicef.org/mena/reports/child-marriage-context-covid-19>
- UNICEF. (2022a). Child marriage. <https://www.unicef.org/protection/child-marriage>
- UNICEF. (2022b). Child displacement. <https://data.unicef.org/topic/child-migration-and-displacement/displacement/>
- Vacaru, S. V., Beijers, R., & de Weerth, C. (2022). Internalizing symptoms and family functioning predict adolescent depressive symptoms during COVID-19: A longitudinal study in a community

- sample. *PloS One*, 17(3), e0264962. <https://doi.org/10.1371/journal.pone.0264962>
- Vall-Roqué, H., Andrés, A., & Saldaña, C. (2021). The impact of COVID-19 lockdown on social network sites use, body image disturbances and self-esteem among adolescent and young women. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, 110, 110293. <https://doi.org/10.1016/j.pnpbp.2021.110293>
- Varma, P., Junge, M., Meaklim, H., & Jackson, M. L. (2021). Younger people are more vulnerable to stress, anxiety and depression during COVID-19 pandemic: A global cross-sectional survey. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, 109, 110236. <https://doi.org/10.1016/j.pnpbp.2020.110236>
- Vejmelka, L., & Matković, R. (2021). Online interactions and problematic internet use of Croatian students during the COVID-19 pandemic. *Information*, 12(10), 399. <https://doi.org/10.3390/info12100399>
- Velicu, A., Barbovski, M., & Rotaru, I. (2022). Socially isolated and digitally excluded. A qualitative exploratory study of the lives of Roma teenage mothers during the COVID-19 lockdown. *Technology in Society*, 101861. <https://doi.org/10.1016/j.techsoc.2022.101861>
- von Soest, T., Kozák, M., Rodríguez-Cano, R., Fluit, D. H., Cortés-García, L., Ulset, V. S., Haghish, E. F., & Bakken, A. (2022). Adolescents' psychosocial well-being one year after the outbreak of the COVID-19 pandemic in Norway. *Nature Human Behaviour*, 6(2), 217–228. <https://doi.org/10.1038/s41562-021-01255-w>
- Wang, J., Wang, H., Lin, H., Richards, M., Yang, S., Liang, H., Chen, X., & Fu, C. (2021). Study problems and depressive symptoms in adolescents during the COVID-19 outbreak: Poor parent-child relationship as a vulnerability. *Globalization and Health*, 17(1), 40. <https://doi.org/10.1186/s12992-021-00693-5>
- Waselewski, E. A., Waselewski, M. E., & Chang, T. (2020). Needs and coping behaviors of youth in the U.S. during COVID-19. *Journal of Adolescent Health*, 67(5), 649–652. <https://doi.org/10.1016/j.jadohealth.2020.07.043>

- World Health Organization. (n.d.) Adolescent health. <https://www.who.int/health-topics/adolescent-health>
- Wright, M. F., & Wachs, S. (2022). Self-isolation and adolescents' friendship quality: Moderation of technology use for friendship maintenance. *Youth & Society*, 0044118X221080484. <https://doi.org/10.1177/0044118X221080484>
- Yang, C.-C., Tsai, J.-Y., & Pan, S. (2020). Discrimination and well-being among Asians/Asian Americans during COVID-19: The role of social media. *Cyberpsychology, Behavior and Social Networking*, 23(12), 865–870. <https://doi.org/10.1089/cyber.2020.0394>
- Yang, X., Harrison, P., Huang, J., Liu, Y., & Zahn, R. (2021). The impact of COVID-19-related lockdown on adolescent mental health in China: A prospective study. Available at SSRN 3792956. <https://doi.org/10.2139/ssrn.3792956>
- Yazdani, N., Hoyt, L. T., Maker Castro, E., & Cohen, A. K. (2022). Sociopolitical influences in early emerging adult college students' pandemic-related civic engagement. *Emerging Adulthood*, 10(4), 1041–1047. <https://doi.org/10.1177/21676968221098296>
- Yu, Y., Yu, Y., & Hu, J. (2022). COVID-19 among Chinese high school graduates: Psychological distress, growth, meaning in life and resilience. *Journal of Health Psychology*, 27(5), 1057–1069. <https://doi.org/10.1177/1359105321990819>
- Zhang, X., Zhu, W., Kang, S., Qiu, L., Lu, Z., & Sun, Y. (2020). Association between physical activity and mood states of children and adolescents in social isolation during the COVID-19 epidemic. *International Journal of Environmental Research and Public Health*, 17(20). <https://doi.org/10.3390/ijerph17207666>
- Zhu, N., O, J., Lu, H. J., & Chang, L. (2020). Debate: Facing uncertainty with(out) a sense of control – cultural influence on adolescents' response to the COVID-19 pandemic. *Child and Adolescent Mental Health*, 25(3), 173–174. <https://doi.org/10.1111/camh.12408>