

# The Impact of Covid-19 Pandemic on The Psychosocial Development and Mental Health Wellbeing of Children and Adolescents

Nurfatihah Aziz, Zi Ying Ong, Pui Wei Tham, Mohd Nazri Bin Abdul Rahman

Department of Educational Psychology and Counselling, Faculty of Education, University of Malaya, Kuala Lumpur, Malaysia

Email: s2115151@siswa.um.edu.my, s2109697@siswa.um.edu.my, s2032559@siswa.um.edu.my, mohdnazri\_ar@um.edu.my

Saeid Motevalli

Department of Psychology, Faculty of Social Sciences & Liberal Arts, UCSI University, Kuala Lumpur

Email: motevalli.saeid@gmail.com

**To Link this Article:** <http://dx.doi.org/10.6007/IJARBSS/v12-i4/13041> DOI:10.6007/IJARBSS/v12-i4/13041

**Published Date:** 06 April 2022

## Abstract

The outbreak of coronavirus disease 2019 (Covid-19) caused a lot of impact on human's life since its existence in December 2019. The pandemic had led to the closure of the borders, the launch of movement control orders in different countries, the temporary shutdown of schools and businesses. The efforts intended to stop the spread of the virus have unintentionally changed the course of the social, economic and political directions in human lifestyles. One of the significant consequences that happen in human's life is the disruptions of psychosocial and mental health development of our youngsters. The review of various development theories strongly suggested potential disruptions in the formation of self-identities, social skills and delayed cognitive growth. A review of research studies suggested poor mental health in children and adolescents due to changes in daily routines and sleep qualities, excessive use of social media and electronic gadgets and high parental stress. The unavailability of support services by the schools and communities as well as deprivation of social support by extended family members and friends increased negative emotions in children and adolescents. This article review aims to discuss the gap of development based on chosen development theories, the impact of the Covid-19 pandemic and the suggestion of solutions on the psychosocial development and mental health well-being among children and adolescents. In summary, even the Covid-19 virus highly affects our youngsters' well-being, however, there is always hope in contributing solutions to weaken the impact.

**Keywords:** Covid-19, Children, Adolescent, Mental Health, Psychosocial, Wellbeing, Development, Impact.

### **Introduction**

In March 2020, WHO declared coronavirus disease 2019 (Covid-19) as a pandemic. Up until today, it has affected more than 200 countries in the world with nearly 277 million Covid-19 patients and 5.3 million deaths reported as of 23 December 2021 (WHO, 2021). Due to the pandemic and its global ramifications, the general public, as well as the majority of the front health providers, were prone to the psychological impact of Covid-19 infection (Serafini et al., 2020). The majority of the countries' governments had ordered the citizens to stay home and the closure of schools as well as education institutes to prevent the spread of the virus. With the school closure order, it can have a huge impact on their psychosocial development of them because they are not allowed to go to school for learning as well as mingle with their peers. Children's lives are severely disrupted by the coronavirus pandemic; their discipline, habit and mental as well as educational consistency are all jeopardised (Goldberg et al., 2021). Social interaction plays a significant role in the development of children and adolescents. Other than that, with the changes from the physical classroom to the online learning platform, the long timing in sitting in front of the screen with the limitations of movements might be hard for some students to adapt. These struggles of adapting towards change might cause the consequences of mental health well-being of children and adolescents as well as their overall development as human beings. Next, we are going to look into some development theories in understanding the lack of development among children and adolescents due to Covid-19 as well as the behavioural change in sleeping patterns (see Figure 1).

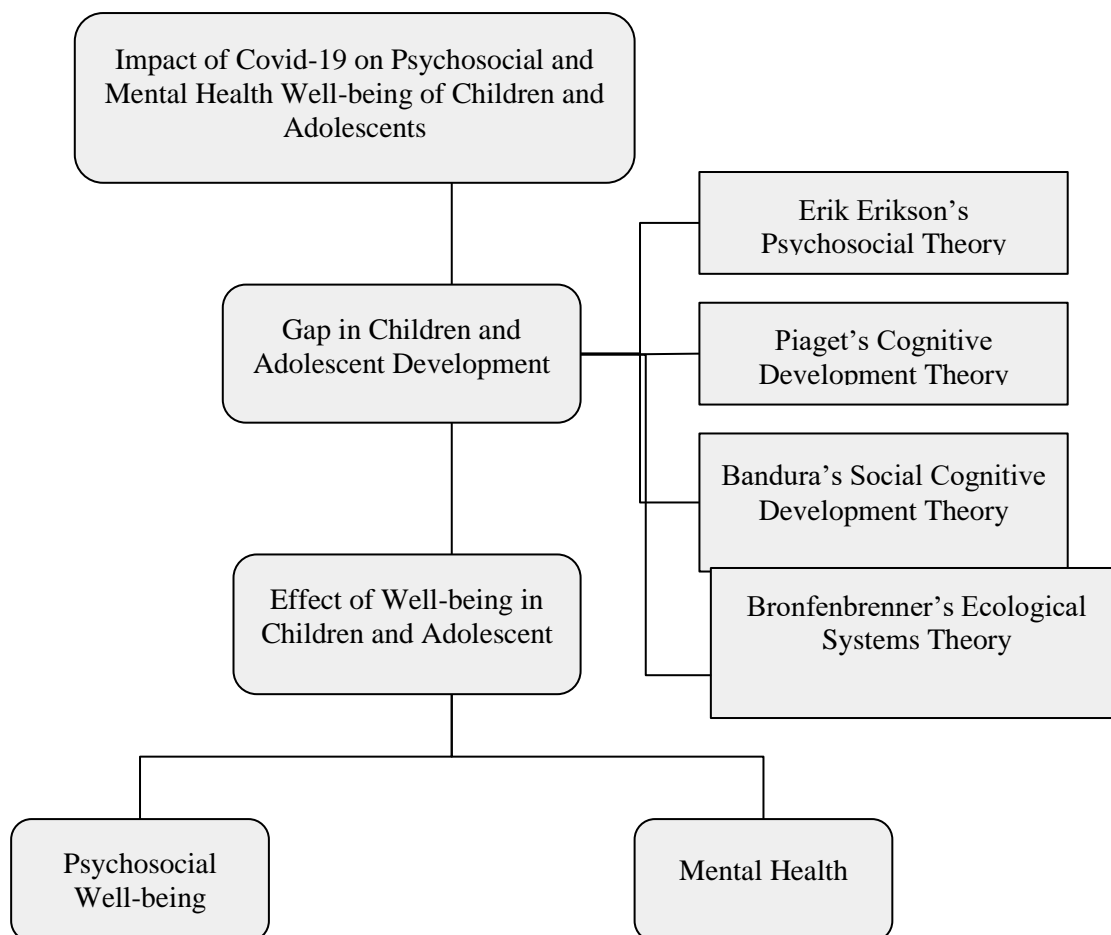


Figure 1: *Theoretical framework*

### Theories of Development

Some development theories can help us more in understanding children and adolescent development. Among all these theories, the theories that we are going to discuss in this paper will be Erikson's Psychosocial Theory, Piaget's Cognitive Development Theory and Bandura's Social Cognitive Theory. From these theories, we can discover the gap of the development among children and adolescents due to the impact of Covid-19 and also how it changed their behaviour during the lockdown.

### Erikson's Psychosocial Theory

Erikson's theory introduced the eight stages of development that humans will experience, be it in biological, psychological, or social factors throughout their lifespan (Lewis, 2020). Among the eight stages, children and adolescents took up the 5 stages. This shows how crucial the development during our time from infancy to adolescence will influence us to grow as human beings. According to Erikson, in each stage, there will be a crisis that the individual has to resolve to proceed to another stage so that the individual's vulnerability and potential can be strengthened. During the fifth stage of Erikson's theory, identity versus identity confusion which is also considered as the adolescence year of development, individuals have to know who they are and their purpose in life (Santrock, 2021). This means that if an adolescent can healthily develop their identity, they are going to have a more positive path in the following life. A recent study by Mohd Noor and colleagues (2017) recorded that letting

students participate in school co-curricular activities can positively impact their personal development as well as their identity. Other than that, students who participated in co-curricular activities showed a slightly higher level of self-concept score compared to those who are non-participants (Agnes et al., 2020). However, due to the Covid-19 pandemic outbreak, a lot of countries announced for schools and universities to be closed to stop the spread of the virus. This announcement, also means that the chances for students to participate in co-curricular activities are low, which is going to impact their development in understanding their own identities.

### **Piaget's Cognitive Development Theory**

Piaget's theory focuses on the conscious thoughts of children where they will go through 4 stages of cognitive development by actively building their understanding of the world. Children from the age of 2 years old to 11 years old will go through the second and third stages based on Piaget theory which is the preoperational stage and concrete operational stage. In the preoperational stage, the youngster learns to use text and graphics to describe the surroundings. Such phrases and graphics show expanded abstract thoughts and beyond the link between sensory data and bodily behaviours (Santrock, 2021). This shows that the surroundings that the child is in are significant in contributing to their development. For example, the different languages that are used with the children and the various environments that the child gets exposed to will develop their cognitive growth. Following the concrete operational stage, kids can conduct object-related processes and think critically when the reasoning applies to particular or concrete samples (Santrock, 2021). In this stage, the experience of the 5 senses is important for their cognition development. For instance, such activities as doing science experiments, participating in sports activities, building models and other related activities that involve the exploration of the senses are essential for children's growth. Meanwhile, there are consequences to the government's declaration of school closure and the movement control order in isolating the people in their own house, especially to our youngsters who are unable to go to school and forced to continue their learning virtually by sitting in front of the small monitor screen for very long hours. Referring to Piaget, the surroundings of the children's living is crucial in contributing to their learning but the impact of Covid-19 has caused them to have less interaction with their peers or be in other environments as they just can stay home with their family. On the other way, it has also delayed their development in different stages of life.

### **Bandura's Social Cognitive Development Theory**

Bandura's social cognitive theory, claims that the environment and behaviour of human beings are intimately associated with cognitive functioning. In his view, he claims that humans mentally reflect someone's behaviour and often imitate it themselves (Santrock, 2021). People learn a wide range of behaviours, ideas, and emotions through witnessing another person's behavioural patterns, according to social cognitive theorists, and these assumptions contribute immensely in life. In other words, children and adolescents have to get exposed by mingling with their peers so that they can learn certain behaviours in the same age group other than referring to their parents or siblings. Even so, with the impact of school closure and the limitation of social interaction between people to stop the spread of the virus, our younger generation was not able to meet with their friends in school just like how they used to do before the pandemic happened. Their ability to mingle and socialize with classmates will be severely constrained as a result of their restricted social contacts (Wang et

al., 2020). This extends to the rise of feelings of solitude and segregation during lockdown (Jiao et al., 2020; Okruszek, et al., 2020; Singh & Singh, 2020).

### **Bronfenbrenner's Ecological Systems Theory**

Humans are social beings. We spend most of our time of life navigating society and securing relationships with people. In the 1970s, Urie Bronfenbrenner proposed that the development of humans is the result of the interactions between individuals and the environment as well as the interactions between different settings. Bronfenbrenner's ecological systems theory asserts that human development is a continuous process of adaptation and adjustment of the individuals between the immediate and larger environments (Rosa & Tudge, 2013). Humans are seen as both active and passive agents in the process of adjustment as we could, to some extent, influence our immediate settings yet at the same time be influenced by the society such as cultural values and beliefs, economic and political policies, education system, and law and regulations. According to Bronfenbrenner (1978), there are five ecological environments, namely the microsystem, mesosystem, exosystem, macrosystem and chronosystem.

#### **i. Microsystem**

Children and adolescents spend most of their time and efforts in the settings defined as the microsystem. The microsystem is characterised as "the complex of relations between the developing person and environment in an immediate setting containing that person (e.g., home, school, workplace, etc.). A setting is defined as a place with particular physical features in which the participants engage in particular activities with particular objects in particular roles (e.g., daughter, parent, teacher, employee, etc.) for particular periods" (Bronfenbrenner, 1978). The school, peers, home and family are a few settings where children and adolescents spent a great deal of time and established social interactions. The aggravation of Covid-19 had called for movement control or stay-at-home order in various countries. As a result, children and adolescents had to stay at home and were unable to attend physical lessons at school. In Japan, schools were ordered to close (either partially or fully) in March 2020 to prevent the spread of Covid-19. Most of the schools were not prepared for online learning during the closure period. As the Covid cases declined, some schools gradually reopened for physical lessons. An online survey conducted at the end of the year 2020 discovered that school closure was associated with greater behaviour and mental health problems in children and adolescents as compared to partial school closure or nonclosure (Kishida et al., 2021).

More than half of the adolescents reported difficulty staying at home and 31.7% reported verbal arguments with parents (Pigaiani et al., 2020). On a positive note, 40.5% of the adolescents increased communication with their parents and almost all of them stayed in touch with their peers with social networks (Pigaiani et al., 2020). They also reported a positive experience with online schooling (79.1%) through 56.7% feared the consequences of prolonged online schooling. On the other hand, Goldberg et al (2020) reported 57.7% of children had an unfavourable experience with online schooling, as reported by the parents. Sancho et al (2021) found that parents reported that children exhibited negative emotions such as frequent cries, anger, sadness and anxiety due to excessive amounts of homework and long hours of doing homework assignments. Parents with children were burdened by online schooling as children were unable to complete their homework assignments

independently and needed parental assistance and guidance to do so. Parents' involvement in children's learning might contribute to parental stress which may negatively affect the children's learning experience.

The contrasting experience between children and adolescents could also be due to the adolescents' ability to plan their routine and organise their time for learning and leisure (Pigaiani et al., 2020). Maintaining a routine is associated with healthy wellbeing during the pandemic (Sancho et al., 2021). Moreover, developing new interests and interpreting the current pandemic positively were some coping strategies exhibited by adolescents (Pigaiani et al., 2020). However, adolescents not able to plan an effective daily routine succumbed to stress (Amran & Jamaludin, 2021; Welsh et al., 2019; Motevalli et al., 2020). The ability to adhere to a routine and the use of adaptive coping strategies were associated with the executive function in the brain. The executive function is accountable for self-regulation, planning and organising, staying on task and perspective-taking (What is executive function, n.d.). Hence, the development of executive function might be related to the readiness for online schooling and adolescents' wellbeing during the pandemic.

School is an essential setting that provides academic learning as well as nonacademic support to students and school closure, according to Hoffman & Miller (2020), puts students at risk of mental and physical health complications and domestic abuse. Slightly more than 50% of the adolescents who required mental health services received interventions at schools (Ali et al., 2018), hence it is not surprising that students reported higher depression and anxiety levels (Motevalli et al., 2013; Kishida et al., 2021; Pigaiani et al., 2020; Sancho et al., 2021; Steimle, 2021) when their access to mental health service at schools came to a halt. Approximately 20 million students received free lunches at school days before the pandemic (School Nutrition Association, n.d.). A survey conducted in April 2020, during school closure, found that more than 15% of parents reported that their children did not have sufficient food supply (Bauer, 2020). The United Nations (2020) reported that 310 million children who relied on school lunch had to find alternatives for food. On the other hand, obesity rates in children and adolescents increased as they did not have access to nutritious school meals (Cheng et al., 2020) and lack physical exercise (Sacho et al., 2021).

## **ii. Mesosystem**

In Asia, it is not uncommon for retired grandparents to assist in taking care of grandchildren as both parents had to work. Grandparents provide a great deal of help and emotional support for parents and their children (Cheng et al., 2020). As Covid-19 is especially life-threatening for elder people, grandparents are advised to stay away from children for their safety. The absence of grandparents tired the parents who had to look after children and manage their jobs at the same time. The unavailability of grandparents may hurt the children too as they have fewer support systems at this critical time. Children and adolescents who need the services and support from the family, school and community to manage their behavioural or health issues were especially negatively affected by social isolation (Wong et al., 2020).

Harry Stack Sullivan's interpersonal theory emphasised the importance of friendship and companionship for emotional wellbeing and validation of self-worth (Santrock, 2009, p.394). Erik Erikson's stages of psychosocial development also asserted that social experience

is crucial for adolescents to establish identity and intimacy (Santrock, 2009, p.386). The deprivation of social needs has contributed to long hours of screen time and prolonged use of social media. Children and adolescents spent a long time on television, smartphones, tablets or computers and gaming devices during the pandemic (McArthur et al., 2021; Fernandes et al., 2020; Sancho et al., 2021). This is especially true when screen rule was not enforced and high maternal stress was observed in the family (McArthur et al., 2021). Fernandes et al. (2020) cautioned that excessive use of social media and gaming is positively associated with poor mental and physical wellbeing. Excessive use of social media during the pandemic, which constituted a stressful period, was correlated with depressive symptoms and loneliness (Fernandes et al., 2020). Researchers suggested that adolescents immersed in internet usage and gaming as an avoidant coping strategy to escape from the stress caused by social isolation and the pandemic (Fernandes et al., 2020).

Poor sleep quality was negatively associated with social media use (Fernandes et al., 2020). Having good and sufficient sleep is important for the development of children and adolescents. Research shows that there have been significant changes in the sleeping form and habits in adolescents before and during the Covid-19 pandemic. There is more prolonged night sleeping time and lesser day sleeping time in adolescents during pandemic compared to before pandemic (Becker et al., 2021). They found that the number of adolescents facing challenges to fall asleep and sustain their sleep had increased from 24% to 36%. Adolescents who experienced elevated difficulties in initiating and maintaining sleep also experienced increased sadness and loneliness (Becker et al., 2021; Amran & Jamaludin, 2021). Therefore, it was plausible that excessive internet use negatively affected the quality of sleep which contributed to increased negative emotions in adolescents.

### **iii. Exosystem**

High-stress levels in families were persistent throughout social isolation during the pandemic (Steimle et al., 2021). There could be several reasons for elevated stress levels and the most reported was burnout parents juggling working and parenting tasks on top of helping with their children's learning at home (Kishida et al., 2021; Steimle, 2021). Childcare and school services, and grandparents and babysitting assistance were not available for parents and this could be extremely challenging particularly for mothers as they were expected to take larger responsibility in childcare, house chores, and at the same time, hold a job. Furthermore, parents who were laid off during the pandemic also faced financial burdens, which compounded their elevated stress levels, as they struggled to provide for their families. Low-income families were most affected by unemployment as 40% of them reported a loss of job (Cheng et al., 2020) and 46% reported difficulty in paying their bills during the pandemic (Parker et al., 2020). Insufficient food was not uncommon in low-income families but it skyrocketed during the pandemic. Around 35% of households with children and/or adolescents experienced food insecurity in the early pandemic (Bauer, 2020). Food insecurity affects children's academic, cognitive and socioemotional development and physical and mental wellbeing of parents and children (Steimle et al., 2021).

Prolonged distress will take a toll on the parent's mental and physical wellbeing and their children are likely to suffer the consequences. A survey conducted after the Hurricane Harvey disaster in 2017 revealed that a high-stress level was associated with higher cases of child abuse (Abramson, 2020). Researchers were concerned with the possibility of increased

child abuse cases during the pandemic as parents' stress levels remained elevated (Cheng et al., 2020; Wong et al., 2020; Hoffman & Miller, 2020; Sulaiman et al., 2021). School closure put the students at increased risk of abuse and neglect as they were confined at home with parents at all times. Parents were left on their own to multitask without the support from extended family members or the community. Financial distress and the fear of uncertainty may exacerbate parents' stress levels. Other predisposing factors of child abuse were children with mental health or behavioural issues or physical or learning disabilities that demanded more attention or resources from the parents. To aggravate the situation, the school personnel or social workers were unable to identify children who needed help due to movement restrictions.

#### **iv. Macrosystem**

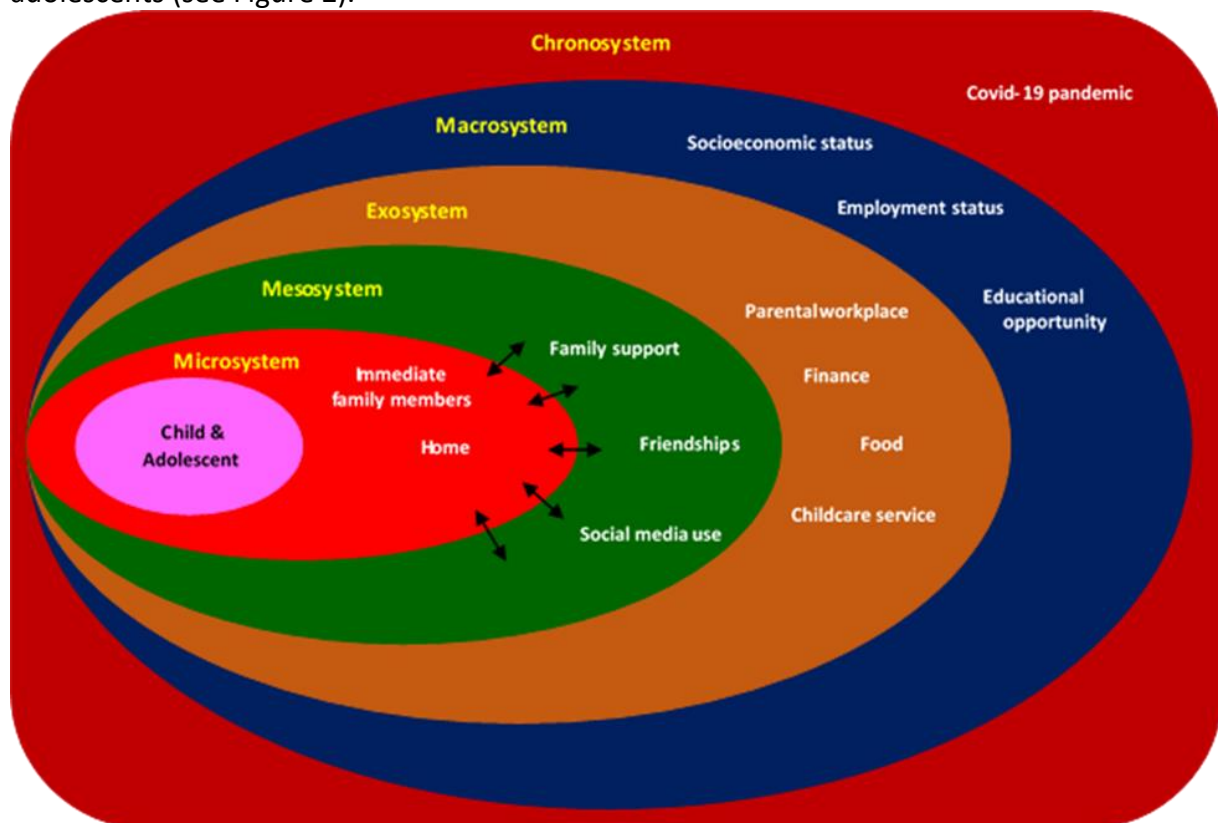
The macrosystem is the cultural values and beliefs and institutional components such as political and economic policies, education and healthcare systems, and socioeconomic status. The impacts of the Covid-19 pandemic have not only affected on the individual level, but it has also changed our society on a greater scale. Families of different socioeconomic statuses were affected differently during the pandemic. In the United States of America, racial minorities such as African Americans, Hispanics and Asian Americans were disproportionately affected by the impacts of Covid-19. They were more likely to lose a job and unable to get sufficient food (McDougle, 2021). Minority students from low-income households were also more likely to depend on a variety of school services such as health care, educational support, meal plans and counselling services (Ali et al., 2018). Inaccessibility to these vital services caused financial and emotional strains to the families, which negatively impacted the wellbeing of children and adolescents. Zainudeen et al (2021) found that unemployment predicted disruptions of mental wellbeing in Malaysians' families. Throughout the pandemic, the unemployment rate has risen to around 4.7% in 2020 and 2021 compared with an average of 3% in previous years (Statista, 2020; Department of Statistics Malaysia, 2021). As previous studies have pointed out, unemployment was associated with financial distress, food insufficiency and poor mental health in children and parents.

Learning poverty is coined as the inability to read or understand words by the age of 10 and 13% of Malaysian students were experiencing the learning crisis before the pandemic (The World Bank, 2019). Sadly, the educational gaps might have further widened as a result of school closure due to the pandemic. Accessibility to devices with a good internet connection is essential for a smooth learning experience especially in an extended period of online school. However, the abrupt switch to online school has left many parents unable to secure equipment and resources for an effective learning experience for children. Although 71% of households owned computers or tablets (Department of Statistic, 2020), the availability of devices for students' use was unknown. It is possible that a few household members had to share one computer or tablet. Moreover, only 30% of Malaysian households reported having a fixed internet connection at home (Department of Statistic, 2020). Students with special educational needs were likely to not receive any educational support during this period. These populations of students were more likely to fall further behind their peers in terms of educational attainment. Fortunately, the Ministry of Education utilised television as a medium of teaching to ensure more students were able to learn at home.



## v. Chronosystem

A chronosystem is the “changes that occur over the individual’s lifetime caused by events or experiences” (Rosa & Tudge, 2013) as well as “the atypical sociohistorical conditions that affect human development” (Vaterlaus et al., 2021). The Covid-19 pandemic occurred at the chronosystem level as it has caused significant changes in the quality and ways of life and shifted the course of human development. The outbreak of coronavirus in late 2019 is a global disaster that affects all areas of the society, such as unemployment and discrimination, encompassed in the macrosystem, exosystem, mesosystem and microsystem. And the changes in these areas have affected the well-being and mental health of children and adolescents (see Figure 2).



**Figure 2:** *The Bronfenbrenner’s Ecological Systems Theory of the Covid-19 pandemic on the psychosocial of children and adolescents*

## Mental Health

The World Health Organization (WHO) defines mental health as a state of well-being in which the individual realizes his or her abilities, can cope with the normal stresses in life, can work productively and fruitfully, and can make a contribution to his or her community (WHO, 2018). According to Dr Brock Chisholm (Director General WHO, 2013), there is no physical health without mental health.

The Global Burden of Diseases, Injuries, and Risk Factors Study 2017 shows that 792 million people lived with mental disorders (Collaborators, 2017). Multiple social, psychological, and biological aspects influence a person's mental health at any particular time. Poor mental health is also linked to fast societal change, stressful work environments, gender discrimination, social isolation, unhealthy lifestyles, physical ill-health, and human rights abuses, according to WHO (2018). People are more sensitive to mental health disorders due

to distinct psychological and personality variables. Genetic factors are among the biological risks. The most common mental health disorder reported is depression (WHO, 2019).

According to DSM-5 (2013) people who suffer from depression disorder may show symptoms such as sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, tiredness, and poor concentration for at least two weeks. And for anxiety disorder, the symptoms are restlessness or feeling keyed up or on edge, being easily fatigued, difficulty concentrating or mind going blank, irritability, muscle tension and sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep) with at least some symptoms present for more days than not for the past 6 months. Globally, it is estimated that 1 in 7 (14%) 10-19 year-olds experience mental health conditions (WHO, 2021).

### **Covid-19 Pandemic and Children/Adolescents' Mental Health**

Covid-19 pandemic has impacted children's and adolescents' mental health. Based on the articles we reviewed, stress, anxiety and depression are mental health issues that are always being discussed in studies on the impact of Covid-19 on children and adolescents' mental wellbeing. This issue is the result of certain conditions related to the Covid-19 Pandemic such as restriction of movement that leads to school closure, no or minimal interaction with friends since they are not allowed to go to schools, issues in family/parent, health conditions and many more.

According to Malolos et al. (2021), youngsters have been vulnerable to many challenges to their psychological health from the start of the crisis. Even though it affects all people regardless of age, emotional and social development impedes are greater in children than adults. Restriction movement order that has been implemented to control Covid-19 transmission cause the school to close and all non-essential work and activities to be suspended. The shift to online classes increases the burden on the mental well-being of children (Malolos et al., 2021).

A study conducted by Wiguna et al (2020) reports that the number of adolescents that perceived worse to significantly worse self-mental well-being before Covid-19 increased during the Covid-19 pandemic in Indonesia and they were at risk for having emotional and behavioural problems. Referring to a study which was conducted in China to 2330 students in grades 2 to 6 by Xinyan Xie et al (2020) found that students who were slightly or not worried about being affected by Covid-19 had a significantly lower risk of depressive symptoms than those who were quite worried. Those who were not optimistic about the epidemic, compared with those who were quite optimistic had significantly increased risk of depressive symptoms and 22.6% of students reported having depressive symptoms, which is higher than other investigations in primary schools in China. 18.9% of students reported anxiety symptoms, which is higher than the prevalence in other surveys. These findings imply that serious viral infections, like other traumatic experiences, may have an impact on children's mental health.

### **Restriction of Movement and Effects on Mental Well-Being among Children/Adolescents**

Social isolation may be particularly difficult for adolescents, who rely heavily on their peer connections for emotional support. Magson et al (2021) in their study about risk and protective factors for prospective changes in adolescent mental health during the Covid-19

Pandemic found out that adolescents experienced significant increases in depressive symptoms and anxiety and a significant decrease in life satisfaction. Concerns about Covid-19, difficulty with online learning, and greater friction with parents all predicted an increase in mental health issues from 12 months before the Covid-19 epidemic to two months after the government restriction and online learning was implemented. Their study also found that following stay-at-home directives and feeling socially engaged during the Covid-19 lockdown saved people from developing mental illnesses.

Raviv et al (2021) in their study about caregiver perceptions of children's psychological well-being during the Covid-19 Pandemic among families of students attending public schools in Chicago, Illinois found that endorsement of child mental health concerns was significantly higher and endorsement of positive adjustment characteristics was significantly lower after the end of in-person instruction compared with before. Caregivers in this research revealed significant poor impressions of their children's psychological well-being as a result of the Covid-19 pandemic. In comparison to prior in-person instruction, caregivers' reports of child mental health reveal a greater degree of agitated/anger, worried, depressed and low mood, lonely, stressed, and self-harm or thoughts of suicide. Positive adjustment traits are lower in all of these areas compared to previous in-person instructions: positive social or peer relationships, hopeful or positive, positive interactions with siblings or relatives, and conversations about plans.

In terms of emotions, most parents report that their child cries more than usual, feels more nervous than usual, gets angry more than usual, and feels sadder than usual, according to a study conducted by Berasategi Sancho and colleagues (2021) in Spain to analyse the well-being of children holistically during the full lockdown. The majority, on the other hand, believe that their youngster is content (58.2 per cent sometimes and 24 per cent frequently). This study also looked at gender disparities in children's well-being and found that females have more positive emotional expressiveness than boys.

A transcultural study was conducted by Mireia Orgilés and colleagues (2021) to examine anxiety and depressive symptoms in children and adolescents during the Covid-19 Pandemic in Italy, Spain and Portugal since most studies were developed with the Chinese population. Results for this study show higher anxiety scores in Spanish children, higher depression scores in Spanish and Italian children compared to Portuguese. These results are due to the difference in confinement rules among countries. Spain imposes the most restrictive confinement compared to Italy and Portugal. Another finding for this study is anxiety and depressive symptoms are more likely in children whose parents reported higher levels of stress.

Hoffman and Miller (2020) in their articles stated that children who rely on school-based health and mental health care are most vulnerable because of school closure due to restriction of movement since they will not have the access to the help provided by the school support system. Clements et al (2020) mentioned that children and adolescents staying at home due to school lockdown experience an increase in stress and a reduction in support and coping resources. The lack of access to support services can be harmful to vulnerable children and families who experience increased stress. The mental health crisis is the risk for children

who were previously in residential centres but have to go back to their dysfunctional families because of lockdown.

In a study conducted on 89 adoptive parents by Goldberg et al (2021), regarding children's mental health during remote schooling, half of the parents said it had stayed the same, one third said it had worsened, and the remainder said it had improved. Most children were described as struggling in part due to social isolation and loss of routine, which manifested in a variety of ways, including anxiety, schoolwork avoidance and boundary testing.

### **Mental Well-being during Covid-19 Pandemic Among Children/Adolescent with Physical/Mental Health Issues**

Certain non-essential medical procedures and appointments have been put on hold since the pandemic was first announced. According to a study conducted by Sutter et al. (2021) to determine the impact of the Covid-19 Pandemics on access to rehabilitation therapies, as well as the impact of changes in therapy access on the physical and mental well-being of children with motor impairment and their caregivers, more than 40% of the sample reported increased child stress. Mental health issues are more common in children with motor disabilities than in their usually developing peers. The lack of therapy they receive has an impact on their recovery and mental health.

Mental health issues exist and it is a global issue since before the Covid-19 Pandemic. So, what happens to those who suffer from mental health conditions when this pandemic hits? Rothe et al (2021) did a study to explore perceived stress and emotional responses of children and adolescents as well as adults with and without mental health conditions during the social restrictions due to the Covid-19 pandemic. Based on this study, it shows an increase to the worst for most emotions and worries in all children and adolescents with or without mental health conditions. When comparing children and adolescents without mental health difficulties to those with mental health conditions, a bigger number of emotions worsened dramatically. This may be since people with mental illnesses generally have smaller social networks and poor family ties. As a result, individuals may suffer less unfavourable changes associated with social restrictions during Covid-19. Individuals with mental illnesses have learnt to create coping strategies, which might explain their findings. They also noted that people with mental illnesses tend to avoid social situations, thus the Covid-19-related limits and school closures might be used as an avoidance technique to provide short-term relief from social and performance anxiety.

Based on a study conducted in the United Kingdom by Hu and Qian (2021) to 901 adolescents to study the impact of Covid-19 on adolescent's mental health, It shows that adolescents with better mental health before the pandemic had an increase in emotional problems, conduct problems, hyperactivity, and peer relationship problems, as well as becoming less prosocial, whereas adolescents with worse-than-median mental health before the pandemic had a decrease in emotional problems, conduct problems, hyperactivity, and peer relationship problems, as well as an increase in prosocial tendency. These findings were a bit different from what is stated in Malolos et al (2021) articles about children's mental health and well-being in the Philippine setting during the Covid-19 Pandemic where children living with preexisting mental health concerns and living in cramped households and communities face worse circumstances.

**Other Issues Related to Covid-19 Pandemics and Mental Well-being**

Covid-19 caused a reduction in economic activity and working time thus it affects household income and increases financial problems. It seems like an issue among adults, but it affects children and adolescents. Malolos et al (2021) in their research stated that a study entitled *The Hidden Impact of Covid-19 on Children* reported that violence occurred in nearly one-third (32%) of households during the Covid-19 pandemic. An abusive environment can affect children's mental well-being in the long run. Vilar-Compte et al (2020) mentioned in their articles that low-income households with children are facing negative effects of social distancing because they will have a higher risk of facing major income reduction, household food insecurities, household stress and risk of violence. According to Yang Hu and Yue Qian's study (2021), adolescents from low-income households had a larger drop in mental health than adolescents from high-income families. This study also discovered that having additional siblings in the family protects adolescents from the pandemic's negative effects on their emotional and social well-being.

**Suggestion**

Covid-19 has impacted the psychosocial development of children and adolescents as well as their mental health well-being. Despite that, throughout the literature review process, few suggestions can be referred to improve the wellbeing of children and adolescents. According to the research that was conducted by Chris and Colin (2021), parents were found to be more engaged in their communication amid lockdown, more available to assistance and guidance, and more interested in their children's education. The partnership between family-school was improved with the continuous effort being made by the school to maintain the communication and engagement especially to those families that are hard to reach during the pandemic lockdown. For the physiological, psychological, and intellectual well-being of children, developing a solid and long-lasting family-school partnership (FSP) is a key stage. The research shows that having this type of partnership might help to enhance the learning and development of children and young people during or even after the pandemic. In addition, the value of resilience should be strongly implemented in our youngsters' development. Resilience has the appearance of being a regular occurrence that results from normal human adaptation mechanisms (Ann, 2001). According to Ann (2001), connections to competent and loving individuals in the families and communities, intellectual and self-supervision abilities, good self-perceptions, and drive to be productive in the surroundings are all factors connected with resilience. By emphasizing resilience to our children and adolescents, it can help them in better coping with the impact of the Covid-19 pandemic. There are significant positive impacts shown by using the artistic expression in improving the health condition of human beings (Heather and Jeremy, 2010). We can encourage the youngsters who are suffering in their mental health due to the impact of Covid-19 to start using creative art in expressing themselves and their feelings to better develop their mental health condition, for example, watercolour painting, doodling, acting, crafting and another form of creative arts. Apart from that, we can provide online services like tele-counselling to help adolescents and also parents who need mental health support from professional counsellors.

**Conclusion**

Many have lost their loved ones in this pandemic. Children and adolescents were deprived of the opportunity for healthy mental health and social development. The

consequences of this deprivation could be permanent and irreversible. Families suffering from unemployment or financial stress have negatively affected the children or adolescents in the family. Nonetheless, this pandemic has put mental health in the limelight and the public is realising the importance of mental wellbeing. With this realisation and continuous effort of the mental health community, the public will receive the support and guidance to cope and coexist with Covid-19. In a positive light, Covid-19 has revolutionised teaching and learning practices and accelerated the adoption of technology in Malaysians of different ages, young and old. The adoption of online education has expanded the education opportunity and yielded benefits for some populations otherwise not able to receive a quality education. Resources on mental health proliferated during the Covid-19 and online counselling sessions were quickly adopted and normalised. The public, including families and adolescents, are now able to access mental health services without the fear of labelling or stigmatisation.

### **Contribution**

This study makes a vital contribution to articulating the underlying the impact of Covid-19 on Children and Adolescents' psychosocial development and mental health wellbeing because of the launch of movement control orders in different countries and temporary shutdown of schools and businesses. We make a theoretical contribution by explaining and integrating four theoretical approaches on psychosocial development (i.e., Erik Erikson's Psychosocial Theory, Piaget's Cognitive Development Theory, Bandura's Social Cognitive Development Theory, and Bronfenbrenner's Ecological Systems Theory) improve mental health among children and adolescents. As far as, the theoretical contributions of this paper are concerned, the study contributes to our understanding of some factors that have not been explored in-depth in previous literature relating psychosocial development and mental health among adolescents. In this regard the finding of the present paper reinforce the necessity to develop an integrative conceptual models that acknowledge the impact of Covid-19 on psychosocial development and mental health wellbeing among children and adolescents. This study would help practitioners and researchers in the field of psychology, counselling, and education to concentrate their efforts and investments better. This is particularly important since existing literature is almost silent on the investigation essential psychological theories among children and adolescents.

### **References**

- Abramson, A. (2020). *How COVID19 May Increase Domestic Violence and Child Abuse*. American Psychological Association. <https://www.apa.org/topics/covid-19/domestic-violence-child-abuse>
- Ali, M. M., West, K., Teich, J. L., Lynch, S., Mutter, R., & Dubenitz, J. (2018). Utilization of Mental Health Services in Educational Setting by Adolescents in the United States. *Journal of School Health, 89*, 393-401. <https://doi.org/10.1111/josh.12753>
- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual Of Mental Disorders*. iGroup Press.
- Amran, M. S., & Jamaludin, K. A. (2021). The Impact of Unplanned School Closures on Adolescent Behavioral Health During the Covid-19 Pandemic in Malaysia. *Front Public Health, 9*, 639041. <https://doi.org/10.3389/fpubh.2021.639041>.

- Bauer, L. (2020). *The COVID-19 crisis has already left too many children hungry in America*. Brookings. <https://www.brookings.edu/blog/up-front/2020/05/06/the-COVID-19-crisis-has-already-left-too-many-children-hungry-in-america/>
- Becker, S. P., Dvorsky, M. R., Breaux, R., Cusick, C. N., Taylor, K. P. & Langberg, J. M. (2021). Prospective examination of adolescent sleep patterns and behaviors before and during COVID-19. *Sleep Research Society*, 44(8), 1-11. <https://doi.org/10.1093/sleep/zsab054>
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet*, 395(10227), 912–920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Bronfenbrenner, U. (1978). The Social Role of the Child in Ecological Perspective. *Zeitschrift für Soziologie*, 7(1), 4-20. <https://doi.org/10.1515/zfsoz-1978-0101>
- Cheng, T. L., Moon, M., Artman, M., & on behalf of the Pediatric Policy Council. (2020). Shoring up the safety net for children in the COVID-19 pandemic. *Pediatr Research*, 88, 349–351. <https://doi.org/10.1038/s41390-020-1071-7>
- Clemens, V., Deschamps, P., Fegert, J. M., Anagnostopoulos, D., Bailey, S., Doyle, M., Eliez, S., Hansen, A. S., Hebebrand, J., Hillegers, M., Jacobs, B., Karwautz, A., Kiss, E., Kotsis, K., Kumperscak, H. G., Pejovic-Milovancevic, M., Christensen, A., Raynaud, J. P., Westerinen, H., & Visnapuu-Bernadt, P. (2020). Potential effects of "social" distancing measures and school lockdown on child and adolescent mental health. *European child & adolescent psychiatry*, 29(6), 739–742. <https://doi.org/10.1007/s00787-020-01549-w>
- Collaborators, G. (2017). Global, regional, and national incidence, prevalence, years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 392(10159), 1789-1858. [https://doi.org/10.1016/S0140-6736\(18\)32279-7](https://doi.org/10.1016/S0140-6736(18)32279-7)
- Department of Statistics Malaysia Official Portal. (2020). *ICT Use and Access By Individuals and Households Survey Report, Malaysia, 2019*. <https://www.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=SFRacTRUMEVRUFo1UlC4Y1JlLzBqUT09>
- Department of Statistics Malaysia Official Portal. (2021). *Principal Statistics of Labour Force, Malaysia, Third Quarter (Q3) 2021*. <https://www.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=amdnVVNVTFZUeUt pUDUxVDRKNFBBQT09>
- 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>
- Goldberg, A. E., McCormick, N., & Virginia, H. (2021). School-age adopted children's early responses to remote schooling during COVID-19. *Family Relations*, 1-22. <https://doi.org/10.1111/fare.12612>
- Hoffman, J. A., & Miller, E. A. (2020). Addressing the Consequences of School Closure Due to COVID19 on Children's Physical and Mental WellBeing. *World Medical & Health Policy*, 12(3). <https://doi.org/10.1002/wmh3.365>
- Human Rights Watch (2020). *Covid-19 Fueling Anti-Asian Racism and Xenophobia Worldwide: National Action Plans Needed to Counter Intolerance*. <https://www.hrw.org/news/2020/05/12/covid-19-fueling-anti-asian-racism-and-xenophobia-worldwide>

- Jones, C., & Forster, C. (2021) Family–school partnerships in the age of Covid-19: reasons for optimism amidst a global pandemic, *Practice*, 3(2), 135-145.  
<https://doi.org/10.1080/25783858.2021.1927159>
- Kamau, A. W., Rintaugu, E. G., & Bulinda, M. H. (2020). Influence of Participation in Competitive Co-Curricular Activities on Self-Concept of Secondary School Students in Kenya. *International Journal of Sports Science*, 10(5), 105–111.  
<https://doi.org/10.5923/j.sports.20201005.02>
- Kishida, K., Tsuda, M., Waite, P., Creswell, C. & Ishikawa, S. (2021). Relationships between local school closures due to the COVID-19 and mental health problems of children, adolescents, and parents in Japan. *Psychiatry Research*, 306(2021), 114276.  
<https://doi.org/10.1016/j.psychres.2021.114276>
- López-Bueno, R., López-Sánchez, G. F., Casajús, J. A., Calatayud, J., Tully, M. A., & Smith, L. (2021). Potential health-related behaviors for pre-school and school-aged children during COVID-19 lockdown: A narrative review. *Preventive medicine*, 143, 106349.  
<https://doi.org/10.1016/j.ypmed.2020.106349>
- Magson, N. R., Freeman, J., 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>
- Malolos, G., Baron, M., Apat, F., Sagsagat, H., Pasco, P., Aportadera, E., Tan, R., Gacutno-Evardone, A. J., & Lucero-Prisno Iii, D. E. (2021). Mental health and well-being of children in the Philippine setting during the COVID-19 pandemic. *Health Promotion Perspective*, 11(3), 267-270. <https://doi.org/10.34172/hpp.2021.34>
- McArthur, B. A., Racine, N., Browne, D., McDonald, S., Tough, S. & Madigan, S. (2021). Recreational screen time before and during COVID-19 in school-aged children. *Acta Paediatrica*, 00, 1–3. <https://doi.org/10.1111/apa.15966>
- McDougle, R. (2021). *Racial and ethnic minorities experience disproportionate economic impacts of COVID-19*. VCU Health. <https://www.vcuhealth.org/news/covid-19/racial-and-ethnic-minorities-experience-disproportionate-economic-impacts-of-covid-19>
- Motevalli, S., Perveen, A., & Tresa Anak Michael, M. (2020). Motivating Students to Learn: An Overview of Literature in Educational Psychology. *International Journal of Academic Research in Progressive Education and Development*, 9(3), 63-74.  
<http://dx.doi.org/10.6007/IJARPED/v9-i3/7779>
- Motevalli, S., Sulaiman, T., Hamzah, M. S. G., Garmjani, M. G., Kamaliyeh, N. G., & Roslan, S. (2013). The effects of cognitive restructuring intervention on state and trait anxiety among Iranian high school students. *World Applied Sciences Journal*, 26(11), 1499-1504. DOI: 10.5829/idosi.wasj.2013.26.11.1590
- Mulcahy, E. R. (2020). *Timing is Everything: Coronavirus and the Chronosystem*. NACADA Academic Advising Today. <https://nacada.ksu.edu/Resources/Academic-Advising-Today/View-Articles/Timing-is-Everything-Coronavirus-and-the-Chronosystem.aspx>
- Noor, M. H., Suhadi, N., & Tee, T. K. (2017). Self-Awareness Curriculum Activities and Effectiveness to Youth. *Elixir Social Sciences*, 107(2021), 47228-47231.
- Okruszek, L., Aniszewska-Stańczuk, A., Piejka, A., Wiśniewska, M., & Żurek, K. (2020). Safe but lonely? Loneliness, mental health symptoms and COVID-19. *PsyArXiv*.  
<https://doi.org/10.31234/osf.io/9njps>
- Orenstein, G. A. & Lewis, L. (2020). *Eriksons Stages of Psychosocial Development*. StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK556096/>



- Orgilés, M., Espada, J. P., Delvecchio, E., Francisco, R., Mazzeschi, C., Pedro, M., & Morales, A. (2021). Anxiety and Depressive Symptoms in Children and Adolescents during COVID-19 Pandemic: A Transcultural Approach. *Psicothema*, 33(1), 125–130. <https://doi.org/10.7334/psicothema2020.287>
- Parker, K., Minkin, R. & Bennett, J. (2020). Economic Fallout From COVID-19 Continues To Hit Lower-Income Americans the Hardest. *Pew Research Center*. <https://www.pewresearch.org/social-trends/2020/09/24/economic-fallout-from-covid-19-continues-to-hit-lower-income-americans-the-hardest/>
- Pigaiani, Y., Zocante, 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), 472. <https://doi.org/10.3390/healthcare8040472>
- Raviv, T., Warren, C. M., Washburn, J. J., Kanaley, M. K., Eihentale, L., Goldenthal, H. J., Russo, J., Martin, C. P., Lombard, L. S., Tully, J., Fox, K., & Gupta, R. (2021). Caregiver Perceptions of Children's Psychological Well-being During the COVID-19 Pandemic. *JAMA network open*, 4(4), e2111103. <https://doi.org/10.1001/jamanetworkopen.2021.11103>
- Rosa, E. M. & Tudge, J. (2013). Urie Bronfenbrenner's Theory of Human Development: Its Evolution From Ecology to Bioecology. *Journal of Family Theory & Review*, 5, 243–258. <https://doi.org/10.1111/jftr.12022>
- Rothe, J., Buse, J., Uhlmann, A., Bluschke, A., & Roessner, V. (2021). Changes in emotions and worries during the Covid-19 pandemic: an online-survey with children and adults with and without mental health conditions. *Child and Adolescent Psychiatry and Mental Health*, 15(11). <https://doi.org/10.1186/s13034-021-00363-9>
- Sancho, N. B., Mondragon, N. I., & Santamaria, M. D. (2021). The Well-being of children in lock-down: Physical, emotional, social and academic impact. *Children and Youth Services Review*, 127, 106085. <https://doi.org/10.1016/j.childyouth.2021.106085>
- Santrock, J. W. (2009). *Life-Span Development*. McGraw Hill.
- School Nutrition Association. (n.d.). *School Meal Trends and Stats*. Arlington, VA: School Nutrition Association. <https://schoolnutrition.org/aboutschoolmeals/schoolmealtrendsstats/>
- Schwab, K. (2020). *Food Pantries Struggling to Provide During COVID19*. Marketplace. <https://www.marketplace.org/2020/03/31/covid-19-food-pantries/>
- Serafini, G., Parmigiani, B., Amerio, A., Aguglia, A., Sher, L., & Amore, M. (2020) The psychological impact of COVID-19 on the mental health in the general population. *QJM: An International Journal of Medicine*, 113(8), 531–537. <https://doi.org/10.1093/qjmed/hcaa201>
- Singh, J., & Singh, J. (2020). COVID-19 and its impact on society. *Electronic Research Journal of Social Sciences and Humanities*, 2(1), 168–172. <https://doi.org/10.7202/1068547a>
- Statista. (2021). *Malaysia : Unemployment rate from 1999 to 2020*. <https://docs.google.com/document/d/1PFfrKco-DCC6Eb86FZQfKINosnADZj64tV1OQHfYByk/edit>
- Steimle, S., Gassman-Pines, A., Johnson, A. D., Tines, C. T., & Ryan, R. M. (2021). Understanding patterns of food insecurity and family well-being amid the COVID-19 pandemic using daily surveys. *Child Development*, 92, 781–797. <https://doi.org/10.1111/cdev.13659>

- Stuckey, H. L., & Nobel, J. (2010). The connection between art, healing, and public health: a review of current literature. *American Journal of Public Health, 100*(2), 254–263. <https://doi.org/10.2105/AJPH.2008.156497>
- Sulaiman, T., Ibrahim, A., Motevalli, S., Wong, K. Y., and Hakim, M. N. (2021), "Effect of e-evaluation on work motivation among teachers during the movement control order in COVID-19: the mediating role of stress", *Interactive Technology and Smart Education, Vol. 18 No. 3*, pp. 435-449. <https://doi.org/10.1108/ITSE-05-2020-0066>
- Sutter, E. N., Francis, L. S., Francis, S. M., Lench, D. H., Nemanich, S. T., Krach, L. E., Sukal-Moulton, T., & Gillick, B. T. (2021). Disrupted Access to Therapies and Impact on Well-Being During the COVID-19 Pandemic for Children With Motor Impairment and Their Caregivers. *American Journal of Physical Medicine & Rehabilitation, 821-830*. <https://doi.org/10.1097/PHM.0000000000001818>
- Understood. (n.d.). *What is executive function?* [https://www.understood.org/articles/en/what-is-executive-function?\\_sp=cb25c002-0263-478f-99db-2cae076dbe2e.1638848421092#Snapshot:\\_What\\_executive\\_function\\_is](https://www.understood.org/articles/en/what-is-executive-function?_sp=cb25c002-0263-478f-99db-2cae076dbe2e.1638848421092#Snapshot:_What_executive_function_is)
- Wang, G., Zhang, Y., Zhao, J., Zhang, J., & Jiang, F. (2020). Mitigate the effects of home confinement on children during the COVID-19 outbreak. *The Lancet, 395*(10228), 945–947. [https://doi.org/10.1016/S0140-6736\(20\)30547-X](https://doi.org/10.1016/S0140-6736(20)30547-X)
- Welsh, D., Bush, J., Thiel, C., & Bonner, J. (2019). Reconceptualizing goal setting's dark side: The ethical consequences of learning versus outcome goals. *Organizational behavior and human decision processes, 150*, 14-27. <https://doi.org/10.1016/j.obhdp.2018.11.001>
- Wiguna, T., Anindyajati, G., Kaligis, F., Ismail, R. I., Minayati, K., Hanafi, E., Murtani, B. J., Wigantara, N. A., Putra, A. A., & Pradana, K. (2020). Brief Research Report on Adolescent Mental Well-Being and School Closures During the COVID-19 Pandemic in Indonesia. *Frontiers in psychiatry, 11*, 598756. <https://doi.org/10.3389/fpsy.2020.598756>
- Wong, C. A., Ming, D., Maslow, G. & Gifford, E. J. (2020). Mitigating the Impacts of the COVID-19 Pandemic Response on At-Risk Children. *Pediatrics, 146*(1). <https://doi.org/10.1542/peds.2020-0973>
- The World Bank. (2019). *Malaysia: Learning Poverty Brief*. <https://thedocs.worldbank.org/en/doc/128631571223581870-0090022019/original/EAPEACPFMYSLPBRIEF.pdf>
- Vaterlaus, J. M., Shaffer, T., Patten, E. V., & Spruance, L. A. (2021). Parent–Child Relationships and the COVID-19 Pandemic: An Exploratory Qualitative Study with Parents in Early, Middle, and Late Adulthood. *Journal of Adult Development, 28*, 251–263. <https://doi.org/10.1007/s10804-021-09381-5>
- Vilar-Compte, M., Pérez, V., Teruel, G., Alonso, A., & Pérez-Escamilla, R. (2020). Costing of actions to safeguard vulnerable Mexican households with young children from the consequences of COVID-19 social distancing measures. *International journal for equity in health, 19*(1), 70. <https://doi.org/10.1186/s12939-020-01187-3>
- What is Bronfenbrenner's Ecological Systems Theory?. (2019). The Psychology Notes Headquarters. <https://www.psychologynoteshq.com/bronfenbrenner-ecological-theory/>
- WHO. (2018). *Mental health: strengthening our response*. <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>

- WHO. (2019). *Mental disorders*. <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>
- WHO. (2021). *Adolescent mental health*. <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>
- WHO. (2021). *WHO Coronavirus (COVID-19) dashboard*. <https://covid19.who.int/>
- Xie, X., Xue, Q., Zhou, Y., Zhu, K., Liu, Q., Zhang, J., & Song, R. (2020). Mental Health Status Among Children in Home Confinement During the Coronavirus Disease 2019 Outbreak in Hubei Province, China. *JAMA Pediatrics*, 174(9), 898–900.  
<https://doi.org/10.1001/jamapediatrics.2020.1619>
- Hu, Y., & Qian, Y. (2021). COVID-19 and Adolescent Mental Health in the United Kingdom. *Journal of Adolescent Health*, 69(1), 26-32.  
<https://doi.org/10.1016/j.jadohealth.2021.04.005>
- Zainudeen, Z. T., Abd Hamid, I. J., Azizuddin, M. N. A., Abu Bakar, F. F., Sany, S., Zolkepli, I. A. & Mangantig, E. (2021). Psychosocial impact of COVID-19 pandemic on Malaysian families: a cross-sectional study. *BMJ Open*, 2021, 050523.  
<https://doi.org/10.1136/bmjopen-2021-050523>