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# Evaluation of Anxiety Disorders and Protective-Risk Factors in Children during Pandemic Process

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## Abstract

In this study, the possible negative effects of the pandemic process on children with anxiety disorders or anxiety sensitivity, risk factors and protective factors are discussed from a psychological point of view. In this context, we tried to review risk factors and protective factors by compiling the studies published in the literature on behavioral and emotional disorders observed in children, especially during the pandemic period. As risk factors are discussed mainly personal psychological characteristics such as traumatic experiences etc. As protective factors, personal qualities such as psychological resilience are discussed from a broad perspective. The aim of the chapter is to draw attention to the possible risk factors of children with anxiety disorders during pandemic process and their disadvantageous position resulting from this. At the same time, it is to contribute to the awareness of protective factors and measures that can be taken to strengthen children against this disadvantageous position.

**Keywords:** Anxiety disorder, child, pandemic process, risk factors, protective factors

## 1. Introduction

Because of the coronavirus epidemic, emerged in China in 2019 and has spread to the whole world, all societies have faced with problems with significant consequences medical, social, psychological, economic etc. After the World Health Organization (WHO) [1] qualified COVID-19 as a pandemic, in addition to a lot of information about the transmission status of the disease, incubation period, geographical coverage and real mortality rates, the images reflected on the visual and social media [2] caused fear and insecurity in individuals. It is thought that measures such as quarantine etc., which countries urgently take to prevent the spread of the virus, prepare the ground for the development of some symptoms depending on the epidemic in individuals of all ages. However, at the beginning of the epidemic process, it is thought that children are considerably ignored due to the common belief that the virus affects people of a certain age and above and those with chronic diseases.

Although children are the least medically affected by the epidemic, they appear to be severely psychologically and socially affected [3]. Social distance and hygiene rules, distance education, sudden distancing from friends and social environment, uncontrolled and long-term contact with the internet, facing fear of losing relatives, etc.

for reasons, it is considered that children will develop serious psychological and social effects from the coronavirus disease and these effects will be determinant on the quality of life of children in the short and long term.

## **2. Covid-19 process and its reflections on children**

Children may perceive certain situations they have experienced as traumatic due to the limitations of their cognitive and social faculty, etc. The most important reason underlying this perception is undoubtedly the fear factor that develops due to coronavirus disease [3]. Fear is a defense mechanism that the individual shows in the face of dangerous situations includes the basic reactions of the individual in order to survive in threatening situations. In a state of fear, disproportionate reactions and irrational thinking styles are common. These response patterns, which appear as secondary consequences of the epidemic process are associated with various psychological disorders. Among these disorders, anxiety, stress, depression and obsessive-compulsive symptoms [4–6] etc. have an important place. In particular, it is clear that the possibility and thought of losing their parents, loved ones or family members will increase the fear experienced by children and pave the way for related symptoms.

Studies on past outbreaks supports this view. It has been determined that the fear and tension experienced by children during the recent Ebola, SARS, etc. epidemic periods have created significant secondary consequences [7–9]. Although epidemiological data regarding the psychological effects of COVID-19 on individuals and its effect on public health are limited today, the results obtained indicate the seriousness of the situation. The results of research conducted in China [10] and Japan [7] reported that one third of the people examined developed severe anxiety and approximately half of them developed a moderate level of anxiety. Especially anxiety and anxiety disorders are widely observed in children due to coronavirus disease [3]. In addition, different studies have reported that in individuals with high fear of getting coronavirus, depression, loneliness, anxiety, sleep problems, anger problems, Post Traumatic Stress Disorder, paranoid and psychotic disorder etc. cause intense emotional and behavioral consequences [11, 12].

Symptoms that develop due to the epidemic process are commonly observed in children as well as in adults and especially parents may fail to notice these symptoms observed in children and to take precautions. This situation causes the symptoms of children to become chronic and turn into psychiatric disorders. These disorders, which can be defined as secondary consequences of the epidemic process, are considered to be determinant on the quality of life of children in the short and long term. Additionally, is considered that the processes, develop due to the COVID-19 epidemic may have multiple negative consequences on the life of children and adolescent. Among these disorders; chronic and acute stress, depression, worrying about their families, unexpected grief, risk of addiction due to increased access to the internet and social media, worrying about the economic future of their families and countries, etc. can be shown [13, 14]. Therefore, it is thought that these secondary consequences due to the epidemic may cause serious psychological and psychiatric consequences [15, 16].

Therefore, on the basis of the psychological symptoms that children and adolescents will show due to coronavirus disease, the anxiety that sets the ground for the fear and anxiety created by the epidemic process can be shown. Although anxiety is a normal reaction of the individual to dangerous and uncertain situations, high levels of anxiety both interrupt life processes and cause different psychiatric disorders.

Often, this situation can be unnoticed, as children are not as adept at projecting anxiety as adults. For this reason, children may exhibit various adaptation problems and behavioral problems due to intense anxiety.

### **3. The effect of the COVID-19 pandemic on anxiety disorders in children**

Quarantine and social distancing etc. for reasons, children and adolescents be faced with social isolation. Although social isolation is considered as a psychological symptom in normal times [17], the epidemic process forces children and adolescents to involuntary social isolation. There are research results [17, 18] showing that children define this situation as “*intolerable*”. Therefore, coronavirus disease poses enormous challenges for child and adolescent mental health due to the measures taken and the practices children face [14, 19]. During pandemic periods, as in events such as disasters, children face post-traumatic stress disorder (PTSD), depression, panic, and anxiety, etc. [20–23]. So much, so that the results of research on the recently emerged H1N1, Ebola and SARS, etc. epidemics report that psychiatric disorders are common in children during these epidemic periods [21, 24–28]. Anxiety stands out as the most common psychological problem in children in this process [3]. There are studies pointing out that girls are twice as likely to show symptoms [29, 30]. These results show that children may develop many anxiety-based disorders during the coronavirus disease process, as in past epidemic periods. Anxiety is a mental problem that is the intense worry that is not usually due to a real cause or does not coincide with the situation, that something will happen to him or his relatives, that he or she will not be able to cope with a situation or difficulty that he or she may experience in the future. The inability of the individual to cope with intense anxiety or situations that cause anxiety often negatively affects the person’s daily life and decreases the quality of life and functionality. Anxiety disorders; in addition to mental symptoms such as anxiety, excessive excitement, tension, restlessness, fear, distraction, and forgetfulness; it is manifested by physiological symptoms such as shortness of breath, sweating, numbness, palpitations, nausea, gastrointestinal disorders, dizziness, difficulty swallowing, feeling of throat congestion, anorexia, weakness and insomnia. It has been observed that these symptoms occur during the coronavirus disease process with many studies on children and adolescents [3, 22, 23].

The factors that negatively affect the anxiety observed in children during the epidemic process and cause psychiatric disorders are generally listed as follows [3, 10, 22].

- Restrictive practices like quarantine
- Fear of infection
- Insecurity
- Fear of death of relatives
- Suddenly taking a break from school and transition to distance education processes
- Avoiding friends and social environment
- Decrease in physical activities,

- More screen time,
- Irregular sleep processes
- Improper diets etc.

These factors, which come to the fore as mental health threats in children and adolescents, are thought to trigger psychiatric disorders [10, 31, 32]. Especially children who already have certain symptoms are thought to have a high risk of developing psychiatric disorders due to these factors. If suitable conditions are not provided for children who do not have any symptoms, there will be no optimistic situation. Because the experiences they will experience during the epidemic process and the practices they will be exposed to are considered to be of a nature that will also force these children.

Epidemiological studies on anxiety disorders associated with coronavirus disease in children and adolescents are increasing [22, 23, 33, 34] and the results obtained from these studies indicate the seriousness of the situation. In this context, Seçer and Ulaş [3] revealed that the fear of COVID-19 can trigger Obsessive–Compulsive Disorder in children and adolescents. This finding can be interpreted as that a disorder, such as OCD, whose effects can continue throughout life, may be affected by the epidemic process. Findings from different studies are thought to support this interpretation [23, 33, 34, 35]. Epidemiological studies have reported that anxiety disorders are accompanied by PTSD, intense stress, sleep disorders, and depressive symptoms in children and adolescents during the coronavirus process, and the symptoms are severe.

Considering the fact that children and adolescents are more vulnerable and fragile in times of crisis compared to adults, psychiatric disorders inevitably develop in the long run. Therefore, there is a need to eliminate the risk factors of children and strengthen their protective factors. In this direction, possible protective and risk factors are discussed below and tried to be interpreted.

#### **4. Individual risks and protective factors for children in the pandemic process**

There are important variables that determine the magnitude and severity of the impact that coronavirus disease will have on children. An important part of these variables originated from the individual qualities of the child. Some of them are related to the psycho-social conditions of the child. *Experiential avoidance*, which defines past traumatic experiences, can be shown as an important individual factor that poses a risk to the child and adolescent mental health in the coronavirus process.

**Experiential avoidance** can be defined as a quality that is shaped by difficult or traumatic experiences in children's past lives and has a determining role on the individual's emotions, thoughts and reactions [36]. Hayes describes experiential avoidance as showing reluctance to experience emotions, thoughts, memories, and bodily feelings that are evaluated negatively, and avoidance reactions shown to reduce the frequency or impact of these experiences [37]. Experiential avoidance is also defined as the rigid and unchangeable attitude adopted by the individual in the face of negative situations. In this sense, the individual adopts and uses dysfunctional coping approaches as an unchangeable strategy in the face of these negative situations. During the coronavirus process, when children and adolescents face the traumatic aspects of their difficult life process, they may resort to several

dysfunctional coping methods such as distraction, denial, and repression. Although these dysfunctional avoidance approaches may give the feeling that the source of the problem has been distanced, in the long term, the effects of the avoided situation may continue and the related problems become chronic [4, 38]. In this context, it can be thought that children and adolescents with high experiential avoidance are more likely to face various psychological problems [39].

The characteristics of children and adolescents' experience levels, cognitive skills, and psychological maturity, etc. shape their coping skills in the face of difficult situations. However, in the case of negative situations, coping approaches may leave their place to avoidance responses. Therefore, the negative effect of the fear and worry caused by the coronavirus disease on the mental health of children and adolescents may further increase. Data in the literature show that psychiatric disorders such as anxiety disorders, depression, eating disorders, PTSD, etc. are significantly more common in individuals who experiential avoidance behavior [4, 40–44]. For this reason, the statement that children with high experiential avoidance tendency are at more risk during the coronavirus process is not an assertive approach. It should not be ignored that these children are at greater risk depending on the course of the disease. In this respect, it is clear that there is a greater need for practices that strengthen the psycho-social positions of children and adolescents in this process. The risk posed by the coronavirus disease should be tried to be eliminated both by strengthening the communication and support processes within the family and by using school-based social support resources. In this sense, teachers and school psychologists have an important responsibility. In particular, school psychologists should identify experiential avoidance, etc. symptoms and tendencies in children and contribute to their development of functional coping attitudes and approaches.

Against negativities such as experiential avoidance and traumatic experiences that pose a risk to the child and adolescent mental health during the coronavirus process has qualities that have a protective function. Among these qualities, the concept of psychological resilience has an important place.

**Psychological resilience;** is defined as overcoming the negative effects of risky situations to which the individual is exposed, coping successfully with traumatic experiences, and showing a flexible and successful adaptation despite the negative factors associated with these risks [45–49]. As can be understood from the definition, individuals with high psychological resilience quickly adapt to new situations created by difficult living conditions and exhibit functional approaches. As it is known, coronavirus disease affects all segments of society as well as children psycho-socially. Depending on this effect, various symptoms develop and the basis for psychiatric disorders occurs. In this sense, low psychological resilience makes the individual more vulnerable to psycho-social threats in the face of difficult living conditions. A high level of psychological resilience is an important factor limiting the negative effects of conditions such as coronavirus on child and adolescent mental health. In this sense, the coronavirus process is a problem area that threatens children in a family, social and academic multifaceted sense, and the risks that children and adolescents face are increasing day by day.

Although the protective role of psychological resilience on child and adolescent mental health is evident, psychological resilience is not an innate quality. It is a reflection of self-perception and self-evaluation to a significant extent, which is shaped by parental attitudes, attachment styles, and experiences. This concept, whose role in effective coping with difficult life events has been handled frequently in the literature, maybe one of the most important defense tools against the risks faced by children and adolescents in the coronavirus process.

As explained in the experiential avoidance section, parents, teachers and school psychologists have important responsibilities in assessing the psychological resilience levels of children and adolescents. First of all, it is thought that effective parental attitudes are needed for the self-confident and autonomous growth of children. Parental attitudes, which include approaches that support autonomy and the development of abilities, are an important requirement for psychological resilience. Because the level of psychological resilience is also significantly lower in dependent, withdrawn, and low self-confidence children. These children naturally have a disadvantageous position in dealing with difficult life events. It is thought that raising the awareness of parents in the early period and equipping them with positive parenting skills can contribute to the elimination of the risks caused by the epidemic and can contribute to the early period prevention of psychological symptoms that may develop in children before they become chronic.

It is thought that the resilience process can also develop through school-based psycho-social practices. Especially, it is thought that children with a fragile emotional structure, low self-confidence, low problem solving skills and low psychological resilience need to be screened, and supported by both in-class practices and psychoeducation, etc. Although psychological resilience is a feature open to development, it is considered that developing it in the pre-adult period will enable the individual to enter adulthood with a stronger perception and approach and to approach the future more positively. Studies indicate that individuals with high psychological resilience have a higher potential for future orientation and future expectation [45, 50, 51]. In this sense, it is clear that high psychological resilience will facilitate the coping process of children and adolescents with difficult and traumatic life events and will enable these children to carry their future perspectives to a more positive point. It is evaluated that individuals with high future expectations can cope more effectively with the difficult processes created by the coronavirus disease and can turn to functional approaches more.

Another positive function of psychological resilience can be shown to support post-traumatic developmental processes. Although traumatic experiences create significant pressure on the individual's adaptation processes, it is considered that psychological resilience limits this pressure and prevents the effects of trauma from becoming chronic by strengthening adaptation skills. Post-traumatic development indicates that the individual has emerged from a difficult and traumatic event by acquiring new skills and that he has reached a higher level than before the traumatic event in terms of adaptation-functionality. In this sense, children with high psychological resilience will be able to get out of this process by getting stronger, even if they are faced with difficult and risky situations in terms of adaptation skills during the coronavirus process. Children with low psychological resilience will have difficulty coping with the risks of coronavirus disease, so their adaptation skills will be interrupted and the door will be opened to psychiatric disorders.

Therefore, in order to support mental health processes in children and adolescents, it is considered that there is a need to screen children in areas such as self-confidence, problem solving, social skills, etc. that indicate psychological resilience, and to resort to family and school-based psychosocial interventions for those who are at a disadvantage.

## **5. Online learning processes and risks**

Online learning is the use of internet and some other important technologies to develop materials for educational purposes, instructional delivery and management of program [52]. Online learning processes can be seen as an approach that supports

face-to-face education practices, expands students' perspectives, and enriches learning in today's conditions. Although the distance-online learning processes have gone through a certain stage in the pre-epidemic period, being the only possible option during the epidemic process has brought education systems, teachers, parents, and naturally students face to face with a crisis situation. Because most of the groups have been caught unprepared for this process and there has been an abnormal deterioration in the functioning of traditional education and training processes. In particular, the success of the education of online education is still highly controversial and has not been fully accepted as an alternative education practice [53]. In addition, it has been suggested that the use of online learning processes as an emergency measure in the coronavirus disease process without adequate planning and structuring may negatively differentiate individuals' learning experiences [54]. For this reason, it is considered that the fact that distance and online learning processes, which are used as an urgent measure, are not the product of an effective design and planning, may pave the way for unwanted results in students' learning and academic habits [55].

One of the most challenging aspects of the coronavirus disease for children and adolescents is undoubtedly that face-to-face education is suspended for a long time and interactive education practices are passed. Due to rules such as social distance, quarantine, etc., distance education applications have been used as a common and urgent solution all over the world. Although education systems, educators, and parents have been caught unprepared for this process, the advances in distance education in recent years have enabled education systems to adapt quickly to the new situation and to continue their education practices remotely online. Distance education opportunities are largely carried out in the form of internet-based platforms and TV programs. Although such practices are beneficial in terms of continuing education processes without interruption, they also bring various risks. Due to the inability of children to adapt adequately to online learning processes, their interest and motivation for academic processes and learning may decrease. This is a significant risk. Because, children who have to turn to online applications for a long time in a traumatic way from face-to-face education practices and who cannot adapt to these practices may develop feelings of academic inadequacy, academic success may decrease and the risk of school burnout may occur. School burnout [56, 57], which is a concept closely related to academic motivation, can not only interrupt students' academic processes but also their quality of life, interpersonal relationships, family relations, and future expectations. That is to say, students may face various difficulties while continuing to practice online-remote learning and completing related assignments and projects. These difficulties and the stress they cause may also disrupt students' perceptions of adopting, using, and accepting online learning [58]. It is clear that it is imperative to focus on strengthening the acceptance, use, and adoption of online practices of these students, who show more adaptation to face-to-face education processes, and to diversify the policies in this direction. For this reason, it will be useful to make online learning processes more fun and interesting and to resort to practices that encourage children's participation and motivation.

## **6. Uncontrolled use of technology and the risk of addiction**

Kor There is an increasing number of studies reporting an increase in the use of smartphones, tablets, and social media in children and adolescents during the coronavirus process. Uncontrolled access and use of social media etc. by children and adolescents will bring secondary consequences in the short and long term. With

the effect of quarantine practices, interruption of education, restriction of friends and social environments, and conflicts with parents, children are more at risk of turning to internet-based applications, game applications, and messaging services [59, 60]. Internet use has an important place in the lives of individuals in this period, both to reduce the effects of social isolation and to ensure the continuity of daily life. However, its uncontrolled and excessive use has the potential to become problematic during and after the pandemic [61]. Research results increasingly support this view. A study conducted on young people in Mexico revealed that internet and game-related addictions are quite common among young people during the COVID-19 process and that these young people also have a high level of depression and anxiety [62]. With their negative mood, young people tend to use games and social media applications more and this increases the risk for behavioral addictions [63]. The results of an international study, on the other hand, show that internet use has increased considerably among children and adolescents in the coronavirus process and messaging, online gaming, etc. found that they use the services more than adults. In particular, uncontrolled use processes are considered to be an important risk factor for addiction and psychiatric disorders in children and adolescents [63].

Increasing fear, anxiety, uncertainties about the future, loneliness, losses, etc., which are expected during the coronavirus process, can lead children to a series of unhealthy behaviors such as social media, games, and internet addiction. In addition, the uncontrolled navigation of children on various video sites increases the likelihood of encountering inappropriate, incorrect, and exaggerated content about the coronavirus disease, its effects, and consequences. It can be said that children and adolescents are in a more disadvantaged position against such content, especially considering the potential of the spread of false or even malicious information and content in social media. Children can develop depression and anxiety because of their disadvantaged position. In this context, it is an important necessity for parents to closely observe the internet, smartphone, and tablet usage processes of their children and to take care to organize their extracurricular use processes in a way that does not cause addiction problems. In other words, the time spent on such devices and applications with dependency risk needs to be managed well. At an early period mental health inspection and psychosocial intervention and treatment processes are among the important responsibilities awaiting parents whose children, are at risk of addiction or show signs of addiction. In addition, it would be appropriate to ensure that children access accurate and reliable information by using effective means of communicating with their children in this process and to avoid the consequences such as anxiety.

## **7. Parent- child interaction process and risk of this process and protective factors**

During the pandemic, the fact that children are more at home due to the transition to quarantine and distance education may bring both positive and negative consequences. The positive aspect of this process is that children are the high possibility to spend more qualified time with their parents. Parents with positive parenting skills have an important advantage in preventing secondary consequences that may develop in children due to the epidemic. Children may develop various psychological symptoms due to the fear and anxiety they experience due to coronavirus disease, and they may face a conflict situation with their parents because they have to spend more time at home. Parents with positive parenting skills can further strengthen the communication and interaction processes with their children in this process, and in this way, they can prevent the psychological symptoms that develop

in their children from becoming chronic. Otherwise, these psychological symptoms may become chronic and lay the basis for social, emotional, and psychiatric consequences that can be seen lifelong due to the conflictual environment experienced with parents [64–66]. Evidence in the literature shows that parents' showing sensitivity to the child in the early period, the ability to establish a secure attachment relationship, and the capacity to respond to the emotional needs of the child support healthy social and emotional development processes [67]. In this context, it is an important requirement for parents to approach their children by developing and using positive parenting skills. In the literature, there are several proven effective approaches aimed at strengthening positive parenting skills [66, 68, 69]. In this process, it will be beneficial for parents who observe various psychological symptoms in their children due to coronavirus disease or who are in a conflictual relationship process to turn to such practices.

## **8. Conclusion**

The coronavirus disease process can directly or indirectly trigger many psychological symptoms in children, especially anxiety disorders. Depending on the course of the pandemic, it is thought that the psycho-social factors that children are in may increase or limit the risk created by this effect. In this sense, it can be said that children who have traumatic experiences and those with weak psychological resilience, etc. are in a more disadvantaged position. On the other hand, it is thought that effective and positive parenting skills, etc. practices can reduce the risk of carried by children. In this process, it should not be overlooked that excessive and uncontrolled internet use of children through distance education, etc. practices will lead to the development of addiction in the short and long term. It is clear that secondary consequences such as addiction etc. will cause many negative effects in various areas in children in the short and long term, especially the quality of life, interpersonal relationships, and academic problems. In order for children to come out of the disadvantageous position created by the coronavirus disease with the least damage, important duties fall on teachers and school psychologists, especially parents. Identifying children who show various psychological symptoms depending on the course of the disease in the early period and applying psycho-social interventions will provide important gains in terms of preventing possible psychiatric disorders.

## **Conflict of interest**

The authors declare no conflict of interest.

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## References

- [1] World Health Organization (WHO). World Health Organization [Internet]. 2020. Coronavirus disease (COVID-2019): Situation report-54. Available from: [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200314-sitrep-54-covid-19.pdf?sfvrsn=dcd46351\\_2.2](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200314-sitrep-54-covid-19.pdf?sfvrsn=dcd46351_2.2) [Accessed: 2020.04.01]
- [2] Wang Y, McKee M, Torbica A, & Stuckler D. Systematic literature review on the spread of healthrelated misinformation on social media. *Social Science & Medicine*, 2019; 240, 112552. <https://doi.org/10.1016/j.socscimed.2019.112552>
- [3] Seğer İ, Ulaş S. An investigation of the effect of COVID-19 on OCD in youth in the context of emotional reactivity, experiential avoidance, depression and anxiety. *International Journal of Mental Health and Addiction*, 2020; 1-14. <https://doi.org/10.1007/s11469-020-00322-z>
- [4] Briggs ES, Price IR. The relationship between adverse childhood experience and obsessivecompulsive symptoms and beliefs: The role of anxiety, depression, and experiential avoidance. *Journal of Anxiety Disorders*, 2009; 23(8), 1037-1046. <https://doi.org/10.1016/j.janxdis.2009.07.004>.
- [5] Garcia R. Neurobiology of fear and specific phobias. *Learning & Memory*, 2017; 24(9), 462-471. <https://doi.org/10.1101/lm.044115.116>.
- [6] Shin LM, & Liberzon I. The neurocircuitry of fear, stress, and anxiety disorders. *Neuropsychopharmacology*, 2010; 35(1), 169-191. <https://doi.org/10.1038/npp.2009.83>.
- [7] Shigemura J, Ursano RJ, Morganstein JC, Kurosawa M, Benedek DM. Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: Mental health consequences and target populations. *Psychiatry and Clinical Neurosciences*, 2020; 74(4), 281-282. <https://doi.org/10.1111/pcn.12988>.
- [8] Reardon S. Ebola's mental-health wounds linger in Africa. *Nature*, 2015; 519(7541), 13-14. doi:10.1038/519013a
- [9] Shultz JM, Cooper JL, Baingana F, Oquendo MA, Espinel Z, Althouse BM. The role of fear-related behaviors in the 2013-2016 West Africa Ebola virus disease outbreak. *Current Psychiatry Reports*, 2016; 18(11), 104. <https://doi.org/10.1007/s11920-016-0741-y>.
- [10] Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, Ho RC. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health*, 2020;17(5), 1729. <https://doi.org/10.3390/ijerph17051729>.
- [11] Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, Rubin GJ. The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet*, 2020; 395(10227), 912-920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8).
- [12] Xiang YT, Yang Y, Li W, Zhang L, Zhang Q, Cheung T, Ng CH. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *The Lancet Psychiatry*, 2020; 7(3), 228-229. [https://doi.org/10.1016/S2215-0366\(20\)30046-8](https://doi.org/10.1016/S2215-0366(20)30046-8).
- [13] Asmundson GJG, Taylor S. Coronaphobia: Fear and the 2019-nCoV outbreak. *J Anxiety Disord*. 2020;70:102196. doi:10.1016/j.janxdis.2020.102196

- [14] Liu N, Zhang F, Wei C, Jia Y, Shang Z, Sun L., ... Liu W. Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: Gender differences matter. *Psychiatry research*, 2020; 287, 112921. <https://doi.org/10.1016/j.psychres.2020.112921>
- [15] Banerjee D. The other side of COVID-19: Impact on obsessive compulsive disorder (OCD) and hoarding. *Psychiatry Research*, 2020; 288, 112966. <https://doi.org/10.1016/j.psychres.2020.112966>
- [16] Ornell F, Schuch JB, Sordi AO, Kessler FHP. "Pandemic fear" and COVID-19: Mental health burden and strategies. *Brazilian Journal of Psychiatry*, 2020; 00, 000-000. <https://doi.org/10.1590/1516-4446-2020-0008>.
- [17] Tajan N. Social withdrawal and psychiatry: A comprehensive review of Hikikomori. *Neuropsychiatrie de l'Enfance et de l'Adolescence*, 2015; 63(5), 324-331. <https://doi.org/10.1016/j.neurenf.2015.03.008>
- [18] Lamblin M, Murawski C, Whittle S, Fornito A. Social connectedness, mental health and the adolescent brain. *Neuroscience & Biobehavioral Reviews*, 2017; 80, 57-68. <https://doi.org/10.1016/j.neubiorev.2017.05.010>
- [19] Xie X, Xue Q, Zhou Y, Zhu K, Liu Q, Zhang J, Song R. Mental health status among children in home confinement during the coronavirus disease 2019 outbreak in Hubei Province, China. *JAMA pediatrics*, 2020; 174(9), 898-900. doi:10.1001/jamapediatrics.2020.1619
- [20] Douglas PK, Douglas DB, Harrigan DC, Douglas KM. Preparing for pandemic influenza and its aftermath: mental health issues considered. *International journal of emergency mental health*, 2009; 11(3), 137.
- [21] Sprang G, Silman M. Posttraumatic stress disorder in parents and youth after health-related disasters. *Disaster medicine and public health preparedness*, 2013; 7(1), 105-110. DOI: 10.1017/dmp.2013.22
- [22] Racine N, Cooke JE, Eirich R, Korczak DJ, McArthur B, Madigan S. Child and adolescent mental illness during COVID-19: A rapid review. *Psychiatry Research*. 2020;292:113307. doi:10.1016/j.psychres.2020.113307
- [23] Becker, S. P., & Gregory, A. M. (2020). Editorial Perspective: Perils and promise for child and adolescent sleep and associated psychopathology during the COVID-19 pandemic. <https://doi.org/10.1111/jcpp.13278>
- [24] Kar N, Bastia BK. Post-traumatic stress disorder, depression and generalised anxiety disorder in adolescents after a natural disaster: a study of comorbidity. *Clinical Practice and Epidemiology in Mental Health*, 2006; 2, 1-7. <https://doi.org/10.1186/1745-0179-2-17>
- [25] Yule W, Bolton D, Udwin O, Boyle S, O'Ryan D, Nurrish J. The long-term psychological effects of a disaster experienced in adolescence: I: The incidence and course of PTSD. *Journal of child psychology and psychiatry*, 2000; 41(4), 503-511. <https://doi.org/10.1111/1469-7610.00635>
- [26] Bolton D, O'Ryan D, Udwin O, Boyle S, Yule W. The long-term psychological effects of a disaster experienced in adolescence: II: General psychopathology. *Journal of Child Psychology and Psychiatry*, 2000; 41(4), 513-523. <https://doi.org/10.1111/1469-7610.00636>
- [27] Kar N. Depression in youth exposed to disasters, terrorism and political violence. *Current psychiatry reports*, 2019; 21(8), 1-11. <https://doi.org/10.1007/s11920-019-1061-9>

- [28] Zhou SJ, Zhang LG, Wang LL, Guo ZC, Wang JQ, Chen JC., ... Chen JX. Prevalence and socio-demographic correlates of psychological health problems in Chinese adolescents during the outbreak of COVID-19. *European Child & Adolescent Psychiatry*, 2020; 29(6), 749-758. <https://doi.org/10.1007/s00787-020-01541-4>
- [29] Garza K, Jovanovic T. Impact of gender on child and adolescent PTSD. *Current psychiatry reports*, 2017; 19(11), 1-6. <https://doi.org/10.1007/s11920-017-0830-6>
- [30] Fan F, Long K, Zhou Y, Zheng Y, Liu X. Longitudinal trajectories of post-traumatic stress disorder symptoms among adolescents after the Wenchuan earthquake in China. *Psychological medicine*, 2015; 45(13), 2885. doi:10.1017/S0033291715000884
- [31] Chevance A, Gourion D, Hoertel N, Llorca PM, Thomas P, Bocher R., ... Gaillard R. Assurer les soins aux patients souffrant de troubles psychiques en France pendant l'épidémie à SARS-CoV-2. *L'Encéphale*, 2020; 46(3), 3-13. <https://doi.org/10.1016/j.encep.2020.04.005>
- [32] Fegert JM, Schulze UM. COVID-19 and its impact on child and adolescent psychiatry—a German and personal perspective. *Irish journal of psychological medicine*, 2020; 37(3), 243-245. doi:10.1017/ipm.2020.43
- [33] Guessoum SB, Lachal J, Radjack R, Carretier E, Minassian S, Benoit L, Moro MR. Adolescent psychiatric disorders during the COVID-19 pandemic and lockdown. *Psychiatry research*, 2020; 113264. <https://doi.org/10.1016/j.psychres.2020.113264>
- [34] Franic T, Dodig-Curkovic K. Covid-19, child and adolescent mental health—Croatian (in) experience. *Irish journal of psychological medicine*, 2020; 37(3), 214-217. doi:10.1017/ipm.2020.55
- [35] Kang L, Li Y, Hu S, Chen M, Yang C, Yang BX, ... Liu Z. The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. *The Lancet Psychiatry*. 2020; 7(3), 14. [https://doi.org/10.1016/S2215-0366\(20\)30047-X](https://doi.org/10.1016/S2215-0366(20)30047-X)
- [36] Seçer İ, Ulaş S, Karaman-Özlu Z. The Effect of the Fear of COVID-19 on Healthcare Professionals' Psychological Adjustment Skills: Mediating Role of Experiential Avoidance and Psychological Resilience. *Frontiers in Psychology*, 2020; 11. doi: 10.3389/fpsyg.2020.561536
- [37] Hayes SC, Strosahl KD, Wilson KG. *Acceptance and commitment therapy: the process and practice of mindful change*. New York: Guilford Press; 2012.
- [38] Hayes SC, Wilson KW, Gifford EV, Follette VM, Strosahl K. Experiential avoidance and behavioral disorders: a functional dimensional approach to diagnosis and treatment. *J. Consult. Clin. Psychol.* 1996; 64, 1152-1168. doi: 10.1037/0022-006X.64.6.1152
- [39] Ottenbreit ND, Dobson KS. Avoidance and depression: the construction of the cognitive-behavioral avoidance scale. *Behavior Research and Therapy*, 2004; 42(3), 293-313. [https://doi.org/10.1016/S0005-7967\(03\)00140-2](https://doi.org/10.1016/S0005-7967(03)00140-2).
- [40] Santanello AW, Gardner FL. The role of experiential avoidance in the relationship between maladaptive perfectionism and worry. *Cognitive Therapy and Research*, 2007; 31(3), 319-332. <https://doi.org/10.1007/s10608-006-9000-6>
- [41] Mahaffey BL, Wheaton MG, Fabricant LE, Berman NC, Abramowitz JS. The contribution of experiential avoidance and social

cognitions in the prediction of social anxiety. *Behavioural and Cognitive Psychotherapy*, 2013; 41(1), 52-65. <https://doi.org/10.1017/S1352465812000367>.

[42] Rawal A, Park RJ, Williams JMG. Rumination, experiential avoidance, and dysfunctional thinking in eating disorders. *Behaviour Research and Therapy*, 2010; 48(9), 851-859. <https://doi.org/10.1016/j.brat.2010.05.009>.

[43] Orcutt HK, Pickett S, Pope E. Experiential avoidance and forgiveness as mediators in the relation between traumatic life events and PTSD symptoms. *Journal of Social and Clinical Psychology*, 2005; 24(7), 1003-1029. <https://doi.org/10.1521/jscp.2005.24.7.1003>

[44] Cribb G, Moulds ML, Carter S. Rumination and experiential avoidance in depression. *Behaviour Change*, 2006; 23(3), 165-176. <https://doi.org/10.1375/bech.23.3.165>

[45] Martin AJ, Marsh HW. Academic resilience and its psychological and educational correlates: A construct validity approach. *Psychology in the Schools*, 2006; 43(3), 267-281. <https://doi.org/10.1002/pits.20149>

[46] Olsson CA, Bond L, Burns JM, Vella-Brodrick DA, Sawyer SM. Adolescent resilience: A concept analysis. *Journal of adolescence*, 2003; 26(1), 1-11. [https://doi.org/10.1016/S0140-1971\(02\)00118-5](https://doi.org/10.1016/S0140-1971(02)00118-5)

[47] Garmezy N, Masten AS, Tellegen A. The study of stress and competence in children: A building block for developmental psychopathology. *Child development*, 1984; 97-111. <https://doi.org/10.2307/1129837>

[48] Luthar SS, Cicchetti D, Becker B. The construct of resilience: A critical evaluation and guidelines for future

work. *Child development*, 2000; 71(3), 543-562. <https://doi.org/10.1111/1467-8624.00164>

[49] Masten AS, Powell JL, Luthar SS. A resilience framework for research, policy, and practice. *Resilience and vulnerability: Adaptation in the context of childhood adversities*, 2003; 1(25), 153.

[50] Benard B. *Fostering Resiliency in Kids: Protective Factors in the Family, School, and Community*. San Francisco, CA: Far West Laboratory for Educational Research and Development; 1991. <https://files.eric.ed.gov/fulltext/ED335781.pdf>

[51] Werner EE, Smith RS. *Overcoming The Odds: High Risk Children from Birth to Adulthood*. Ithaca, NY: Cornell University Press; 1992.

[52] Fry K. E-learning markets and providers: Some issues and prospects. *Education Training*, 2001; 43(4/5), 233-239. <https://doi.org/10.1108/EUM0000000005484>.

[53] Joshi O, Chapagain B, Kharel G, Poudyal NC, Murray BD, Mehmood SR. Benefits and challenges of online instruction in agriculture and natural resource education. *Interactive Learning Environments*, 2020; 1-12. <http://doi.org/10.1080/10494820.2020.1725896>

[54] Hodges C, Moore S, Lockee B, Trust T, Bond A. The difference between emergency remote teaching and online learning. *Educause Review*, Available from: <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>. [Accessed: 22.04.2021]

[55] Bozkurt A, Sharma RC. Emergency remote teaching in a time of global crisis due to Corona Virus pandemic. *Asian*

Journal of Distance Education, 2020; 15(1), p. 1-6.

[56] Ulaş S, Seçer İ. School Burnout. In: Seçer İ, Topal Z. editors. School mental health issues: prevention and intervention approaches. Ankara: Vizetek Publishing, 2021. p.163-196

[57] Parker PD, Salmela-Aro K. Developmental processes in school burnout: A comparison of major developmental models. *Learning and Individual Differences*, 2011; 21(2), p. 244-248. <https://doi.org/10.1016/j.lindif.2011.01.005>

[58] Adedoyin OB, Soykan E. Covid-19 pandemic and online learning: the challenges and opportunities. *Interactive Learning Environments*, 2020; p. 1-13. <https://doi.org/10.1080/10494820.2020.1813180>

[59] Kazan-Kızılkurt Ö, Dilbaz N. Addiction in COVID-19 Pandemia. In: Coşar B, editor. *Psychiatry and COVID-19*. Ankara: Turkey Clinics; 2020. p.59-65

[60] Enez Darcin A, Kose S, Noyan CO, Nurmedov S, Yılmaz O, Dilbaz N. Smartphone addiction and its relationship with social anxiety and loneliness. *Behaviour & Information Technology*, 2016; 35(7), 520-525. <https://doi.org/10.1080/0144929X.2016.1158319>

[61] Güteryüz S, Esentaş M, Yıldız K, Güzel P. Leisure Time Styles of Individuals in the Process of Social Isolation: Examining the Relationship Between Social Media Usage Purposes and Social Media Addiction. *FOCUSS Journal of Sports Management Research*, 2020; 1 (1) , 31-45 . Available from <https://dergipark.org.tr/en/pub/focuss/issue/55523/760351>

[62] Garcia-Priego BA, Triana-Romero A, Pinto-Galvez SM,

Duran-Ramos C, Salas-Nolasco O, Reyes MM, ... Troche JMR. Anxiety, depression, attitudes, and internet addiction during the initial phase of the 2019 coronavirus disease (COVID-19) epidemic: A cross-sectional study in Mexico. *MedRxiv*. 2020, <https://doi.org/10.1101/2020.05.10.20095844>

[63] Gökler ME, Turan Ş. Problematic technology use in the COVID-19 pandemic. *ESTÜDAM Journal of Public Health*, 2020;5, 108-114. <https://doi.org/10.35232/estudamhsd.767526>

[64] İpçi M, İnci-İzmir SB, Türkçapar MH, Özdel H, Akyol-Ardıç U, Ercan ES. Psychiatric Comorbidity in Children and Adolescents with ADHD and in the subtypes of ADHD. *Arch Neuropsychiatry*, 2020;57,283–289 <https://doi.org/10.29399/npa.24807>

[65] Broidy LM, Nagin DS, Tremblay RE, Bates JE, Brame B, Dodge KA, Fergusson D, Horwood JL, Loeber R, Laird R, Lynam DR, Moffitt TE, Pettit GS, Vitaro F. Developmental trajectories of childhood disruptive behaviors and adolescent delinquency: A six-site, cross-national study. *Developmental Psychology*, 2003;39(2), 222-245. <https://doi.org/10.1037/0012-1649.39.2.222>

[66] Kohlhoff J, Morgan S, Briggs N, Egan R, Niec L. Parent–Child Interaction Therapy with Toddlers in a community-based setting: Improvements in parenting behavior, emotional availability, child behavior, and attachment. *Infant Mental Health Journal*, 2020; 41(4), 543-562. <https://doi.org/10.1002/imhj.21864>

[67] Ainsworth MDS, Blehar MC, Waters E, Wall SN. Patterns of attachment: A psychological study of the strange situation. Psychology Press; 2015.

[68] Steele H, Steele M. Handbook of attachment-based interventions. New York: Guilford Press; 2018.

[69] Bernard K, Dozier M, Bick J, Lewis-Morrarty E, Lindhiem O, Carlson E. Enhancing attachment organization among maltreated children: Results of a randomized clinical trial. *Child development*, 2012;83(2), 623-636. <https://doi.org/10.1111/j.1467-8624.2011.01712.x>

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