

**THE EFFECT OF PARENTAL SUPPORT ON CHILDREN'S PHYSICAL ACTIVITY  
LEVELS DURING THE PANDEMIC**  
EBEVEYN TEŞVİKİNİN PANDEMİDE ÇOCUKLARIN FİZİKSEL AKTİVİTE  
DÜZEYLERİNE ETKİSİ

**Gözde EKŞİOĞLU ÇETİNTAĞRA**

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**ABSTRACT**

As part of the struggle against the pandemic, the restrictions that applied to an important population group including children, are important in terms of reducing the transmission rate of the virus. However, it is also known that being in closed areas for a long time causes a serious decrease in physical activity levels, especially for growing children. At this point, it is considered as an important tool for the parents to guide their child to the activity and to support the child to do the activity. This study was developed within the scope of a widespread TÜBİTAK project, which examines many variables that affect the changes in children's physical activity levels during the pandemic period. In this study, the effect of parental support on children's physical activities before, during, and after the restrictions was measured. In this study, an online questionnaire was applied to 1559 parents who had children that were educated in public primary schools in Karşıyaka district of İzmir province during the pandemic period. The results showed that there was a decrease in the physical activity levels of the children compared to before the restrictions, in which case the parent's support for the child was effective. This includes clues about the need to increase the parents' willingness to direct the child to activity after restrictions in order to increase the level of physical activity of the child. In future studies, it is expected to contribute to the relevant literature by trying to determine the reasons for the decrease in the activity level of the child during the pandemic period and the factors that are effective in parental support.

**Keywords:** Covid-19, children, physical activity, parental support

**ÖZET**

Pandemi ile mücadele kapsamında çocukları da kapsayan önemli bir nüfus grubuna uygulanan dışarı çıkma kısıtlamaları, virüsün bulaş hızını azaltmak açısından önemlidir. Ancak uzun süre kapalı alanlarda bulunmanın, özellikle gelişim çağındaki çocuklar için fiziksel aktivite düzeylerinde ciddi düşüş gerçekleşmesine neden olduğu da bilinmektedir. Bu noktada ebeveynin çocuğunu aktiviteye yönlendirmesi ve aktivite yapması için desteklemesi, önemli bir araç olarak değerlendirilmektedir. Bu çalışma, pandemi döneminde çocukların fiziksel aktivite düzeylerindeki değişimleri etkileyen birçok değişkeni inceleyen ve bulguları geniş bir alana yayılan bir TÜBİTAK projesi kapsamında geliştirilmiştir. Çalışmada, çocukların kısıtlamalar öncesi, karantina dönemi ve kısıtlamalar sonrasında gerçekleştirdiği fiziksel aktivitelerde, ebeveynin desteğinin etkisi ölçümlenmiştir. Çalışma kapsamında, pandemi döneminde İzmir ili Karşıyaka ilçesindeki devlet ilkokullarında eğitim almış çocuğu bulunan 1559 ebeveyn ile çevrimiçi bir anket uygulanmıştır. Sonuçlar, çocukların fiziksel aktivite düzeylerinde, kısıtlamalar öncesine göre bir düşüş olduğunu, bu durumda ebeveynin çocuğa desteğinin etkili olduğunu göstermiştir. Bu ise çocuğun fiziksel aktivite düzeyini arttırmak için, kısıtlamalar sonrasında ebeveynin çocuğu aktiviteye yönlendirme istekliliğini artırması gerektiğine ilişkin ipuçları içermektedir. Sonraki çalışmalarda, pandemi döneminde çocuğun aktivite düzeyindeki düşüşün nedenleri ve ebeveynin çocuğunu aktivite için desteklemesinde etkili olan faktörlerin belirlenmesine çalışarak, ilgili literatüre katkı sağlaması beklenmektedir.

**Anahtar Kelimeler:** Covid-19, çocuk, fiziksel aktivite, ebeveynin fiziksel aktiviteye teşviki

## 1. INTRODUCTION

The SARS-CoV-2 virus, which causes disease and death on a global scale and has been combated by taking measures to disrupt the normal order of both individual, social, and urban life since December 2019, has been accepted as a Covid-19 pandemic. It is known that the virus, which affects the population at remarkable rates throughout the world, is less effective in children. The fact that confirmed cases and mortality rates are low in children worldwide has been demonstrated by different studies that children have a milder or asymptomatic disease than adults (Escosa-García, Aguilera-Alonso, Calvo, Mellado, & Baquero-Artigao, 2020; Landhani et al., 2020; Hon & Leung, 2020; Razavi, Davoodi, Shojaei, & Jafarpour, 2020; Khoshnevisasl, Sadeghzadeh, & Sadeghzadeh, 2020; Çokuğraş & Önal, 2020; Evliyaoğlu, Ayzıt Kılınç, Önal, Aygün, & Çokuğraş, 2020; Wati & Manggala, 2020; Root-Bernstein, 2020).

The fact that children come to the fore in scientific studies is since they are the age group where the most restrictions are applied in societies. The closure of schools and curfews are a few of them and they have an important place in terms of their effects. It is claimed that these are effective in a wide range of psychological, physiological, and social structure. It is argued that physiological problems that may arise from staying indoors for a long time, that may be encountered in the later stages of life, and that may affect individual and public health may also occur. At the head of the physiological problems are physical inactivity and the problems it can cause. In addition to psychological problems such as depression, stress (Hammond & Colman, 2020; Korczak, Madigan & Colasanto, 2017), lack of concentration, anxiety, boredom (Orgiles, Morales, Delvecchio, Mazzeschi & Espada, 2020), especially in children, being physically inactive during their stay at home, it causes weight gain and obesity and increases the rate of obesity-related diseases in the future (Stettler, Bovet, Shamlaye, Zernel, Stalling & Paccaud, 2002; Ebelling, Pawlak & Ludwig, 2002).

The most important tool in the fight against overweight and obesity in childhood is to increase children's level of physical activity (Swinburn, Egger & Raza, 1999). Factors such as the widespread use of TV, computer and internet, families' expectations for children's academic success, limited opportunities of urban space or children's inability to spend enough time outdoors due to the child and/or parent's reservations about urban space (Kail, 2002; Thorleifsdottir, 2008), reduce the level of physical activity and lead children to a sedentary lifestyle. It is predicted that the physical activity intensity of children who are constantly indoors (at home) will be sedentary or low intensity (Prince, Butler, Rao & Thompson, 2017). Moreover, in the pandemic literature, a serious decrease is observed in the physical activities of children staying in closed areas. There are clues that this decrease is since the activities done at home are insufficient to meet the physical activity requirement.

It is important to perform moderate and vigorous physical activity (MVPA) against overweight and obesity. It is recommended that children aged 5-17 should perform MVPA for at least 60 minutes a day (World Health Organization [WHO], 2018; Centers for Disease Control and Prevention [CDC], 2002). Studies suggest that the physical activities that children perform outdoors rather than indoors (Prince et al., 2017; Ekşioğlu Çetintahra & Çubukçu, 2019), especially in the neighborhoods they live in and in the areas around their houses (Perry, Ackert, Sallis, Glanz & Saelens, 2016; Ekşioğlu Çetintahra, 2015), are the most important areas in meeting MVPA. In the Healthy Cities Project, WHO makes recommendations for planning and designing urban spaces to encourage physical activity to increase children's physical activity levels (Edwards & Tsouros, 2010). Therefore, in line with the scientific studies, plans and policies before Covid-19, it is a priority for children to be able to do MVPA in outdoors in terms of reducing the risk of childhood obesity, which will cause significant health problems in the future.

However, the pandemic process we are experiencing imposes significant restrictions on performing physical activity outdoors. As soon as the epidemic is brought under control and the treatment processes show positive results, it will be necessary to interact with the urban space again to return to normal order and for both children and all individuals to fulfill their physiological, psychological, and sociological needs. Although the restrictions that have been applied for a long

time have been partially lifted today, spatial interaction is still not at the expected level at the points where people are concerned.

Here, an important point is the desire of people to interact with the urban space again. In other words, to return to the formal life, it should be known what people's perception of health safety will be when the Covid-19 epidemic ends, and it should be investigated whether this perception will affect the person's choice of spending time in the urban space. This is especially critical for growing children that need physical activity. It can be achieved by ensuring that the parents spend time outside the home for their child's health and encourage their child to do physical activity, not having concerns about the place during the pandemic period and trusting the urban space. Therefore, it emphasizes the importance of determining the health safety perception of the family regarding the urban space and shows that this perception may become an important variable affecting the physical activity level of the child and should be opened to discussion. In addition, failure to address the concerns during the pandemic period may be a barrier to the child's interaction with the outdoors and may reduce the willingness of the parent to support their child to engage in physical activity. For this reason, determining whether the parent supports their child to physical activity during the pandemic period will constitute important data in terms of scientific studies.

In this study, the findings of a pioneering The Scientific and Technological Research Council of Turkey [TUBITAK] project, which includes results that try to determine the change in children's activity levels and the preferences of the place where the activity takes place, and the factors that affect this change during the pandemic period, the relationship between parents' support of children to physical activity and the effect of the child's physical activity level before the pandemic and today will be presented. Within the scope of the study, an online questionnaire was conducted with 1559 parents whose children were educated during the pandemic period in 27 public primary schools located in Karşıyaka district of İzmir province. The results of the questionnaire were analyzed with statistical methods and the relationship between the level of parental support to the child's activity and the level of physical activity of the child was questioned.

## **2. THE IMPORTANCE OF PHYSICAL ACTIVITY IN CHILDREN AND PARENTAL SUPPORT**

Physical activity is an important factor in the healthy development of children. Conversely, lack of physical activity causes adverse effects on body composition (such as obesity, osteoporosis, waist, and back bees), heart health (lubrication of the arteries, hardening / softening of the heart muscle, decrease in lung capacity, etc.), musculoskeletal system, immune system, and psycho-social status (such as tension in the nervous system, sleep disorder, stress) (Zorba, 2006). In the pre-Covid-19 era, WHO asserts that childhood overweight and obesity is one of the most important public health problems on a global scale (WHO, 2014). This situation is observed in the reports published for most countries. For example, as of 2016, 18% of children aged 5-17 across the world are overweight and obese (WHO, 2020). There is a similar situation in Turkey. According to the data of the Turkish Ministry of Health, 23.3% of boys and 21.6% of girls between the ages of 7-8 are overweight and obese. According to the same data, three out of every four children (74.2%) do not do any sports, on the contrary, the time spent by children in front of the computer and television is increasing (T.C. Sağlık Bakanlığı, 2014). In line with epidemiological data, it is advocated to increase the physical activity levels of children as an important tool against the rapidly increasing prevalence of obesity in children around the world. In the WHO's 'Physical Activity Strategy for the European Region 2016-2025' publication (WHO, 2016), physical activity (especially moderate to vigorous physical activity) for the development of both the musculoskeletal system and basic mental, motor, and social skills in children is suggested to be increased. For this, it is emphasized that it is necessary to plan such as supporting urban spaces with active transportation modes and providing safe active play and recreation opportunities.

It is emphasized that the long stay of children in closed areas during the pandemic process is an important limitation in meeting physical activity requirements. These restrictions include both

staying at home for a long time and the long-term closure of schools. School closures are considered as an important issue in studies on children. In a study examining school closure in the Canadian province of Ontario and its relationship with the epidemic (Abdollahi, Haworth-Brockman, Keynan, Langley & Moghadas, 2020), it was found that the school closures limited children's contact between 60% and 80%, while having a limited effect without other factors to cut the chain of transmission. In a study conducted in the United Kingdom, it was concluded that only school closures reduced deaths from Covid-19 by 2%-4%. Another study in China, Hong Kong and Singapore found school closures to be of limited benefit in slowing the spread of the virus, noting that the increased risk for childcare, limitations in learning, socialization, physical activity, and low-income children is more worrying (The Lancet Child & Adolescent Health, 2020). As a result, countries have implemented the closure of schools as a general practice, as it was applied in the solution of previous epidemics (such as H1N1) to reduce the spread of the virus. However, in the Covid-19 pandemic, both its global prevalence and its considerable length in terms of duration, depriving children of all school-related benefits, including physical activity, have become a frequently mentioned issue in studies.

Not only the closure of schools, but also regulations regarding the restriction of children's access to public spaces and physical activity spaces are also included in the studies. It is emphasized that staying physically active and healthy is very important for public health in the coronavirus pandemic, and it is necessary to direct children especially in the 5-17 age group to physical activity and sports activities by taking opportunities and precautions (Chen, Mao, Nassis, Harmer, Ainsworth & Li, 2020). Moreover, it is currently accepted that children in this age group should participate in moderate-to-vigorous physical activity for at least 60 minutes a day to achieve a holistic state of well-being (in other words, their state of health) (WHO, 2018).

Because of Covid-19 on physical activity behaviors, in a study that offers physical activity recommendations during the stay at home due to the pandemic, cycling, rowing, jogging, jogging, various types of dance and gymnastics are the most common types of exercise (Hammami, Harrabi, Mohr & Krstrup, 2020). It is recommended to do it three times a week for the 5-17 age group and twice a week for those over 17 years old. It is stated that dance-based exercises such as zumba and body weight exercises such as push-ups, pull-ups, squats, lunges, box jumps, rope crunches and burpees are very beneficial for the musculoskeletal system. Active video games, on the other hand, are especially recommended for restricted children and young people. Active video games are suggested to be close to moderate-intensity walks. Other studies (Nagata, Magid & Gabriel, 2020) draw attention to video games that include online physical activity, exercise, and physical activity in eliminating the risk of obesity.

However, as emphasized in many studies, the closure period experienced today becomes critical because it increases inactivity, apart from its negative impact on physical activity. It is thought that increased screen time and snacks in the diet will lead to greater risks that will harm the cardiovascular and musculoskeletal system in the future (Lesser & Nienhuis, 2020). Children do their daily physical activities by active transportation to school, physical education, breaks, organized sports, games, dances, playgrounds, and spending time in parks. It is also noteworthy that in low- and middle-income countries, the population lives in overcrowded apartments and shelters, thus in areas where sufficient physical distance cannot be maintained. The fact that the safest playground in their neighborhood is school for children living in these countries and the closure of schools in settlements where neighborhood security is inadequate, limits the physical activity of children in this group. Since such a pandemic has not occurred before, the evidence is scarce, but there are studies that show that children are less active and more sedentary on out-of-school days. Community activity data from Google showed that time spent at the place of residence increased by 17% in February. However, a Canadian study reported that time spent watching TV increased by 66% and time spent playing video games increased by 35%. A study of preschool children in China found that children go to bed later and wake up later. In South Korea, a study conducted in March reported that children's screen time increased by 81% and children's use of games and sports facilities decreased by 94% (The Lancet Child & Adolescent Health, 2020; Guan et al., 2020). It is also stated that the pandemic increases the

time spent inactive and the time spent in front of the screen in children and adolescents, and that, in addition to dynamic activities, exercises for balance and flexibility should be continuous and regular (Margaritis, Houdart, El Ouadrhiri, Bigard, Vuillemin & Duché, 2020).

In short, the physical problems that the Covid-19 pandemic may cause in children are conveyed by focusing on the lack of physical activity and the chronic diseases that may develop due to it. It is mentioned in many studies that increasing time spent outdoors is a factor that significantly reduces activity. There are results that decrease in physical activity is associated with outdoor restrictions and school closures, as well as with the absence of activity-promoting elements in the areas where children live, but the findings are not sufficient. Apart from the encouragement of physical space, it is also important that the parent supports the child to be active. In the studies conducted during the pandemic period, although it is emphasized that the parents support the child to activity, the studies that reveal the effect of the said incentive on the activity in this period with empirical results are very limited.

In studies investigating the variables affecting children's physical activity levels, it is suggested that children's social environment is as effective on the level of physical activity as demographic, biological, psychological, perceptual, emotional, behavioral, and developmental variables (Sallis, Prochaska & Taylor, 2000; Van Der Horst, Paw, Twisk & Van Mechelen, 2007; Kohl & Hobbs, 1998; Brodersen, Steptoe, Williamson & Wardle, 2005). The primary social environment that affects the physical activity level of the child is the family, which forms the child's microsystem (Bronfenbrenner, 1977). Microsystem refers to the place in which the child lives and is a dynamic system that is related to the child's home as well as his/her family and where all the characters are in constant interaction with each other (Bronfenbrenner, 1977). Therefore, the child will be affected by the family in physical activity behavior, as in many different behaviors. Moreover, this phenomenon is also supported by the findings in the related literature. Therefore, it should be considered that the parent will be effective in the physical activity level of the child during and after the pandemic as in the past.

In many studies examining the social environment variables that affect children's physical activity levels, it is suggested that social environment variables such as the parent's view of physical activity (Ziviani, Scott & Wadley, 2004; Heitzler, Martin, Duke & Huhman, 2006), the parent's support of the child's physical activity (Barr-Anderson, Robinson-O'Brien, Haines, Hannan & Neuöark-Sztainer, 2010; Brockman, Jago, Fox, Thompson, Cartwright & Page, 2009; Cleland, Timperio, Salmon, Hume, Telford & Crawford, 2011; Heitzler et al., 2006), the parent's physical activity level (Sallis, Alcaraz, McKenzie & Hovell, 1999; Adkins, Sherwood, Story & Davis, 2004; Salmon, Timperio, Telford, Carver & Crawford, 2005; Nezami, Zarei, Tojari & Hazeveh, 2020), the parent's participation in physical activity with the child (Crawford et al., 2010; Brockman et al., 2009; Heitzler et al., 2006; Cleland et al., 2011; Sallis et al., 1999; Biddle, Whitehead, O'Donovan & Nevill, 2005; Dollman, 2002; Dozier, Schroeder, Lee, Fulkerson, & Kubik, 2020), and the parent's preference for active transportation (Hume, Timperio, Salmon, Carver, Giles-Corti & Crawford, 2009; Ziviani vd., 2004) are effective. Although these variables were effective in the pre-pandemic literature, it is thought that they will be an important factor in determining the children's physical activity level after the pandemic, as they are affected by the perceptual evaluation processes. In this study, evaluations were made under the titles of "parent's view on physical activity", "parent's physical activity status", "parent's directing their child to sports and physical activity" and "parent's active transportation preferences with their child" for the support of parents. The effect on the child's activity level was examined in the context of a pandemic-based temporal process by combining them under the main title of supporting physical activity.

### 3. METHODOLOGY

This study consists of the results of a TUBITAK Project which has pioneering findings that focuses on identifying the barriers to children's participation in outdoor physical activity by revealing the relationship between the perception of parents' health safety on urban spaces due to Covid-19

pandemic. Within the scope of the project, a questionnaire applied to determine what kind of changes the physical activity levels of children have undergone in the context of the pandemic and to identify the different qualities that trigger these changes constitute the data set. In this study, the findings about the extent to which the changes in the physical activity level of the child during the pandemic process are related to the parental support to physical activity during the pandemic period was shared.

Within the study, "Children's Physical Activity Level and Health Safety Perception in the Covid-19 Process Questionnaire " was applied online with 1559 parents from 27 state primary schools in Karşıyaka, İzmir. The study was approved by DEU Science and Engineering Sciences Research and Publication Ethics Committee. In addition, permissions were obtained from İzmir Provincial Directorate of National Education, Karşıyaka District Directorate, and all 27 public primary schools in Karşıyaka district. In this section, the structure of the study area, the method applied in the selection of the sample, the parent's support of the child in the survey content, the method applied to determine the child's physical activity level and the characteristics of the participants were explained.

### 3.1 Study Area, Sample Selection and Survey Application

Karşıyaka district of İzmir province was chosen as the study area. Karşıyaka is a member of the Healthy Cities Association of Turkey and the World Health Organization Healthy Cities European Network. According to the 2019 Address Based Population Registration System data of the Turkish Statistical Institute (TUIK), 349,290 people live in the district and there are 131,175 households (Ekşioğlu Çetintahra, 2021). The 27 neighborhoods in the district vary in terms of their gross density, building density, size, and the qualities they contain, apart from the characteristics such as housing types (closed sites, cooperative constructions, transformation areas), building-plot texture. There are a total of 27 public primary schools in the district, spread over 17 neighborhoods. According to the data obtained from the website of Karşıyaka District National Education Directorate (<https://karsiyaka.meb.gov.tr/www/ilkokullar/icerik/103>), the number of students enrolled in the 2019-2020 academic year, when school closures occurred during the pandemic period, is 12,366 students.

The questionnaire to be applied within the scope of the study had to be prepared on an online platform to prevent the risk of infection and not be affected by the restrictions on going out. In this direction, "Children's Physical Activity Level and Health Safety Perception in the Covid-19 Process Questionnaire" was created. With the online survey platform, an automatic link was created to enter the survey form, the survey form can be opened from mobile devices and/or computer via the link and the survey can be filled. To distribute the questionnaire to parents, 27 public primary school administrators were interviewed at the beginning of August 2020. The survey link address was communicated to parents through school administrators and classroom teachers. Survey entries were finalized in the last week of September 2020. Although 3225 parents entered the survey throughout the process, the data of 1559 parents who completed the survey questions completely, resided in Karşıyaka and had children studying in the public primary schools in Karşıyaka, could be used in the analysis. The detailed explanation of the method applied in the study is as in Ekşioğlu Çetintahra, et al., 2021a.

The data of the study is based on the answers given to the survey questions applied within the scope of the project. An important point here is to determine a pandemic time interval based on three different temporal processes, covering the pre-pandemic and pandemic period. For this, the pandemic measures implemented in our country had been considered. Accordingly, curfews were imposed for individuals aged 20 and under during April 3 – June 1. Therefore, this period was called the "quarantine period" since children could not communicate with the outdoors during this period. The period before the quarantine period is divided into "pre-restrictions" and the period after the quarantine period as "post-restrictions" period.

There are many questionnaires available to determine physical activity levels in both children and adults. In this direction considering the sample age range of the study, the questionnaire forms

were examined, and questions were formed to determine the activity level of the child by evaluating the Godin Leisure-Time Exercise Questionnaire-GLEQ (Shephard, 1997), International Physical Activity Questionnaire-IPAQ (Craig et al., 2003) and Global Physical Activity Questionnaire-GPAQ (Armstrong & Bull, 2006). Based on the WHO recommendation for at least 60 minutes MVPA in a day for children aged 5-17 years (WHO, 2018), questions were asked to determine how often children perform MVPA. For parents to distinguish between moderate and vigorous physical activity, it has been explained what kind of changes these types of activities can cause in the child's respiratory status and energy expenditure. To differentiate these two activity types, two different definitions were given to the parents, and they were expected to make separate evaluations for both activity types. For this, moderate-intensity physical activity as “activities that require moderate physical strength, force normal breathing, cause mild sweating and fatigue, lasting at least 15 minutes at a time”, vigorous-intensity physical activity “requiring intense physical effort, challenging normal breathing, excessive sweating and activities that cause fatigue, lasting at least 15 minutes at a time. Apart from moderate and vigorous physical activity, it is aimed to determine the times allocated for walking and to determine in which places the child mostly performs the walk. Accordingly, a separate question was asked for walking, and parents were expected to separate this activity and evaluate it in the questionnaire. The questions asked to determine the physical activity level of the participant child within the scope of the questionnaire are as in Table 1.

**Table 1.** Questions on children’s physical activity level within the scope of the questionnaire

Activity Type	Time Interval	Entry
Vigorous-intense physical activity <i>Activities that require intense physical effort, make normal breathing very difficult, cause excessive sweating and fatigue, and take at least 15 minutes at a time</i>	- Before restrictions - Quarantine period - Post restrictions	Days per week, minutes per day
Moderate-intense physical activity <i>Activities that require moderate physical strength, force normal breathing, cause mild sweating and fatigue, and last at least 15 minutes at a time</i>		
Walking <i>Activities that last at least 15 minutes at a time</i>		

Another important data to be obtained in the study is about parent support on children’s physical activity. In this study, to assess the pandemic process, questions were asked to the parents on (1) their views on physical activity (P-VPA), (2) their physical activity status (P-SPA), (3) parents directing their child to sports and physical activity (P-DPA), and (4) parents’ active transportation preference with the child (P-AT) (Table 2). The parents’ opinion on physical activity, which is one of the questions asked about directing their child to physical activity, was asked in terms of her general view, not in terms of a period related to the pandemic in time. Perceptual assessments of the physical activity status of the parents were asked within the scope of three different temporal processes (before the restrictions, during the quarantine period, after the restrictions). Parents' directing their child to sports and physical activities were asked before the restrictions to go out and in the context of the quarantine period. Finally, the parents’ active transportation preference with their child was asked within the scope of three different temporal processes (before the restrictions, during the quarantine period, after the restrictions).

**Table 2.** Questions on parents support on children’s physical activity within the scope of the questionnaire

Question Groups	Questions	Evaluation	Time Intervals
P-VPA	Physical activity is important for parent’s health	Yes	General Opinion
Parents’ view of physical activity	Physical activity is important for child’s health	Partially	
		No	
P-SPA	The state of being physically active	Very active	- Before restrictions
Parents’ physical activity status		Partially active	- During the quarantine period
		Not active at all	- After restrictions

<b>P-DPA</b> Parents' directing their children to sports and physical activities	Do not allow the child to spend time outside without an adult	Yes No	- Before restrictions
	Directing the child to physical activity on a regular basis	Yes Partially No	- During the quarantine period
	The sports school / club that the child is enrolled in	- Basketball - Volleyball - Football - Swimming - Athletics - Dance / ballet - Gymnastics - Tennis - Martial arts - No registered sports school/club - Other	- Before restrictions
<b>P-AT</b> Parents' active transportation preference with child	The type of transportation the child prefers to get to school	- Walking - Cycling - Public Transport - Private vehicle - School Bus	
	The parent's preferred mode of transport when with the child	- Hiking or cycling - Special vehicle - Public transport	
	Destinations that can be reached by walking (15 minutes on average) from the residence where the child lives.	- Grocery shopping - Supermarket shopping - Market/grocery shopping - Clothing store / stationery shopping - Restaurant / cafe - Hairdresser / barber - Coastal walking path - Open area with sports equipment - Meeting with child's friends - The child's school	- Before restrictions - After restrictions

### 3.2 Scoring Physical Activity Levels and Parental Support

The data obtained regarding the parents' support of children to physical activity were grouped under the titles of P-VPA, P-SPA, P\_DPA and P-AT (Table 2). Descriptive statistical analyzes were made by directly using the survey data under these four headings. In inferential statistical analyses, these four main headings were scored within themselves, and values ranging from 0 to 1 were obtained. Finally, the total score of parents' supports to physical activity (P-ST) was calculated by taking the average of the sum of all variables. Scoring of the titles based on the questions is as in Table 3. There were also different evaluations in the encouragement of physical activity by the parents before and after the pandemic. For this reason, in inferential statistical analysis, data containing different times were also examined.

Questions to determine the physical activity level of the child include the periods of moderate and vigorous physical activity and walking activity before the restrictions, during the quarantine period and after the restrictions. The data in questions includes how many days a week and how many minutes a day the child does the activities. In the survey, the daily times during which the child was active were presented to the parents as multiple choice. Parents' answers were converted to none=0 min, 1-15 min=7.5 min, 16-30 min=22.5 min, 31-45 min= 37.5 min, 46-60 min=52.5 min, 61-75 min= 67.5 min, 76-90 minutes = 82.5 min and 90 and over minutes = 90 min, by taking the average of the given time intervals. In line with this acceptance of activity minutes within the scope of all data, the number of days the child does physical activity per week is multiplied by the number of activity minutes he/she performs per day. The result obtained was divided into seven days of the week, and the periods during which the child was active during the day were determined.

Table 3. Scoring the parents' support of children to physical activity

	<b>P-VPA</b>	<b>P-SPA</b>	<b>P-DPA</b>	<b>P-AT</b>
<b>Questions</b>	- Physical activity is important for parent's health	Activity– Before restrictions Activity – Quarantine period	- Allowing the child to spend time outside without an adult before restrictions *	- Type of transportation to school before restrictions * - Type of transportation to school after restrictions *

	- Physical activity is important for child's health	Activity – After restrictions	- Directing the child to physical activity regularly during the quarantine period ** - The sports club / school where the child was registered before the restrictions ***	- Preferred transportation mode with the child before restrictions* - Preferred transportation mode with the child after restrictions * - Destinations reachable on foot with child before restrictions ** - Destinations reachable on foot with child after restrictions **
<b>Evaluation</b>	Yes =1 Partially =0,5 No =0	Very active=1 Partially active=0,5 Not active at all =0	* Yes=1, No=0 ** Yes=1, Partially=0,5, No=0 *** Total number of registered / total number of options (11)	* Walking and cycling =1 Public transport =0,5 Private vehicle and school bus =0 ** Number of options selected / total number of options (11)
<b>Net Score</b>	The sum of the scores of the two questions / 2	The sum of the scores of the three questions / 3	The sum of the scores of the three questions / 3	The sum of the scores of the six questions / 6
<b>P-ST</b>	<b>The total score of parents' supports</b> $P-ST = (P-VPA + P-SPA + P-DPA + P-AT) / 4$			

### 3.3 Participants

A total of 1559 people, including 1460 mothers, 97 fathers, and 2 different relatives who take care of the child during the day, participated in the study. When the age information of the people who filled out the questionnaire was examined, the average age was found to be 38.28 (Min=20, Max=60, SD=5.27). Considering the distribution of men and women, the mean age of the men who filled out the questionnaire was 41.73 (Min=9, Max=60, SD=6.21) and the mean age of the women was 38.03 (Min=20, Max=56, SD=5.12). 55.5% of the participants are paid employees, 24.6% are self-employed, 19.9% are not working. In terms of education, the rates of university graduates (37.1%) and high school graduates (34.1%) are higher than primary school graduates (12.4%) and secondary school graduates (11.5%). In the data set, 4% of the household heads have a postgraduate education level. 7 participant household heads declared that they could only read/write, and 4 participant household heads were illiterate. When the household average income is examined, it is seen that 41.8% of the participants have a household average monthly income between 2501 TL and 5000 TL. It was determined that only 5.9% of the participants had an average monthly income of 10000 TL and above. It is noteworthy that approximately 1 in 4 of the participants have a household average monthly income (23.7%) of 2500 TL and below (approximately the minimum wage). Apart from these, it is observed that the participants have a household average monthly income of 5001 TL - 7500 TL (19.1%) and 7501 TL - 10000 TL (9.5%).

When the age and gender status of the children of the parents participating in the study were examined, it was seen that 52.1% of the participating children were boys (n=812) and 47.9% were female students (n=747). The mean age of the children was 8.39 (Min=6, Max=11, Median=8, SD=1.09). When examined in terms of gender and age, the mean age of boys is 8.39 (Min=6, Max=11, Median=8, SD=1.07), while the mean age of girls is 8.40 (Min=6, Max=11, Median=8, SD=1.11). The difference in the mean age based on gender was examined with the independent group *t*-test and no statistically significant difference was found between the two variables ( $t=-0,084$ ;  $df=1557$ ;  $p>0,05$ ). Therefore, the ages of boys and girls show a similar distribution.

When examined in terms of physical activity levels, it was observed that children spent an average of 21.75 minutes (Min=0, Max=90, SD=22.89) for vigorous physical activity before the restrictions. During the quarantine period, it was observed that children spent an average of 3.37 minutes per day (Min=0, Max=90, SD=9.98) for vigorous physical activity. After the restrictions, the time spent by children was determined as 17.80 minutes per day (Min=0, Max=90; SD=23.94).

When the duration of moderate physical activity is examined, it is observed that before the restrictions, children spent an average of 21.11 minutes (Min=0, Max=90, SD=22.91) for moderate physical activity, and that during the quarantine period, it's just an average of 5.39 minutes (Min=0, Max=90, SD=14.04). After the restrictions, it is seen that the children spend an average of 19.03 minutes (Min=0, Max=90, SD=24.58) during the day for moderate physical activity.

When walking activity is examined, the walking time of children who spent an average of 18.70 minutes (Min=0, Max=90, SD=19.56) during the day before the restrictions, and as expected it was decreased during the quarantine period. Accordingly, the children walked for an average of 2.65 minutes (Min=0, Max=90, SD=9.18) during the quarantine period. After the restrictions, it was determined that they walked for an average of 15.72 minutes (Min=0, Max=90, SD=20.72) during the day.

The results show that the durations for moderate and vigorous physical activity and walking activities performed by children prior to the restrictions decreased during the quarantine period, as expected. However, when the restrictions were removed, it was observed that the activity durations were below the values before the restrictions. Although this situation provides important data in terms of public health (Ekşioğlu Çetintahra, Tezcan, & Çınar, 2021b), it also requires questioning parental support at the child's activity level.

#### 4. STATISTICAL FINDINGS

The statistical findings of the study were explained through the findings of the parent's support of the child's physical activity and the effect of parental support on the child's physical activity levels.

##### 4.1 Findings on Parental Support to Physical Activity

The changes in the physical activity level of the child in three different time periods based on the pandemic were examined in the context of the variables related to parental support determined within the scope of the study (Table 4). In this context first, the opinion of the parents on the importance of physical activity was asked. Accordingly, 95% of the parents participating in the study stated that doing physical activity is very important for their own health; 96.7% of them think that doing physical activity is very important for their child's health. Therefore, almost all the parents think that doing activities is important for both themselves and their child.

Although parents seem to be aware of the importance of activity, it is important to determine how this affects both their own and their child's physical activity levels. First, the parent was asked to evaluate himself in terms of activity level. Accordingly, parents declared that they were mostly very active (54.4%) or partially active (42.5%) before the restrictions on going out. A serious decrease was observed in the activity status of the parents during the quarantine period, and the majority of the parents (51.2%) stated that they were not active at all during this period. Although there was an improvement in the activity status of the parents during the period when the restrictions were lifted, it was determined that the rate of parents who defined themselves as very active (26.6%) decreased, while the rate of parents who stated that they were partially active increased (61.7%). According to the results of the Pearson Chi-square test, which was applied to determine whether there is a significant dependence on the three temporal processes of the parents' views on these differing activity states, a statistically significant dependence was found between the two variables ( $X^2=1633,158$ ;  $df=4$ ;  $p<0,005$ ).

It is suggested in the related literature that outdoor spaces are important opportunities for the child to perform moderate and high-intensity physical activity. For this reason, the support of the parent to spend time outdoors without an adult is examined among the variables of support to physical activity. In this direction, according to the answers given to the question asked in the survey and to be informed about their views before the outdoor restrictions, 82.8% of the parents declared that they do not allow their children to spend time outdoors without an adult. 51% of these children are boys and 49% are girls. Therefore, the parents made a negative assessment regarding the child's spending

time outdoors without an adult, which is one of the variables of encouraging the child to physical activity.

Table 4. Descriptive results of parental support to physical activity

Parental Support	Descriptive Results (Percentages)
<b>P-VPA</b>	Physical activity is important for parent's health Yes = 95.0% Partially = 4.7% No = 0.2%
	Physical activity is important for child's health Yes = 96.5% Partially = 3.1% No = 0.1%
<b>P-SPA</b>	Being physically active before restrictions Very active = 54.4% Partially active = 42.5% Not active at all = 3.0%
	Being physically active during quarantine Very active = 7.4% Partially active = 41.1% Not active at all = 51.2%
	Being physically active after restrictions Very active = 26.6% Partially active = 61.7% Not active at all = 11.0%
<b>P-DPA</b>	Allowing the child to spend time outside without an adult before restrictions Yes = 17.2% No = 82.8%
	Directing the child to physical activity regularly during the quarantine period Yes = 44.1% Partially = 45.6% No = 10.3%
	The sports school / club where the child was registered before the restrictions - Basketball = 11.3% - Volleyball = 4.7% - Football = 16.1% - Swimming = 14.0% - Athletics = 0.6% - Dance / ballet = 4.8% - Gymnastics = 8.9% - Tennis = 3.7% - Martial arts = 4.4% - Non = 46.2% - Other = 1.2%
	The type of transportation the child prefers to reach school before the restrictions - Walking / Cycling = 65.2% - Public transport = 2.6% - Special vehicle / School bus = 32.2%
	The type of transportation the child prefers to reach school after restrictions - Walking / Cycling = 63.8% - Public transport = 6.8% - Special vehicle / School bus = 29.4%
	Parent's preferred mode of transportation when with the child prior to restrictions - Walking or cycling = 58.8% Yes, 26.6% Partially, 13.7% No - Special vehicle = 45.9% Yes, 27.8% Partially, 24.6% No - Public transport = 20.1% Yes, 26.6% Partially, 49.7% No
	Parent's preferred mode of transportation when with the child after restrictions - Walking or cycling = 53.1% Yes, 61.8% Partially, 5.1% No - Special vehicle = 61.8% Yes, 17.4% Partially, 18.4% No - Public transport = 5.1% Yes, 14.7% Partially, 76.1% No
<b>P-AT</b>	Destinations that can be reached by walking (15 minutes on average) from the residence where the child lived before the restrictions - Grocery shopping = 64.0% - Supermarket shopping = 79.4% - Market/grocery shopping = 66.2% - Clothing store / stationery shopping = 50.0% - Restaurant / cafe = 37.1% - Hairdresser / barber = 44.8% - Beach walkway = 41.0% - Open area with sports equipment = 52.0% - Meeting with children's friends = 50.7% - Child's school = 70.9%
	Destinations that can be reached by walking (15 minutes on average) from the residence where the child lived after the restrictions - Grocery shopping = 62.9% - Supermarket shopping = 69.5% - Market/grocery shopping = 55.1% - Clothing store / stationery shopping = 36.3% - Restaurant / cafe = 28.7% - Hairdresser / barber = 37.1%

- Beach walkway = 39.4%
- Open area with sports equipment = 45.2%
- Meeting with children's friends = 40.4%
- Child's school = 47.5%

Parents were asked to enroll their child in a sports school/club or activity-related course prior to going out restrictions. According to the statements of the parents, the proportion of children who were not enrolled in any sports club or sports school before the restrictions on going out corresponds to almost half of the participants (46.2%). Most of these children are girls (50.9%). Based on the sports school/club they were enrolled in before the curfews, it was seen that the children were mostly enrolled in football (16.1%), swimming (14.0%) and basketball (11.3%) and gymnastics (8.9%) clubs / schools. While some of the children are enrolled in dance / ballet (4.8%), volleyball (4.7%), martial arts (4.4%) and tennis (3.7%) clubs / sports schools, 9 children declared that they are athletics. Children enrolled in a club for a sport other than the options presented in the multiple-choice questions are shown in the other (1.2%) category. Accordingly, the sports clubs / schools these children are enrolled in are folk dances (n=4), fitness (n=3), archery (n=2), school courses (n=2), horse riding (n=1), badminton (n=1), ice skating (n=1), mountaineering (n=1), sailing (n=1), water polo (n=1) and orienteering (n=1). Therefore, while a significant portion of the parents directed their children to sports activities before the restrictions on going out, the other half did not. When examining how this situation progressed during the quarantine period, according to the answers given to the parents for directing the child to do physical activity during the quarantine period, 44.1% of the parents said that they directed their child to activity, and 45.6% partially guided them. 10.3% of the parents stated that they did not direct their children to activities regularly during the quarantine period. Therefore, it was observed that the behavior of parents to direct or not to direct the activity before the restrictions to go out was also observed during the quarantine period.

It is also an important criterion for parents to direct the child to physical activity, and to direct the child to active transportation types in the transportation of the child to school. For this reason, first, parents were asked to indicate which modes of transportation the child used to reach school before the restrictions on going out. According to the statements of the parents, a significant part of the children (64.3%) reaches the school on foot. While some of them reach school by school bus (18.5%), private vehicle (13.7%) and public transportation (2.6%), only 14 children reach school by bicycle. Therefore, from the point of view of active and motor vehicle transportation, the rate of children reaching school with active transportation types before going out is 65.23%. The number of children reaching school by motor vehicle types was determined as 34.77%.

Another issue in the type of transportation was the determination of which mode of transportation the parent prefers with their child. Accordingly, it was observed that parents (58.8%) who preferred walking for transportation with their children before the restrictions on going out, preferred walking less (53.1%) after the restrictions. The dependence between gait preference and temporal process was examined with the Pearson Chi-square test and a statistically significant dependence was found ( $X^2=715,588$ ;  $df=4$ ;  $p<0,005$ ). The rate of parents (45.9%) who preferred a private vehicle with their children before the restrictions to go out increased after the restrictions (61.8%) and the dependence between the variables was found statistically significant via the Pearson Chi-square test ( $X^2=1264,306$ ;  $df=4$ ;  $p<0,005$ ). After the restrictions, there was a sharp decrease in the preference of public transport. Accordingly, the rate of parents who preferred public transportation with their children before the restrictions (20.1%) decreased to 5.1% after the restrictions. The level of dependency between the two variables was tested with the Pearson Chi-square test and a statistically significant dependency was found ( $X^2=520,623$ ;  $df=4$ ;  $p<0,005$ ). Therefore, a significant decrease is observed in the public transportation preferences of parents due to the pandemic, and a slight decrease is observed in the proportion of parents who prefer walking. An important indicator relates to the use of private vehicles. It is seen that the use of private vehicles is preferred after the

pandemic. This situation contains important clues not only in terms of encouraging children to physical activity, but also in terms of urban life.

It is also an important indicator that the parent supports their child to physical activity and that the parent prefers to walk with their child between home and different destinations. In this regard, parents were asked to indicate the destinations they could reach within an average of 15 minutes by walking out of their homes with their children before and after the outdoor restrictions. According to the answers given by the parents, it was observed that the parents went less to destinations with their children within a walking distance of 15 minutes, compared to before the restrictions. Pearson Chi-square test was applied to determine the relationship between this difference between the periods and the dependence between the variables, and a statistically significant dependence was found between the 15-minute walking distance and the periodic process ( $X^2=53,032$ ;  $df=10$ ;  $p<0,005$ ).

In summary, most parents state that physical activity is important both for their own health and for the health of their children. The clues that the restrictions may be effective in the parent's activity situation are included in the views of the parents in this direction. Accordingly, parents think that they are less active in the current situation than before the restrictions. In the pre-pandemic period, it was determined that almost half of the participating parents directed their children to sports activities, and most of them preferred walking as an element to increase the child's activity level. However, most parents do not allow the child to spend time outside without an adult, which is an indicator associated with encouraging the child to engage in physical activity. However, as another indicator, the proportion of parents who prefer active transportation modes with their children is higher than the others. It has been observed that there has been a change in preferences regarding transportation types after the pandemic. Accordingly, it was determined that there was an increase in the use of private vehicles among the participating parents. There has also been a decrease in the preference of active transportation types after the pandemic, and it has also had a negative impact on the rates of accessing destinations that could be reached with their child within walking distance before the pandemic, with their child after the pandemic. Therefore, although the rate of participating parents encouraging their children to participate in outdoor activities is high, there are hints of a decrease in these rates after the pandemic.

#### 4.2 The Effect of Parental Support on Child's Physical Activity Level

In studies investigating the variables that affect physical activity levels in children, it was suggested that the parent's level of directing the child to physical activity was effective, so it was necessary to examine the relationship between physical activity types, which include differences in intensity and time, and the parent's incentive to physical activity variables. For this, Pearson correlation analyzes were performed between the P-VPA, P-SPA, P-DPA, P-AT and P-ST variables, which were formed by scoring the results obtained in the survey study, and the physical activity levels performed at different time intervals, and the direction and severity of the relationship between these variables were determined (Table 5).

**Table 5.** Types of physical activity performed in three pandemic-based temporal periods and their relationship with parental support variables

	P-VPA	P-SPA	P-DPA	P-AT	P-ST
Vigorous physical activity levels before restrictions	$r=0,024$ , $p>0,05$	$r=0,034$ , $p>0,05$	$r=0,126$ , $p<0,005$	$r=0,026$ , $p>0,05$	$r=0,098$ , $p<0,005$
Vigorous physical activity levels during quarantine period	$r=-0,007$ , $p>0,05$	$r=0,045$ , $p>0,05$	$r=0,049$ , $p>0,05$	$r=0,006$ , $p>0,05$	$r=0,051$ , $p<0,05$
Vigorous physical activity levels after restrictions	$r=0,019$ , $p>0,05$	$r=0,066$ , $p<0,05$	$r=0,107$ , $p<0,005$	$r=0,012$ , $p>0,05$	$r=0,101$ , $p<0,005$
Moderate physical activity levels before restrictions	$r=0,40$ , $p>0,05$	$r=0,054$ , $p<0,05$	$r=0,101$ , $p<0,005$	$r=0,055$ , $p<0,05$	$r=0,116$ , $p<0,005$
Moderate physical activity levels during quarantine period	$r=0,004$ , $p>0,05$	$r=0,084$ , $p<0,05$	$r=0,074$ , $p<0,05$	$r=-0,54$ , $p<0,05$	$r=0,062$ , $p<0,05$
Moderate physical activity levels after restrictions	$r=0,013$ , $p>0,05$	$r=0,079$ , $p<0,05$	$r=0,087$ , $p<0,05$	$r=-0,014$ , $p>0,05$	$r=0,085$ , $p<0,05$

Walking levels before restrictions	$r=0,040,$ $p>0,05$	$r=0,110,$ $p<0,005$	$r=0,022,$ $p>0,05$	$r=0,102,$ $p<0,005$	$r=0,135,$ $p<0,005$
Walking levels during quarantine period	$r=-0,031,$ $p>0,05$	$r=0,067,$ $p<0,05$	$r=0,063,$ $p<0,05$	$r=-0,034,$ $p>0,05$	$r=0,047,$ $p>0,05$
Walking levels after restrictions	$r=0,29,$ $p>0,05$	$r=0,107,$ $p<0,005$	$r=0,070,$ $p<0,05$	$r=0,026,$ $p>0,05$	$r=0,117,$ $p<0,005$

According to the results seen in Table 5, most of the parents claim that physical activity is important for both their child and their own health. In the Pearson correlation analysis, no statistically significant relationship was found between this variable and the duration of physical activity performed at different times. Therefore, the parent's view of physical activity, which is related to parental support, was not found to be effective in the child's physical activity level.

When the direction and severity of the relationship between the parent's physical activity and activity types were examined according to the Pearson correlation analysis, it was found that high-intensity physical activity after the restrictions and the time allocated for moderate physical activity and walking activity before, during and after the restrictions were found in the same direction. This result showed that the increase in the physical activity level of the parent in different time intervals based on the pandemic increased the time the child did physical activity, on the contrary, the decrease in the activity level of the parent decreased the activity time of the child. The level of directing the child to sportive activities and activities both before the pandemic and during the pandemic (excluding the time spent for high-intensity physical activities during the quarantine period) was found to be correlated with the duration of physical activity in the same direction. However, when the  $r$  coefficient values of all related variables are examined, it should be noted that there is a weak relationship.

According to the Pearson correlation analysis, the destinations that parents can reach on foot with their child and the preference for active transportation modes such as walking / cycling with the child were found to be associated with moderate physical activity in the same direction, but weakly, before the restrictions. In the quarantine period, the time allocated for moderate-intensity physical activity and P-AT had a statistically significant relationship in the opposite direction, partially strong, and in the same direction, but weakly, with the times allocated for walking before the restrictions. Looking at the total parental support score for physical activity (except for the time allocated for walking during the quarantine period), it was found to be correlated with physical activity times in the same direction but weakly. Therefore, although the support of the parent is an important factor in the child's physical activity during this period, as it was before the pandemic, it has a partially weak effect in explaining the activity durations.

In general, it was determined that the encouragement of the child to physical activity by the parents was related to the physical activity performed before, during and after the restrictions. The analysis results show that there is a weak relationship in terms of the  $r$  coefficient. For this, especially P-ST (total support score) should be examined. When looking at vigorous physical activity, it was seen that parental support is more effective on the child's activity after restrictions. However, this was reversed in moderate physical activity and walking. Accordingly, parental support for both types of activities is less effective after restrictions than before. This is an important clue that shows that the variables associated with the child's physical activity during the pandemic period should be approached from a different perspective. It is also an indication that there may be a decrease in the willingness of the parent to direct the child to outdoor activities. It will be more meaningful especially considering that the walking activity will be carried out in urban outdoor spaces. In summary, the results of the study showed that the pandemic and the quarantine period were effective in the parental support on physical activity, and it has a statistically significant effect on the activities performed by the child at different times based on pandemic.

## 5. CONCLUSION

It is discussed in the academic field that the restrictions on going out, which is preferred as the most effective method among the measures taken in the fight against the pandemic, may cause psychological, sociological, and physical problems for those who stay indoors, although it is necessary in the fight against the pandemic. One of the most important groups affected by these problems is children. It is discussed that many psychological problems may occur in children as a result of the closure of schools, the restriction of interaction with the outdoors and thus their inactivity. In addition, a problem that may turn into an important public health problem in the future is that it will cause weight gain and obesity in the child due to the inactivity of the child (Stettler et al., 2002; Ebelling et al., 2002; Rundle, Park, Herbstman, Kinsey, & Wang, 2020). The requirement for children to do moderate and high-intensity physical activity for at least 60 minutes during the day as part of the fight against obesity and overweight in daily life is not possible within the scope of the restrictions on going out during the pandemic process. At this point, it is crucial to support the child to physical activity by the parent. In that, as it was often emphasized in the pre-pandemic literature, the parent is an effective factor in the child's activity level and activity place preference (Kail, 2002; Thorleifsdottir, 2008).

The results of the study showed that parental support is an effective variable in the child's activity level during the quarantine period and after the restrictions, as it was before the pandemic. Parent provides similar levels of support before, during, and after restrictions. This shows that both parents who direct their child more and less towards the activity provide a similar level of support in a pandemic-based time interval. Although activity support is similar, it is an important finding that this variable is less effective on the child's activity level after restrictions. This situation primarily contains clues that there should be an increase in the encouragement of the child to physical activity by the parent. An implied result may be that the parent is less willing to direct the child to physical activity. Moreover, this situation shows clues that there are variables that may prevent the parent from directing the child to the activity outdoors. This shows that there are many different variables that can be effective in the decreasing physical activity levels of children, as supported by the findings during the pandemic period. It will be important for future research to examine the variables that are effective in the parent's support of the child in the context of a pandemic-based temporal process. In addition, the investigation of spatial evaluations in which the decrease in children's physical activity levels is effective will make an important contribution to the literature.

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