iejee

International Electronic Journal of Elementary Education
June 2022, Volume 14, Issue 5, 657-665

The Effect of Online Education on Children's Social Skills During the COVID-19 Pandemic

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Received : 29 April 2022
Revised : 2 June 2022
Accepted : 30 June 2022
DOI : 10.26822/iejee.2022.270

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Abstract

This study aimed to determine whether there is any conspicuous difference in the social adaptation skills of five-year-old preschool children who did not attend any social skills intervention program besides the ongoing curriculum but continued their education process in different environments (face-to-face/online) because of the pandemic. Included in the study were 296 children enrolled in independent kindergartens, who were within the five-year-old age group and were from similar socioeconomic families. Among them, 159 attended face-to-face and 137 attended online classes. At the beginning of their formal education, the Social Adaptation Skills Scale (SASS) was administered to the children in both groups as a pre-test. At the end of the trimester, the SASS was repeated as a post-test. A significant difference was found between the face-to-face education group and the online education group, in favor of the former, in terms of the social adaptation sub-factor of the SASS. Furthermore, the social incompatibility sub-factor scores of the face-to-face education group were significantly lower than those of the children in the online education group.

Keywords:

Pandemic, Social Skills, Preschool, Face-to-Face Education, Online Education

Introduction

A pandemic refers to a situation wherein a disease or an infection becomes widespread across large regions and may even spread across the entire world (Harvard, 2021). The first case of coronavirus disease 2019 (COVID-19), which includes symptoms such as fever, cough, shortness of breath, and respiratory tract infection, was reported in Wuhan, China, at the end of December 2019 (Aral & Kadan, 2021). This disease has spread rapidly since the beginning of 2020 (Hiraoka & Tomoda, 2020) and led to innumerable deaths and was declared a global pandemic by the World Health Organization (WHO) on March 11, 2020 (WHO, 2020). The outbreak of COVID-19 led governments of different countries to adopt drastic measures to contain its spread, such as implementing curfews, travel–transportation restrictions, and the suspension of face-to-face education (Chaabane et al., 2021; Pečjak et al., 2021). After the WHO declared COVID-19 a pandemic, the simultaneous suspension of face-to-face education at all levels in many

countries adversely affected the lives of millions of children and their parents (Alisinanoğlu et al., 2020; Christner et al., 2021; Gilliam et al., 2021; Hanetz-Gamliel et al., 2021; Knopik & Domagała-Zyśk, 2022).

Upon these developments, the Turkish Ministry of National Education (MEB) suspended face-to-face education on March 16, 2020, and announced the beginning of distance education via the Education Information Network (EBA; MEB, 2020). With the prolongation of the pandemic, the unexpectedly and rapidly implemented distance education became the primary teaching approach of all educational institutions (Yamamoto & Altun, 2020). Education was provided to all grade levels via EBA, except for preschools; however, different online applications were required because of the unforeseen problems that were encountered. Until the EBA live lesson was put into use by the MEB, the use of free virtual classroom applications, such as Microsoft Teams, Hangouts, Zoom, Skype, Google Meet, and similar platforms, was adopted (Yaralı & Kunduracı, 2022).

A number of setbacks were encountered at all levels that arose from being unprepared for the transition from face-to-face to distance education due to the pandemic, but preschools were the most adversely impacted (Can, 2020; İnan, 2020; Aral & Kadan, 2021; Konca & Çakır, 2021; Yaralı & Kunduracı, 2022). In the second semester of the 2019–2020 academic year, preschool teachers shared activities with their students according to their daily education flows through EBA and tried to keep in touch with children and parents by giving online lessons on their own initiative through various digital media platforms (Yaralı & Kunduracı, 2022). Preschool education institutions interrupted face-to-face education owing to the increase in the number of COVID-19 cases in the 2020–2021 academic year. Distance education was implemented again with activities that did not exceed 20 minutes in daily education flows and were delivered to parents via the use of the most appropriate communication tools. Independent kindergartens simultaneously continued both face-to-face and distance education. Children enrolled in independent kindergartens were allowed to attend face-to-face classes with the consent of their parents, and the children whose parents did not want to send them to school were allowed to follow the lessons via online applications.

The closure of schools and public places around the world affected approximately 1.38 billion children (Cluver et al., 2020; Roos et al., 2021). The COVID-19 pandemic has drastically changed the lives of children and adolescents around the world. Much of life has come to a standstill, including the closing of educational institutions, the transition to distance learning, and the requirement to reduce interpersonal contact 'i.e., maintain social distance' (Pečjak et al., 2021). Social isolation, such as the children's inability to visit their friends or relatives frequently, affected their social and emotional behaviors (Xiang et al., 2022). Notwithstanding the various measures adopted, online education could not adequately compensate for the lack of social skills caused by the inability of preschool children to have peer interaction.

Social skills include identifiable and learned behaviors that produce positive social outcomes in interpersonal relationships and social situations (Sorias, 1986; Rutherford, 2001). According to Mathur and Rutherford (1996), as cited in Johns et al. (2005), social skills include avoiding inappropriate behavior in social situations and exhibiting received behaviors. Social skills also include behaviors that individuals must exhibit to perform the roles imposed on them by the society (McFall, 1982, Gresham & Reschly, 1987; Staub & Hunt, 1993). They also include a child's ability to exhibit specific behaviors to initiate and maintain positive interactions with others, without any hindrance in their social environments (Ladd & Mize, 1983; Walker et al., 1988; Westwood, 1993; Önder, 2003). Deficits in social skills may negatively impact several essential domains including academic achievement, interpersonal relationships, behavior, mental health, and adult life outcome (Silveira-Zaldivar et al., 2021).

The COVID-19 pandemic has affected the everyday lives and social relations of preschool children around the world. Cognitive regulation, emotional competences and social skills are fundamentally intertwined in the learning process, and academic learning can happen most effectively when each one of these three dimensions are well supported (Jones & Kahn, 2017, as cited in Kamei & Harriott 2021). While many studies have examined the effect of the pandemic on children, only a few have examined their home environment and social skills pre- and post-pandemic process (Li et al., 2022). From this aspect, this study examined the social skills of preschool children who are continuing their education through online and face-to-face education during the pandemic. In line with this aim, the research hypothesis was determined as "There is a significant difference between the social skills of children who attend preschool face to face and those who prefer online education instead of face-to-face education during the pandemic process." Therefore, this study sought answers to the following questions:

1. At the beginning of the semester, is there any significant difference between the social adaptation and social incompatibility scores of the children who attend face-to-face classes and those who attend online classes?

2. At the end of three-month educational process, is there any significant difference between the social adaptation and social incompatibility scores of the children who

attend face-to-face classes and those who attend online classes?

3. During this three-month period, is there any difference between the social adaptation scores of the children who attend face-to-face classes?

4. During this three-month period, is there any difference between the social incompatibility scores of the children who attend face-to-face classes?

5. During this three-month period, is there any difference between the social adaptation scores of the children who attend online classes?

6. During this three-month period, is there any difference between the social incompatibility scores of the children who attend online classes?

7. Is there any significant difference between social adaptation pre- and post-test scores of children attending face-to-face classes and those of the children attending online classes?

8. Is there any significant difference between social incompatibility pre- and post-test scores of children attending face-to-face classes and those of the children attending online classes?

Methodology

Research Model

This study, which examined the social skills of five-year-old children who attend preschool classes face to face but prefer online education during the pandemic and the relations between face-to-face/online education, used the relational survey model among the general survey models (Karasar, 2012).

Study Group

The Directorate of National Education reported that 1828 children in the five-year-old age group were enrolled in independent kindergartens in the central district during the 2020–2021 academic year. Stratified sampling is used when sub-strata or sub-unit groups exist in a defined population (Yıldırım & Şimşek, 2005). The study group consisted of 296 five-year-old children who were determined and contacted in accordance with the stratified sampling method, which is one of the probability sampling methods. Of these children, 159 attended face-to-face classes, and 137 attended online classes.

Data Collection Tool

In this study, to evaluate the social adaptation and skills of the children, Social Adaptation Skills Scale (SASS), which was developed by Kandır (2004) and Işık (2007) and later given final shape after Işık's reliability and validity study under the supervision of Kandır, was employed. This scale involves two sub-factors, namely, social adaptation and social inadaptability. It consists of 17 statements related to social adaptation in sub-factor 1 and eight statements related to social inadaptability in sub-factor 2.

Table 1 shows SASS results for Kaiser–Mayer–Olkin (KMO) sample measurement test and Bartlett's test. The measurement value sufficiency computed using the former is 0.88, and approximate chi-square value of Bartlett's test is 2930.99, $p = .000 < .05$. The fact that KMO value is almost perfect and Bartlett value is high shows that the factor analysis is applicable to the scale, and there is a correlation between the statements.

Table 1

SASS Results for KMO Sample Measurement and Bartlett's Test

KMO sample	*Value*	*SD*	*p*
Measurement value sufficiency	0.88	-	-
Approximate chi-square value of Bartlett's test	2,930.993	210	.000

Data Collection Process and Analysis

Parents who preferred either face-to-face or online education for their children in independent kindergartens during the 2020–2021 academic year were contacted. The SASS was administered as a pre-test at the beginning of the academic year and as a post-test at the end of the semester. The data obtained were analyzed using Statistical Package for the Social Sciences. Skewness (–0.0339) and kurtosis (–1.045) values were used for the normality test. Skewness and kurtosis values between –1.5 and 1.5 were considered a normal distribution (Tabachnick & Fidell, 2013). The independent samples t-test was used for intergroup comparisons and dependent samples, and the t-test was used for within-group comparisons. The significance level was .05 for the statistical analyses.

Results

Table 2 shows the pre-test scores of the five-year-old children who attend preschool education face-to-face and online with regard to the social adaptation and social incompatibility sub-factors of the SASS.

As shown in Table 2, there was no significant difference between the groups in terms of the social adaptation sub-factor ($p > .05$) or the social incompatibility sub-factor ($p > .05$).

Table 3 shows that there was a significant difference between the groups in terms of the social adaptation sub-factor in favor of the face-to-face education

group at the end of the three-month educational process ($p < .05$). However, after this three-month period, the social incompatibility sub-factor scores of the face-to-face education group were significantly lower than those in the online education group ($p < .05$).

Table 4 shows that after the education process, the social adaptation sub-factor scores of the face-to-face education group significantly increased ($p < .05$), while their social incompatibility sub-factor scores significantly decreased ($p < .05$).

Table 5 shows that after the three-month period, the social adaptation sub-factor scores of the online education group significantly increased ($p < .05$), while their social incompatibility sub-factor scores significantly decreased ($p < .05$).

Table 2

T-test Results According to the SASS Pre-test Sub-factor Scores of the Children in Both Groups

SASS Sub-factor	Group	*N*	*M*	*df*	*t*	*p-value*
Social adaptation	Face to face	159	34.30	294	0.26	.792
	Online	137	34.34			
Social incompatibility	Face to face	159	20.79	204	0.42	.672
	Online	137	20.71			

Table 3

T-test Results According to the SASS Post-test Sub-factor Scores of the Children in the Face-to-face Education and Online Education Groups

SASS Sub-factor	Group	*N*	*M*	*df*	*t*	*p-value*
Social adaptation	Face to face	159	48.58	212.86	87.15	.000*
	Online	137	36.99			
Social incompatibility	Face to face	159	10.02	−59.59	178.28	.000*
	Online	137	17.56			

*p < .05

Table 4

T-test Results According to the Pre- and Post-test Scores of the Face-to-face Education Group for the Sub-factors of the SASS

SASS Sub-factor					Face to face	
	Practice	*N*	*M*	*df*	*t*	*p-value*
Social adaptation	Pre-test	159	34.30	158	−98.130	.000*
	Post-test	159	48.58			
Social incompatibility	Pre-test	159	20.79	158	104.191	.000*
	Post-test	159	10.02			

*p < .05

Table 5

T-test Results According to the Pre-and Post-test Scores of the Online Education Group for the Sub-factors of the SASS

SASS Sub-factor					Online	
	Practice	N	M	df	t	p-value
Social adaptation	Pre-test	137	34.34	272	15.76	.000*
	Post-test	137	36.99			
Social incompatibility	Pre-test	137	20.71	1.91	16.10	.000*
	Post-test	137	17.56			

*p < .05

Table 6

T-test Results When Comparing the Average of the Differences Between the Pre- and Post-test Mean Scores of the SASS Sub-factors of the Groups

SASS Sub-factor	Group	*N*	Mean Differences Between Averages	*SD*	*t*	*p-value*
Social adaptation	Face to face	159	14.28	1.82	59.30	.000*
	Online	137	2.65	0.69		
Social incompatibility	Face to face	159	−10.77	1.29	32.45	.000*
	Online	137	−3.15	1.41		

*p < .05

Table 6 shows that the increase in the social adaptation mean scores of the face-to-face education group was *M*2 - *M*1 = 14.28, and the increase in the mean scores of the online education group was *M*2 - *M*1 = 2.65. According to the differences between the pre- and post-test mean scores in social adaptation of the face-to-face education group, the scores of the online education group were higher. Similarly, the amount of decrease in the social incompatibility mean scores of the face-to-face education group was calculated as *M*2 - *M*1 = –10.77 and the decrease in the mean scores of the online education group was *M*2 - *M*1 = –3.15. The difference between the pre- and post-test mean scores decreased in the social incompatibility of the face-to-face education group more than the scores of the online education group. As a result of the three-month education period provided to the children who attended face-to-face education and who continued their education online (no additional education was provided to the children in either group), the increase in the pre- and post-test mean score differences in the social adaptation sub-factor of the SASS ($p < .05$) and the decrease in the pre- and post-test mean score differences in the social incompatibility sub-factor ($p < .05$) were significant and in favor of the children who received face-to-face education.

Discussion and Conclusion

This study aimed to determine whether there was any difference in the social adaptation skills of five-year-old preschool children who did not receive any social skills intervention program besides the ongoing curriculum but continued their education in different environments (face-to-face/online) because of the pandemic. Regarding the social adaptation sub-factor of the SASS, there was a significant difference between the face-to-face and online groups in favor of the group that attended face-to-face education after the education period, in which there was no social skills intervention program besides the ongoing curriculum. After the three-month education period, which was not supported with any additional intervention program, the social incompatibility sub-factor scores of the face-to-face education group were significantly lower than those of the online education group. Considering the evaluation of the pre- and post-tests in terms of the social adaptation, the social adaptation sub-factor scores of both groups significantly increased. Likewise, there was a significant decrease in the social incompatibility sub-factor scores. The relationship between the increase in the mean scores of the face-to-face education group and the online education group was examined. The analyses showed that the differences between the pre- and post-test mean scores in the social adaptation sub-factor of the children in the face-to-face education group were higher than those in the online education group. Similarly, the decrease in the mean scores of the children in the face-to-face education group in the social incompatibility sub-factor was greater than that in the online education group. Concordantly, as a result of the three-month education period provided to the children who attended face-to-face education and continued their education online, the increase in the pre- and post-test mean score differences in the social adaptation sub-factor of the SASS ($p < .05$) and the decrease in the pre- and post-test mean score differences in the social incompatibility sub-factor ($p < .05$) were significant and in favor of the children who received face-to-face education.

A large number of studies conducted in diverse fields concerning the pandemic outbreak have revealed its effects on people's lives. Some of these studies have investigated how the development of children is affected in early childhood. Although these studies have used different methods, they concluded that the pandemic process adversely affected their development. Other studies conducted on children's social skills support the present study. Janssen et al. (2020) showed that although parents can spend more time with their children during the pandemic, the time spent with their children is not productive because of financial insecurity, increased health concerns, lack of social and physical activities, and psychological problems, which are the symbolic of COVID-19. In this consideration, the social skill development of children who could not communicate effectively within their family is negatively affected. Social distancing, various restrictions, and the sudden changes in daily life routines that entered people's lives with the pandemic have negatively affected both parents and children (Brown et al., 2020; Chung et al., 2020; Kawaoka et al., 2021; Roos et al., 2021).

The decrease or complete disappearance of children's social stimulation, such as their inability to contact their relatives, peers, and teachers face to face, has adversely affected their psychological health and social skills during the COVID-19 pandemic (Araújo et al., 2020; Shorer & Leibovich, 2020). Children's social interactions have been extremely limited because of the restrictions and health concerns during the pandemic, and these significantly decreased social relations, and have increased their negative feelings while decreasing their skills to control feelings and behaviors (Di Giorgio et al., 2021; Stassart et al., 2021). Furthermore, these decreased social relationships have limited children's chances to experience and express substantial emotions and recognize, understand, and respond to the emotions of others (Wijaya et al., 2021).

Children communicate with their peers when expressing their emotions, developing self-regulation skills, and taking part in social interactions (Holodynski,

2013; Molina et al., 2014; Ewing et al., 2019; Nakamichi et al., 2019). Interaction with their peers allows them to think flexibly, have social competence, express themselves, and make ground among their peers (Liew et al., 2004; Cole et al., 2009; Dennis & Kelemen, 2009; Supplee et al., 2011), for which they must have developed social skills. Preschool children develop social skills by sharing and interacting with their family members at home and with peers at school. They discover social norms and become experienced in using them (Garner & Estep, 2001; Rakozcy & Schmidt, 2013). With the social skills they develop, they both show proper conduct in their relations with people and develop various strategies to have a positive impact on their peers (Wang & Barrett, 2013; Pujiastuti et al., 2022. The inability of children to receive adequate support from one or both of these environments may adversely impact their social skills development.

In line with the findings of this study and other supporting studies, children whose social skills development is negatively affected because of social interaction restrictions during the pandemic can be supported with social skills intervention programs so that they can have equal opportunities with their peers who can attend face-to-face classes. Similarly, supportive programs can be developed for parents to ensure efficient interaction with their children at home. This study investigated the social skills of preschool children who received face-to-face education and online education. Further studies can be conducted with different groups, including children who have not received any education, aiming to determine the effect of the pandemic on children's social skills in different environments.

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