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Research Article

Experimental Research on Gifted Students and Social Media Communication Competence Program

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ABSTRACT

The aim of this research was to develop a program to increase the social media communication competence levels of gifted students and to examine the effectiveness of the program. A 4- session program was developed within the scope of the research. The developed program was named SOMCOPGIS (Social Media Communication Competence Program for Gifted Students). A total of 32 experimental and control groups were formed using a random assignment method. The groups consisted of adolescent volunteers between the ages of 13 and 18 who all had low social media proficiency levels. In the data analysis non-parametric Friedman, Mann Whitney U tests, Social Media Competence Scale and analysis methods were used. Differences were found between the gifted students who participated in the SOMCOPGIS program and those who did not. It was observed that there was no significant difference in the social media competence scale scores of the adolescents in the control group obtained with the pre-test, post-test and follow-up test scales. This shows that SOMCOPGIS increased the social media communication proficiency level of the adolescents in the experimental group. This increase was found to be permanent with the follow-up test.

Keywords: Communication studies, social media, competence scale, gifted program

1. Introduction

New media consists of applications used both in traditional social environments that depend on a certain time and space and in online environments that combine the dimension of time and space (van Dijk, 2018). The combination of this new media is a technology that produces, collects and distributes messages and that has been transformed into a social communication environment that allows individual-individual, individual-group, group-individual interactions (Timisi, 2003). Unlike traditional media, new media with its wide variety of web technologies and services such as blogs, social networking sites, and communication tools, offers users opportunities such as digitality, interactivity, multi-media stylistics, user-derived content production, hypertextuality, dissemination, and virtuality, all of which have given birth to changes (Zhou & Jung, 2019). Web 2.0 applications are new media environments which most people explore every day and through which they can access information with different qualities, and interact simultaneously or asynchronously between individuals on a global, national or local scale (Binark, 2014). Web 2.0 applications such as Facebook, Twitter, Instagram, YouTube, Snapchat, TikTok, which provide simultaneous unlimited horizontal interactive communication opportunities, occupy a large part of the daily life practices of individuals (İgit, 2020). Although this study is primarily about examining and improving the social media proficiency levels of gifted students in particular, adolescent behaviors in general are also to be mentioned because this group is typically included in the adolescent group.

Adolescents have been pioneers in the adoption of new media practices all over the world (van Dijk, 2018). Adolescents of the modern world are also natives of the digital world (Sheffield, 2007). This generation, which has spent its entire life surrounded by and using computers, video games, digital music players, video cameras, mobile phones and all other toys and tools of the digital age, is defined as the digital native (Prensky, 2001). To define this generation, the expressions “network” generation, “Generation I”, “iGen”, “Instant Online (always online) (Levickaite, 2010; Tuncer, 2016); “.com” generation (Aydın & Başol, 2015) are also used.

The new communication and entertainment motifs of digital natives in online environments are shaped by self-disclosure, self-presentation, sharing information, producing content, and developing digital skills that support participatory culture (van Dijk, 2018). Today’s adolescents are very comfortable in the digital world, as they can download music, pictures and documents, easily share with others, and communicate with others effortlessly using various formats (Sheffield, 2007). However , it may be inevitable for adolescents to experience problems such as Internet addiction (Uzun, et al, 2016), sleep disturbances due to being in front of a screen for a long time (Kelly, et al., 2019), body image, anxiety disorder caused by social comparison, and feelings of depression (Thorisdottir, et al, 2019). For this reason, we chose to include only gifted students between the ages of 13 and 18 in this study.

It is important to have a good understanding of the characteristics of gifted students in order to grasp the social media communication competence of these students. When considered in the context of school, although gifted students seem to have the same characteristics as their peers , the perception that they have different characteristics is dominant. They focus on whatever interests them . The devotion of gifted children to their own interests is far greater than that of their peers (Gama, 2006). When compared with the abilities of other students of the same period and age, it can be seen that gifted children have a considerably longer concentration span (Piske et al., 2014).

The label of being gifted leads to greater expectations. While this situation increases the self-confidence of the gifted student if these high expectations continue, they may cause stress

when the student is left behind in their own work, or not able to talk when necessary because of the distraction of others. Busy teachers may be happy to allow gifted students to help their classmates. However, they often forget that gifted students may misbehave or neglect their own work, although they know and do not forget that they are helping (CCEA Report, 2006).

Due to issues such as year-end and school leaving exams, gifted students can experience intense stress as they struggle to achieve the high goals they set, maintain their standards of success, and prove themselves. This problem can be exacerbated by their teachers and classmates who suggest they have nothing to worry about. Being gifted does not relieve exam pressures. In fact, the contrary might be the case , and this shows that students need a reliable adult to whom to express their fears and to reject all unfounded fears. Moreover, comments that imply that a teacher expects more from a talented student make their situation much more complicated. If a high standard is reached, often in a seemingly effortless way, the amount of care and attention that a gifted student adds to his/her work can very quickly be overlooked. Therefore, if a teacher acts differently towards a gifted student and has attitudes, the child becomes stressed and may consequently fail. These failures may cause the students to feel lonely (Barrington, 2014).

Activities offered to students in special education should be oriented towards their social development. Activities such as adolescent social media and Internet usage should shape and develop student success (Ziegler & Phillipson, 2012; Singer, Sheffield, Freiman, & Brandl, 2016). Therefore, the approach towards gifted students should serve to improve their levels by also considering the loneliness factors, their learning preconditions, and their learning stages (Nolte, 2018).

Loneliness causes gifted students to become addicted to the Internet. Kurnaz and Tepe (2019) measured the Internet addiction levels of gifted students and found that they have higher addiction levels than students who use the Internet for lectures and research. In addition, they use the Internet for chat, social sharing and gaming purposes. The problematic use of the Internet, which is seen as a beneficial technological development, can lead to unhealthy communication in adolescents (Erol, 2019). Social media, which is a communication tool in the digital environment, brings serious communication problems when not used properly. Gifted adolescent students try to use social media in a more interactive way. However, this leads to more communication problems due to misuse. Therefore, in the research, the communication problems of gifted students were discussed within the social media dimension. Communication problems are more prominent in adolescents, and adolescents who use the Internet in a problematic way constitute a serious personal risk group in terms of social problems (Tarhan & Nurmedov, 2011).

When the literature was examined , it was found that there are few studies on communication skills in intelligence superior education. Studies show that the academic skills of gifted students do not contribute much to communication (Lewis, 1999: 15; Diezmann & Watters, 1995).
In addition, social media competence inventory as well as studies based on communication for gifted students are not enough.

2. Social Media Communication of Gifted Students

Although there are studies investigating the use of technology by gifted students (Ali & Alrayes, 2019; Özcan & Bicen, 2016), studies on social media communication are limited. Sureda Garcia, et al., (2020) questioned what kind of differences exist between gifted students and normal students in terms of cyberbullying experiences and Internet addiction as both aggressor and victim. The results of the study showed that similar results were found against cyberbullying and Internet addiction for both groups, and the researchers stated that being gifted does not create a

risk nor is it a prevention factor in terms of being involved in such situations. González-Cabrera, et al. (2019) found that gifted students are more frequently victims of cyberbullying than their peers, but they do less cyberbullying than their peers.

Köroğlu (2015), in his study examining the motivations of using social media by gifted digital natives, revealed that the approaches of gifted people to social media, which is an extension of new media technologies, differ from their peer groups in some ways but overlap in others . The researcher stated that the expectations of gifted people, such as communicating, researching, writing comments, having fun, sharing content, following the agenda and making friendships via social media, were met. Kara et al. (2020), in their study to determine the attitudes of gifted students towards new media, determined that 51% of the students in the sample use the Internet every day and they mostly prefer YouTube (68.3% -69 people) from social media platforms. The prominent finding in the study is that females use social media to share academic information, to exchange ideas on topics for themselves, to find solutions to everyday problems, to share texts, videos, and music more than males. Özcan and Bicen (2016) found that 70% of 105 gifted children in the sample of their study use their smart phones to communicate with their friends, listen to music, browse social media and chat. They found that 38% of them use social media every day, and those with more than three social media accounts feel unhappy when they do not have an Internet connection. A study by Güzel (2017), which aimed to reveal the use of social media by gifted students with high intelligence levels and the effect of this on their academic success, revealed that students use new media and tools for their academic development with a utilitarian approach.

When the tendencies of gifted students towards social media components were evaluated in the literature, it was found that studies were limited and that no studies had been conducted on the social media communication skills and competencies of gifted students.

3. Social Media Competence

Carr and Hayes (2015), in their definition of social media, express the concept of users interacting with both broad and narrow audiences in real time or asynchronously, allowing them to present themselves there. However, these Internet-based channels generate value both because of this interaction and with user-generated content.

Today it is claimed that the people who most benefit from social media in the general population are young people (Kuss & Griffiths, 2011) and that the use of social media has become a common activity of many adolescents' daily programs (Sampasa-Kayinga, et al., 2019: 190). In a study conducted by the Pew Research Center, it is stated that 95% of adolescents aged between 13 and 17 in America have a smart device and 45% of them are "almost constantly" online. The study also emphasized that the social media platforms most used by people in this age group are YouTube, Instagram and Snapchat (Anderson & Jingjing, 2018).

There are many reasons for adolescents' use of social media. For example, keeping in touch with friends and family, making new friends, sharing photos and exchanging ideas . Other reasons are developing individual identity and social skills (O'Keeffee, et al., 2011), coping with social norms, discovering their interests, developing technical skills and experiencing different ways of expressing yourself (Bilgiç & Seferoğlu, 2020).

Although the majority of adolescents state that social media contributes positively to their lives, they also mention certain negative effects such as cyberbullying (Martinez-Monteagudo, 2020), depression (Pantic, et al., 2012) and social anxiety (Calancie, et al, 2017; Uhis, et al., 2017). Today many dangers faced by young people in their digital lives, such as victimization and vio-

lence, are increasing. Livingstone and Blum-Ross (2018: 755) mention certain behavior risks (bullying, "sexually explicit correspondence" or misuse of personal information), and they place the risks associated with online media into three categories : content risks (pornographic, violent, racist, false or misleading content); communication risks (stranger danger, harassment, annoyance or impersonation) and commercial risks (advertising, excessive or hidden marketing, in-app purchases or fraud). Increasing Internet use during the pandemic period and the fact that young people are in a vulnerable data category increase concerns about their vulnerability to the risks they may face in the digital world (Islam, 2020).

Since adolescents are online from an early age, they can create more digital identities than previous generations and even do it secretly from their families (Buchanan, et al., 2017). In their online world, they can easily share self-identifying information such as name, date of birth, address, phone number, vacation plans (Chadwick, 2014: 13). This makes it easier for them to leave a digital footprint. While using the Internet, many sensitive data are created that are hidden from users by both the actions of the users and the platform algorithms, but these contribute to their digital footprints (Micheli, et al., 2018). It is possible to create active digital footprints with many simple user actions such as liking, adding to favorites, following or commenting on platforms such as Facebook, Twitter, Linkedin, Google, Youtube, Whatsapp, Instagram and Pinterest (Cormorant and Cormorant, 2020 (Micheli, et al., 2018). Digital footprints can also facilitate cyberbullying.

Cyberbullying is explained as threatening users with electronic data sent by digital means, humiliating,, mocking, threatening, sexually harassing or violent messages, exclusion from the group, and being exposed to discrimination It is seen as one of the types of threats that young people may be faced with (Baştürk-Akca, et al, 2014: 18; Cohen-Almagor, 2018; Yetim, 2015). An examination of the negative effects of cyberbullying on young people shows that there is a significant relationship between cyber victimization and depression (Erdur-Baker & Tanrıkulu, 2010). Victims of cyberbullying experience anger and sadness (Peker & İskender, 2015) and find it difficult to communicate with their friends through fear and anxiety (Kestel & Akbıyık, 2016). Since the sample included in this study is included in the adolescent classification, it is thought that gifted students are exposed to similar risks.

When the subject is considered specifically for gifted students, it is thought that they may be exposed to the above-mentioned risks and threats just like their peers. In the face of all these risks and threats, it is important that gifted students gain social media competence skills (Güzel, 2017). Social media competence includes learning the use of social media for the intention of accessing and using social media (Alber, et al., 2014), and includes having knowledge and confidence in interacting with social media appropriately and effectively (Xu., Et al., 2018). Social media competence includes areas such as technical use, content interpretation, content creation and anticipatory reflection. *Technical use* includes creating profiles, using social media tools for information gathering, and the ability to search. *The ability to interpret content* is about filter content and the ability to infer appropriate meanings. *The ability to create content* has to do with communicating with others, thinking critically, conveying beliefs and negotiating meaningfully. *Anticipatory reflection*, on the other hand, determines the ability to be aware of one's own actions and the perceptions of others before creating content (Zhu, et al., 2018).

For adolescents to acquire social media competence skills, a range of factors such as digital identity, digital rights, digital use, digital security, digital security, digital literacy, digital communication, digital emotional intelligence can emerge that need to be developed in their social, emotional and cognitive skills (Park, 2016). Social media competence also requires being a digital

citizen (Ribble, et al., 2004). The following examples of adolescents' skills help us understand their competence in the usage of social media: photo-visual skills (understanding messages from graphical displays), reproduction skills (utilizing digital reproduction to create new, meaningful materials from preexisting ones), branching skills (constructing knowledge from non-linear, hypertextual navigation), information skills, especially in the context of digital literacy (critically evaluating the quality and validity of information), socio-emotional skills (understanding the "rules" that prevail in the cyberspace and applying this understanding in virtual communication), and real-time thinking skills (the ability to process large volumes of stimuli, such as in video games or online teaching) (Eshet, 2012).

4. The Current Study

The goals of the current study are twofold. The first is to develop a program through activities for increasing the social media communication competence levels of gifted students and to examine in what direction this program changes their competence levels. And the second is to measure the social media communication competence level of gifted students after applying the Social Media Competence Scale.

Since there is no systematic and structured program with a certain theoretical basis for developing the social media competence of gifted students, such a study was needed. Gifted students experience problems in virtual sociability and their excessive use of social media can lead to communication problems (Buescher, 1985; Dauber & Benow, 1990; Lewis, 1999; Koç, 2015; Güzel, 2017). Within the topic of the communication dimension of adolescents' social media use, the following areas were examined. Communication problems related to realizing what potential information is, cooperating and communicating with different social media users, exchanging ideas, influencing the other person's feelings and thoughts, how to react to insulting expressions, and whether contributions and comments on social media would be appreciated. It was determined that they could experience these competencies (Zhu, Hao Yang, Xu, & MacLeod, 2018). Based on these competencies, activities consisting of 4-week-long sessions were prepared to increase the social media communication competence level of gifted students.

The following activities are applied for the program:

Week 1 / Session 1: Social Media Awareness

Week 2 / Session 2: Know What You Share

Week 3 / Session 3: My Identity on the Internet

Week 4 / Session 4: Social Media Proficiency

The following research questions are addressed:

Research Question 1. Is there a significant difference between the social media competence levels of the experimental group included in the program and the control group not included in the program?

a. Is there a significant difference between the social media use competence pre-test mean scores of the gifted students in the experimental group and the social media use competence pre-test mean scores of the gifted students in the control group?

b. Is there a significant difference between the social media use competence pre-test mean scores, post-test mean scores and follow-up test scores of the gifted students in the experimental group?

c. Is there a significant difference between the social media use competence pre-test mean scores, post-test mean scores and follow-up test scores of the gifted students in the control group?

d. Is there a significant difference between the social media use competence post-test mean scores of the gifted students in the experimental group and the social media use competence post-test mean scores of the gifted students in the control group?

e. Is there a significant difference between the social media use competence follow-up test scores of the gifted students in the experimental group and the social media use competence follow-up test scores of the gifted students in the control group?

Research Question 2. Will the implemented SOMCOPGIS program affect the social media communication competence level of gifted students?

To answer these questions, we examine the differences between the two categories of groups (experimental and control) which took part in the SOMCOPGIS program. The new methods will provide estimates that are less susceptible to program misspecification and unobserved confounds, and arguably less biased. Study findings, taken together, should serve to inform research, policy, and practice on key areas that may be worthy of increasing social media communication competence levels of gifted adolescents across Turkey.

5. Method

This study, which aims to determine and improve the social media proficiency levels of gifted children, was designed using a quantitative method, and an experimental research model was chosen . This is a descriptive study carried out within the framework of a general survey model, one of the quantitative research methods. Experimental research permits the testing of hypotheses regarding the relationship between variables (Karakaya, 2009), although it is also possible for the researcher to apply comparable procedures and then examine their effects (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2014).

This is a study in the experimental model that investigates the effect of certain activities applied to students. In this study, groups were formed according to an experimental and a control group design. The Social Media Competence Scale was applied to the students in the experimental and control groups as a pre-test, post-test and follow-up test.

Study Participants

The study population of the research consists of 622 students aged between 13 and 18, all undergoing education in the Izmit Science and Art Center in Kocaeli Province. The sample selection from the study population was determined on a voluntary basis and 32 students agreed to participate in the research. A random assignment method was employed to decide which of the students to be studied in the research would be in the experimental group and which would be in the control group, and 16 people were placed in the control group and the remaining 16 formed the experimental group. The demographic information of a total of 32 students included in the experimental and control groups is given in Table 1.

Table 1: Demographic Information of Gifted Students in Experimental and Control Groups

			Number	%
Age	Experimental	13-15	8	50.0
		16-18	8	50.0
		Total	16	100.0
	Control	13-15	8	50.0
		16-18	8	50.0
		Total	16	100.0
Gender	Experimental	Men	9	56.3
		Women	7	43.8
		Total	16	100.0
	Control	Men	8	50.0
		Women	8	50.0
		Total	16	100.0
Class	Experimental	7-9	8	50.0
		10-12	8	50.0
		Total	16	100.0
	Control	7-9	8	50.0
		10-12	8	50.0
		Total	16	100.0
Type of School	Experimental	Public	6	37.5
		Private	10	62.5
		Total	16	100.0
	Control	Public	7	43.8
		Private	9	56.3
		Total	16	100.0

Validity and reliability studies for the adaptation of the "Social Media Competence Scale" were applied on 270 students in to the following Gifted Centers called "Science and Art Centers": İstanbul Fatih İslam Seçen, Istanbul Kadikoy, Bursa Halil İnalcık, Kocaeli İzmit, Kocaeli Gebze, Edirne Şehit Nefize Çetin Özsoy, Kırklareli, Bilecik, Balıkesir Şehit Prof. Dr. İlhan Varank, Balıkesir Bandırma.

Data Collection Tools

In this study, the Social Media Competence Scale was used as a pre-test, post-test and follow-up test for the students in the experimental and control groups to measure social media competencies determined as the dependent variable.

For the scale adaptation study, communication was first established via e-mail and then the necessary permissions were obtained for the adaptation studies. The scale was adapted from Social Media Competence by Zhu, Hao Yang, Xu, and MacLeod (2018). To ensure the validity of the study, the method of data collection by questionnaire was used as a method suitable for the research subject. The content and scale of the questionnaire was adapted by the researcher. The scale consists of 28 items. The adaptation study was carried out on 270 gifted students aged between 13 and 18. A personal information form was added to the first page of the scales to obtain personal details from the students.

Within the scope of the research, 133 (49.3%) of the sample consisted of female students and 137 (50.7%) male students. Of the students in the sample, 112 (41.5%) were in private school and 157 (58.1%) in public school. 191 (70.7%) students were in grades 7-9. 79 (29.3%) students were in

grades 10-12.. While 205 (75.9%) students were in the 13-15 age range, 65 students (24.1%) were in the 16-18 age range. In the studies conducted on the original scale, it was seen that the internal consistency of both factors is high.

As a result of the analysis performed to determine the item discrimination of the scale, it was found that the corrected correlation coefficients ranged from .46 to .74.

Table 2: Reliability Statistic

Cronbach's Alpha	N of Items
,947	28

According to table 2 Cronbach's (α) coefficient for the whole scale was found to be .947.

Table 3: Scale Statistics

Mean	Variance	Std. Deviation	N of Items
108,4444	443,489	21,05919	28

According to table 3, in the 28-item social media proficiency scale, the mean was .108, the variance was .443 and the standard deviation was .21.

Study Application Process

The research was carried out with two groups (experiment and control) consisting of gifted students. Social Media activities for the SOMCOPGIS program to be used in the experimental group were adapted by the researcher for this group and were implemented in Kocaeli İzmit Science and Art Center. The reason this center was chosen is that the physical and transportation conditions are suitable and the researcher works at this institution. Two weeks before the beginning of the sessions, the Social Media Competence Scale was applied to the students in the experimental and control groups as a pre-test. After this application, the plan was to apply activities consisting of 4 sessions of 4 weeks to the experimental group by the researcher. However, since education was suspended within the scope of "Coronavirus (Covid-19)" measures in the last week, the program activities consisting of 5 sessions of 5 weeks were not implemented in the last week and were reduced to 4 sessions. Accordingly, analyses were made according to the 4-week program of activities. Different topics were dealt with in the control group. After the sessions were completed, the Social Media Competence Scale was applied to the experimental and control groups as a post-test. In order to test whether the effect of the program's activities on students' Social Media Scale is independent and long-lasting, the Social Media Competence Scale was applied to both groups for the last time as a follow-up measure, eight weeks after the post-tests were applied.

In the Social Media Awareness activity, the departments of Information Technologies and Communication Sciences were asked to cooperate. The researcher asked the students on their social media accounts which of the items in the following main headings they considered important: *Creating a real personal profile and self-expression, ability to use the necessary devices to create social media content, ability to use the necessary program to create social media content, ability to use basic social media operating tools, being able to realize which social media tool you can use to collect information, being aware of potential information on social media, being able to notice what inappropriate content is on social media, understanding and interpreting social*

media content politically, economically and socially, to be able to analyze the potential effects of social media content on individuals, to be able to compare news and information in different social media environments, ability to evaluate the accuracy and validity of social media messages, ability to consider and evaluate the legal and ethical principles of social media (copyright, human rights, privacy, etc.), to be able to prepare original, visual and textual social media content, being able to influence the thoughts of others while participating in social media activities, ability to contribute to social media by examining current events from different angles, collaborate and communicate with different social media users, ability to create a social network identity that fits real personal characteristics, ability to comment by exchanging ideas to inform or direct people in the social media environment.

The points to be obtained from the framing of the interviews and the preliminary interviews and word clouds guided the creation of the survey. After the pre-test, the sample was completed , and data was started to be collected. SPSS 22 (Statistical Package for the Social Sciences) statistical program was used for all validity and reliability analyzes and the "Friedman Test" was used for in-group comparisons in the data analysis, while the "Mann Whitney U Test" was used for inter-group comparisons. It was thought that it would be useful to examine the sub-problems of the study separately, so comparisons between the experimental and control groups were made between the groups and between the measurements depending on the average scores they obtained from the social media competence scale and pre-test, post-test and follow-up measurements.

In the evaluation process, in order to test the validity and reliability of the data obtained in the research, different experts from the field were also evaluated. Codes and themes were examined from the data obtained by different field experts other than the researcher. Necessary arrangements have been made considering the differences of opinion.

Procedures

In order to determine which participants would be included in the experimental and control groups of the study, the "Social Media Competence" scale was applied by the researcher after the necessary permissions were obtained by the Ministry of National Education from the students studying at Izmit Science and Art Centers. Thanks to the fact that the conditions of the classrooms provide the necessary conditions for the activities and that the researcher was working in the Izmit Science and Art Center, data application, which includes program activities, was planned to be carried out only in Kocaeli. The activities were planned to be implemented in the Izmit Science and Art Center as four sessions in total, with sessions every week for four weeks, after obtaining the necessary permission.

The criterion used to create the experimental and control groups was the low scores of the participants on the Social Media Competence Scale. The pre-test scores of the students from the Social Media Competence scale were calculated and the assignment of the students to the groups was carried out according to their scores. For this purpose, 60 students were ranked according to the low scores obtained from the social media scale and 60 students were divided into two groups of 30 people, equal to each other in terms of gender, age, school type and grade level variables. Later, a pre-interview was conducted with these students and the students were invited to participate in the study. As a result of the preliminary interviews, a total of 36 students were selected, 18 students in the experimental group and 18 students in the control group, all of whom accepted the invitation to participate. One week after the activity started, two students, one female and one

male, stated that they would not be able to attend the program first from the experimental group and then from the control group due to a conflict with their own schedule. Thus, there were 32 students in total, 16 in each of the groups (experimental and control).

The participants were selected on a volunteer basis , and the participants on the list were randomly assigned to two groups by drawing lots. Later, these two groups were randomly determined as the experimental group and the control group, again by drawing lots. Before starting the activities, the participants in the experimental group were informed and pilot activities were implemented. During the pilot application, activities that did not fit the participants were removed. Afterwards, an informative meeting was held with the participants. In this meeting, the participants were briefly informed about the content, duration, time and group rules of the study. Statistical analysis of the data obtained as a result of the research was made on the pre-test, post-test and follow-up measurement scores of the participant consisting of 16 experimental groups and 16 control groups.

Measurement

Experimental Process

In this study, 4 sessions of 50 minutes and 4 weeks of SOMCOPGIS (Social Media Communication Competence Program for Gifted Students) program activities were conducted with the participants forming the experimental group. Planning of the sessions based on the results of the analysis started in September 2019 and were planned to be completed by June 2020. All sessions were held in Kocaeli province at the İzmit Science and Art Center under the leadership of the researcher.

Analysis of Data

"Friedman, Shapiro Wilk Test and Mann Whitney U Tests" were used in order to obtain an analysis of the data in this study. The "Friedman Test", which is a statistical analysis technique used to make mean comparison between dependent groups, was used in cases where the assumption of normality was not provided. The "Shapiro Wilk Test" was used to determine whether the data were suitable for normal distribution. The Mann Whitney U test was used to test the significance of the difference between two arithmetic means.

Before analyzing the data, the assumptions of parametric analysis methods were tested to decide on the analysis method. The normal distribution assumption, which is one of the assumptions of the parametric methods, was tested according to the "Shapiro Wilk Test" and the kurtosis skew coefficient values. If the "Shapiro Wilk Test" result is insignificant or the coefficients of kurtosis and skewness are between +1 and -1, it is accepted that the data meet the normal distribution assumption (Can, 2013; Büyüköztürk, 2011). The results of the Shapiro Wilk normality test and the descriptive statistics of the Social Media Competence Scale pre-, post- and follow-up test scores of the gifted students in the experimental and control groups are given in Table 4.

Table 4: Descriptive Statistics and Shapiro Wilk Normality Test Results on Social Media Competence of Gifted Students in the Experimental and Control Groups

			Descriptive Statistics				Shapiro-Wilk		
		Group	Average	Mode	Kurtosis	Skewness	Statistics	sd	p
Social Media Competence Scale	Pre-Test	Experimental	84.8125	92.00	-1.208	.761	.832	16	.008
		Control	87.1875	91.00	-2.575	6.284	.591	16	.000
	Post-Test	Experimental	108.0625	108.00	-.655	.366	.966	16	.768
		Control	87.0625	91.00	-2.648	6.722	.565	16	.000
	Follow-up Test	Experimental	108.0625	108.00	-.655	.366	.966	16	.768
		Control	87.1875	91.00	-2.575	6.284	.591	16	.000

The kurtosis coefficient of the Social Media Competence Scale pre-test scores of the gifted students in the experimental group is -1.208 and the skewness coefficient is 0.761, the skewness coefficient of the Social Media Competence Scale pre-test scores of the gifted students in the control group is -2.575 and the skewness coefficient is 6.284. The skewness coefficient of the Social Media Competence Scale post-test scores of the students in the experimental group is -0.655 and the skewness coefficient is 0.366, the skewness coefficient of the Social Media Competence Scale post-test scores of the gifted students in the control group is -2.648 and the coefficient of skewness is 6.722. The skewness coefficient of the Social Media Competence Scale follow-up test scores of the students in the experimental group is -0.655 and the skewness coefficient is 0.366, the skewness coefficient of the Social Media Competence Scale follow-up test scores of the students in the control group is -2.575 and the skewness coefficient is 6.284.

In addition, the Social Media Competence Scale pre-test scores of the gifted students in the experimental and control groups, the Social Media Competence Scale post-test scores of the gifted students in the control group, and the Social Media Proficiency Scale follow-up test scores of the gifted students in the control group did not have a normal distribution ($p <$ It was observed that the Social Media Proficiency Scale posttest scores of the gifted students in the experimental group and the Social Media Proficiency Scale follow-up test scores of the students in the experimental group had a normal distribution ($p > 0.05$).

Non-parametric methods were used for intergroup comparisons because the Social Media Competence Scale pre-test scores in the experimental and control groups of the gifted students, the Social Media Competence Scale post-test scores in the control group and the Social Media Competence Scale follow-up test scores in the control group do not have a normal distribution. For intergroup comparisons, the non-parametric methods "Friedman Test" was used, and for intergroup comparisons, the non-parametric methods "Mann Whitney U" test was used.

The researcher's preference was to use a descriptive scanning model to determine the social media competence of gifted students. Studies that try to describe and explain events, objects, entities, institutions, groups, and various areas are called descriptive scanning (Karasar, 2006). There are techniques used with descriptive research. Survey, interview and observation studies are among them. SPSS 22 (Statistical Package for the Social Sciences) statistical program was used for validity and reliability analyzes in quantitative studies.

Implementation Process of SOMCOPGIS Program Activities

The process was initiated in the form of 4-week program activities. The applications of the activities in the program were as follows:

1st Week / 1st Session: Social Media Awareness

The topic of conversation here was regarding which of the headings given above suited them more. In the next stage, group work was conducted with the students who matched the given items the most and the students who matched the least. The groups were divided into two. Each group had 4 students. The first group of students who matched the given items most was created. The second group of students who matched the given items least was also created. The groups were asked to talk about the advantages and disadvantages of substances for 5 minutes each.

In the next step, 8-word papers were distributed to each group. The students were asked to choose the ones suitable for them with a sheet of paper. Each student in the group was asked to explain why he chose that paper and its advantages. Social media awareness was gained thanks to the activity. In accordance with the items given to the students for the following week, they were told that they should be careful while using social media. It was also stated that they would be discussed again for the next activity.

2nd Week / 2nd Session: Know What You Share

This activity is adapted from Jeff Knutson's "Know What You Share" (Knutson, 2019).

Cooperation with the departments of Information Technologies and Communication Sciences was provided in the Know What You Share activity. The researcher asked the students the following question: "How can you protect your privacy while using the Internet?" Later, the students were shown "Know What You Share Appendix-1" and were asked the following question: "Have you encountered such a screen before? What is on the screen?"

Students were informed about cookies in the digital environment. In the next process, students were informed about the privacy settings on the website and the selection of a website or application, and what information could be seen by other users and third parties. The students were also informed about ASK (Accessed, Shared, Known) in terms of social media usage.

In the second stage, the following script was read to the students by the researcher: "While driving the bus, he noticed that a pedestrian was wearing his favorite shoe brand. The shoes looked nice, but he thought the black color might be better. When he got home, he immediately went online and looked at the black shoes he liked in the virtual store. The next day, he began to see shoe ads in the virtual store he visited on various pages he surfed on the Internet. He continued to see the same ads while browsing his favorite news channels on the Internet and using his own social media accounts. He first thought that this could only be due to a coincidence. But then he started wondering: Why do I see these ads everywhere?" After the scenario was read, the students were asked to discuss why such advertisements were constantly seen and the students expressed their opinions.

3rd Week / 3rd Session: My Identity on the Internet

This activity is adapted from Jeff Knutson's "My Identity on the Internet" (Knutson, 2019).

In the "My Identity on the Internet" activity, cooperation was achieved with the departments of Information Technologies and Communication Sciences. The researcher asked the students about the benefits and harms of introducing themselves online in different ways. The students were asked to discuss the reasons why people set up fake social media accounts. The researcher then gave the students a blank piece of paper. The students wrote their thoughts on the paper in 3 parts:

Part 1 / My Control: The pros and cons of setting up a fake social media account

Part 2 / My Actions: Reasons for posting bad or harmful messages

Part 3 / My Influence: Using fake accounts to harm someone else

The students wrote down their own values and their opinions about who they are on social media. Later, an additional form was given to the students to fill in.

4th Week / 4th Session: Social Media Competence

This activity was adapted from Social Media Competence by Zhu, Hao Yang, Xu, and MacLeod (2018).

In the Social Media Competence activity, the departments of Information Technologies and Communication Sciences were also asked to contribute. The researcher asked the students which of the items in the following main headings they considered when using their social media accounts:

Being able to design and present social media content that reflects critical thinking on specific issues

Being able to express without attacking others while commenting or transmitting information on social media

Being careful not to use offensive words to emphasize anything on social media

Participating in a social media discussion only if information is available on the topic

Being able to come up with different ideas in social media discussions only if the ideas advocated are correct.

Being able to post comments on social media if the views are deemed to be correct.

Being able to pay attention to possible consequences before posting something on social media

Being able to pay attention to whether my comments will affect the feelings and thoughts of others

Thinking about whether others will appreciate my contributions and comments on social media

Before typing anything on social media, considering how others might be able to get involved.

Like the first session, the students were asked which of the topics given above suited them most . In the next step, group work was conducted with the students who matched the given items the most and the students who matched the least. The groups were divided into two. The first group consisted of 4 students who complied with the items the most, and with 4 students who complied the least, and the second group consisted of the remaining students . The groups were asked to talk about the advantages and disadvantages of the factors for 5 minutes each.

In the next step, 8 blank papers were distributed to each group. Each student was asked to draw a picture about their social media proficiency on the given paper. Then, each student was asked what the drawn picture means to him. In the light of items given to the students, they were told that they should pay attention to these while using social media.

Analytic Approach

Our analytical approach was organized to address our two research questions of interest. For research question 1 (“Is there a significant difference between the social media use proficiency levels of the experimental group in the program and the control group not included in this program?”) we tried to find an answer to the question. In research question 2 we tried to determine the effectiveness of the developed program SOMCOPGIS (Social Media Communication Compe-

tence Program for Gifted Students). By answering these questions, we estimated the difference in SOMCOPGIS program-taking between those in the experimental and control groups. The study findings, taken together, should serve to inform research, policy, and practice on key areas that may be worthy of increasing social media communication competence level of gifted adolescents across Turkey. This will provide estimates that are less susceptible to program misspecification and unobserved confounds, and arguably less biased.

6. Findings

Research Question

Is there a significant difference between the social media competence level of the experimental group included in the program and the control group not included in this program? We sought answers to the sub-problems to get an answer to the question.

a. "Is there a significant difference between the social media competence pre-test scores of the gifted students in the experimental group and the social media competence pre-test scores of the gifted students in the control group?" The results of the Mann Whitney U test conducted to test the sub-problem are given in table 5.

Table 5: Mann Whitney U Test Results on the Comparison of Gifted Students' Social Media Competence Scale Pre-Test Scores in Experimental and Control Groups

		Group	N	Rank Averages	Rank Sum	u	p
Social Media Competence Scale	Pre-Test	Experimental	16	15.50	248.00	112.000	.544
		Control	16	17.50	280.00		
		Total	32				

There is no statistically significant difference between the Social Media Competence Scale pre-test scores of the gifted students in the experimental group and the Social Media Use Competence Scale pre-test scores of the gifted students in the control group ($u = 112.000$; $p > 0.05$). It can be said that gifted students in the experimental and control groups are at the same level in terms of their social media competence.

b. "Is there a significant difference between social media competence pre-test scores, post-test scores and follow-up test scores of gifted students in the experimental group?" The results of the Friedman test conducted to test this sub-problem are given in table 6.

Table 6: Friedman Test Results of the Social Media Competence Scale Pre-Test Scores, Post-Test Scores and Follow-up Test Scores of Gifted Students in the Experimental Group

		N	Avarage	Std. Deviation	Rank Av.	Chi-square	sd	p
Social Media Competence Scale	Pre-Test	16	84.8125	7.93489	1.00	32.000	2	.000
	Post-Test	16	108.0625	5.75579	2.50			
	Follow-up Test	16	108.0625	5.75579	2.50			

These results show that there is a statistically significant difference between the Social Media Competence Scale pre-test scores, post-test scores and follow-up test scores of the gifted students in the experimental group (Chi-square = 32.00; $p < 0.05$). Using the Wilcoxon Signed Ranks test we determined the scores between which the difference is and a statistically significant difference was found between the Social Media Competence Scale pre-test scores and the post-test scores

and the follow-up test scores of the gifted students in the experimental group. There was no statistically significant difference between the test scores and follow-up test scores. Social Media

Competence Scale post-test scores and follow-up test scores of the gifted students in the experimental group are statistically higher than the pre-test scores.

c. "Is there a significant difference between the Social Media Competence Scale pre-test scores, post-test scores and follow-up test scores of the gifted students in the control group?" The results of the Friedman test conducted to test this sub-problem are given in Table 7.

Table 7: Friedman Test Results of Social Media Competence Scale Pre-Test Scores, Post-Test Scores and Follow-up Test Scores of Gifted Students in the Control Group

		N	Avarage	Std. Deviation	Rank Av.	Chi-square	sd	p
Social Media Competence Scale	Pre-Test	16	87.1875	7.23159	2.06	4.000	2	.135
	Post-Test	16	87.0625	7.39792	1.88			
	Follow-up Test	16	87.1875	7.23159	2.06			

The results show that there is no statistically significant difference between the Social Media Competence Scale pre-test scores, post-test scores and follow-up test scores of the gifted students in the control group (Chi-square = 4.00; p> 0.05). The Social Media Competence Scale of gifted students in the control group does not change in the pre-test, post-test and follow-up tests.

d. "Is there a significant difference between the Social Media Competence Scale post-test scores of the gifted students in the experimental group and the Social Media Competence Scale post-test scores of the gifted students in the control group?" The results of the Mann Whitney U test conducted to test this sub-problem are given in table 8.

Table 8: Mann Witney U Test Results Regarding the Comparison of Gifted Students' Social Media Competence Scale Post-Test Scores in Experimental and Control Groups

		Group	N	Rank Avarage	Rank Sum	u	p
Social Media Competence Scale	Post- Test	Experimental	16	24.50	392.00	.000	.000
		Control	16	8.50	136.00		
		Total	32				

There is a statistically significant difference between the Social Media Competence Scale post-test scores of the gifted students in the experimental group and the Social Media Competence Scale post-test scores of the gifted students in the control group (u = 0.000; p <0.05). The Social Media Competence Scale post-test scores of gifted students in the experimental group are statistically higher than the Social Media Competence Scale post-test scores of gifted students in the control group.

e. "Is there a significant difference between the Social Media Competence Scale follow-up test scores of the gifted students in the experimental group and the Social Media Competence Scale follow-up test scores of the gifted students in the control group?" Mann Witney U Test Results on the Comparison of Gifted Students' Social Media Competence Scale Follow-up Test Scores in Experimental and Control Groups are given in Table 9.

Table 9: Mann Witney U Test Results on the Comparison of Gifted Students' Social Media Competence Scale Follow-up Test Scores in Experimental and Control Groups

		Group	N	Rank Avarage	Rank Sum	u	p
Social Media Competence Scale	Follow-up Test	Experimental	16	24.50	392.00	.000	.000
		Control	16	8.50	136.00		
		Total	32				

There is a statistically significant difference between the Social Media Competence Scale follow-up test scores of the gifted students in the experimental group and the Social Media Competence Scale follow-up test scores of the gifted students in the control group ($u = 0.000$; $p < 0.05$). The Social Media Competence Scale follow-up test scores of the gifted students in the experimental group are statistically higher than the Social Media Competence Scale follow-up test scores of the gifted students in the control group.

It can be concluded that the emergence of significant differences between the experimental and control groups, and the applied program for gifted students significantly affects the social media communication competence level of gifted students. The results show that after weeks and sessions of activities in the program which we developed the social media awareness of the students in the experimental group increased. Since the program was not applied in the control group, there was no difference between pre-test, post-test and follow-up tests. Accordingly, it can be said that the SOMCOPGIS program is effective in increasing the social media communication competence level of gifted students.

It was observed that the average scores of the social media competence scale pre-test, post-test and follow-up tests of the participants in the control group did not increase. Our research showed that there was no significant difference between the three measurement scores of the participants in the control group. The fact that the social media competence pos-ttest and follow-up test scores of the participants in the experimental group are higher than the pre-test after 8 weeks supports the effectiveness of the program model.

Examining the Social Media Competence Scale in terms of Various Variables

The Social Media Competence Scale developed by Zhu, Hao Yang, Xu, and MacLeod in 2018 was applied to a total of 270 gifted students between the ages of 13 and 18. The sample includes 133 (49.3%) female students and 137 (50.7%) male students. 112 (41.5%) of the students in the sample are in private school and 157 (58.1%) are in public school. 191 (70.7%) students are in grades 7-9 while 79 students (29.3%) are in grade 10-12. 205 (75.9%) students are in the 13-15 age range, while 65 (24.1%) students are in the 16-18 age range. Studies conducted in the original scale show that the internal consistency of both factors is high. The social media scale was applied to 270 students and the reliability of the social media scale was found to be .94.

7. Result and Discussion

The goal of this study was to increase the social media awareness levels of gifted students through the SOMCOPGIS program. Data collected from Izmit Science and Art Gifted Center (SAC) in Kocaeli, Turkey, were used to compare the students who participated in the SOMCOPGIS program and taking rates for those in the experimental and control groups. This study adds to the body of literature and shows that gifted students can increase social media awareness levels with appropriate intervention such as a good, developed program. It also indicates a considerable gap which has not been dealt with in detail for gifted students' social development through social media.

Activities consisting of four sessions of four weeks were not applied in the last week, since the activities previously planned as five sessions of five weeks were interrupted due to the "Coronavirus (Covid-19)" measures. The results of the study show that there was an increase in social media proficiency levels in the students who took part in the research.

A study similar to the program sample developed here was examined on adolescents with a psycho-education program. Erol (2019) examined the effect of psycho-education program on problematic Internet use levels of adolescents according to a cognitive-behavioral approach. The applied program showed similarities with the research findings in terms of program functionality. The results obtained from this study and some previous research findings have shown similar results as well. In the study conducted by Han, Kim, Lee and Renshaw (2012), cognitive-behavioral therapy was used to test the effectiveness of co-morbid major depressive disorder on problematic Internet game playing. Thirty-two out of 46 individuals were included in the treatment group, while thirty-three were included in the control group. In the study, aspects such as Internet usage intensity, life satisfaction, school adaptation, depressive symptoms, anxiety symptoms of the individuals were discussed. Following the eight-week intervention program implemented in the program, a four-week follow-up test was conducted.

While the anxiety scores of the control group increased, the average anxiety scores in the experimental group remained the same. While life satisfaction scores increased in the experimental group, they did not change in the control group. As a result, the researchers found that the cognitive-behavioral approach was effective in reducing Internet addiction, Internet game addiction and anxiety, and improving life satisfaction. In this study, thanks to the virtual communication activity included in the program applied to gifted students, the problematic Internet use of adolescents reduced and their social media competence increased. Therefore, the research is similar to the results obtained by Han, Kim, Lee and Renshaw (2012).

The findings of Güzel's (2017) study to examine the effects of gifted students' use of new media on their academic success are similar to the research findings of the program developed in the context of social media. Güzel (2017) questioned the use of new media tools and the effect of this on the academic achievement of gifted students studying at the Science and Art Centers in the framework of a qualitative research approach. Ten gifted students from project group aged 15-18 years were interviewed in a semi-structured interview. Their study shows that gifted students have a pragmatic perspective towards social media environments and tools. The fact that YouTube lecture videos and Google search engine are among the main reference resources for gifted students who use the Internet and social media for projects, homework and research reveals that gifted students have the potential to make a difference in social media use compared to their peers.

In the "Social Media Habits through a New Media Literacy Perspective: A Case of Gifted Students" Kara, Geçer and Şahin (2020) conducted a study to shed light on the initiation of new media literacy in Science and Art Centers by examining the use of social media by gifted students. In the study conducted with 101 gifted students between the ages of 6 and 17, it was concluded that new media literacy activities could be initiated for these students. Similarly, as a result of the Social Media Proficiency Scale conducted in the research, it was concluded that gifted students can use social media consciously with the SOMCOPGIS program.

The Social Media Competence Scale was used in the study to determine the social media proficiency levels of gifted students. This scale was preferred due to the functionality of the program model. Therefore, the scores of the experimental and control group members before and after the activity were determined using the Social Media Competence Scale. The scale was

adapted from the Social Media Competence Scale developed by Zhu, Hao Yang, Xu and MacLeod in 2018. The difference between the scale used for adolescents and the original scale in the study is that adaptation studies of the adapted scale can be applied to gifted students. As a result of the adaptation studies, the suitability of both scales for gifted students was separately evaluated by experts. Opinions of both experts were received at Sakarya University. We concluded that both scales can be applied to gifted students aged between 13 and 18.

At the end of the research, the results show that the SOMCOPGIS program is an applicable program model to improve the social media competence levels of gifted students. The research showed improvements in both the research method and the activity plan for the program according to the evaluations. Material preparation and application of the program were seen to be suitable for the age, learning style and level of gifted students. The suitability of the SOMCOPGIS program was evaluated by a team of 9 consultants working in gifted education and four education programming experts who stated that the developed SOMCOPGIS program was appropriate.

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