



Can Distance Education be Closer: A Training Program about Autism *

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Abstract

In this study, families with children diagnosed with autism spectrum disorders, teachers working with these individuals and experts in their fields were brought together in an online learning environment. It was aimed to determine the participants' expectations, the state of contentment after the implementation and to evaluate their opinions regarding the process of "Online Seminar on Autism" structured within the scope of transactional distance theory. At the end of the fully remote 17-week study, educational contents were created, and the main implementation was performed online. The process was evaluated by families connecting at convenient times. The strongest aspects of the process were determined as videoconferencing environment used by 54 volunteered the participants, access and question asking opportunity to field experts. In this study, a mixed method approach was adopted in which qualitative and quantitative data collection tools were used together. The data collection tools used in the research process included open-ended and scale ranking questions. Open-ended questions were analyzed with content analysis where the data obtained from the responses were coded, and themes were obtained from codes with similar characteristics. The obtained themes and codes were presented in tables indicating the repetition percentages of the codes. The answers given by the participants to the scale rating questions in this form are expressed with frequencies. The most important opportunities offered by the online environment were listed as the late and convenient training hours, attending trainings from home and the support which was exhibited by the families to each other. Emerging technical problems were revealed as the biggest threats against the online training.

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INTRODUCTION

The greatest need of families with Autism Spectrum Disorders (ASD) children is information about the situation they are in (Bailey & Simeonsson, 1988; Cavkaytar et al., 2014). Knowledge is the primary source of strength for parents who have children with ASD to cope with different situations they encounter; manage the process and get to know ASD (Orum-Çattık et al., 2019). Thus, family trainings have potential to facilitate families to acquire knowledge to cope with problems related to ASD and help their children (Bruder, 2010; Özsoy et al., 2006; Varol, 2005).

Family trainings, may alleviate the pressure on the family, reduce stress and help the family to perform its basic functions in a healthy way (Hermaszewska & Sin, 2020; Ilg et al., 2017). Studies in Turkey have mostly presented home-based or institution-based family training programs (Varol, 2005). These programs are generally carried out in special education and rehabilitation centers, face-to-face with a limited number of participants. (Aktaş, 2015; Demirci, 2015; Kızılkaya, 2021; Şanlı, 2012; Şeker, 2013). In the world, family education programs generally focus on teaching a method to be used in the education of ASD children and providing the desired skills and behaviors to children with this method (Crone & Mehta, 2016; Heitzman-Powell et al., 2014; Snodgrass et al., 2017).

The harmony between families and professionals taking part in the education of individuals with special needs is necessary for successful implementation of family training programs (Azad et al., 2020; Meadan & Daczewitz, 2015). The experiences, value systems, personal and social skills of these teachers and other professionals greatly affect this collaboration (Rogers & Vismara, 2014). This highlights the significance of knowledge and experience of special education teachers who are involved in the adaptation process of individuals with ASD to social life. However, it is known that special education teachers in Turkey do not take courses with sufficient ASD specific content during their undergraduate education (Higher Education Council [HEC], 2007). As a matter of fact, it is among the results of the studies that special education teachers have various problems in their professional lives arising from insufficient knowledge and skills about ASD and they would like to participate trainings to improve themselves (Ergul et al., 2013; Güleç-Aslan, 2014; Karasu et al., 2014). Accordingly, even in the larger context, it can be said that families of individuals with ASD and their teachers need to acquire further information from field experts so that they could find solutions for negativities they face (Chen et al., 2009). However, it is mainly hard for families and field experts to come together because of reasons like; living in different locations, not having direct communication opportunities, lack of time and financial resources etc. (Dabrowska & Pisula, 2010; Hermaszewska & Sin, 2020; Kolb, 2007; Wainer & Ingersoll, 2015; Zimmerman, 2013). These restrictions can be overcome by the use of web based educational implementations that allow participants come together in online or offline meetings (Hall et al., 2016; Pennefather et al., 2018; Vismara et al., 2013; Zembylas, 2008). In the study examining the obstacles of family trainings and the opportunities they offer, Straiton et al. (2021) suggested providing professional training opportunities to experts about the best practices in parent training and increasing agency support for parent training, particularly in reducing logistical barriers. These recommendations imply online training programs should be organized by distance education field experts and presented by special education professionals.

Distance Family Training is defined as educational activities performed to facilitate the life of individual and family by using online technologies that include proper educational strategies (Hughes et al., 2012). The number of distance education programs for families of individuals with ASD has increased especially in recent years (Douglas et al., 2017; Heitzman-Powell et al., 2014; Hieneman et al., 2020; McDevitt, 2021; Raulston et al., 2019; Roberts et al., 2019; Wainer & Ingersoll, 2015). However, these studies present the family education in the form of face-to-face or asynchronous distance education (Heitzman-Powell et al., 2014; Wainer & Ingersoll, 2015; Douglas et al., 2017; Pennefather et al., 2018; Roberts, Smith, Sherman, 2019). Most of these studies were completed in short time periods, their study groups were considerably small and mostly consisted of families of

children with ASD in early childhood. Moreover, most of these studies were conducted with asynchronous media such as; CDs, web-sites, computer applications etc. (Dai et al., 2021; Douglas et al., 2017; Heitzman-Powell et al., 2014; McDevitt, 2021; Pennefather et al., 2018; Roberts, Smith & Sherman, 2019; Wainer & Ingersoll, 2015; Vismara et al. 2013). However, mutual audio and video-supported interactive communication, sharing and instant feedback opportunities in online classes have increased the effectiveness and popularity of distance education (Schullo et al., 2005). In this way, barriers arising from the interaction or communication problems of traditional distance education are reduced (Huang, 2002). In addition, online implementations offer a flexible structure that can remove obstacles such as time and distance (Crawford-Ferre & Wiest, 2012; Eck et al., 2016).

Considering the implications by the previous studies, unlike most of the precedent; all the seminars of the present study were performed online via a videoconference program enabling synchronous interaction. The presenters and the participants also interacted via the social media group, which is launched for the study. The study group was not restricted to a specific age group of individuals with ASD. The seminars were extended over seven weeks, which is thought to be reasonable time period to deepen the impact. Finally, concerning the point that communication and interaction are vital parts of distance education, the content and activities of the present study were based on Transactional Distance Theory.

Transactional Distance Theory developed by Moore (1973, 1997, 2016) is one of the theories to increase productivity in distance education. The significance of the theory and the related concepts were largely appreciated during the world-wide trial of distance education compelled by COVID-19 pandemic. Moore states that in distance education there is more beyond the geographical distance of students and teachers from each other. Rather he (Moore, 1997) mentions a psychological, perceptual and communicative distance that may occur due to the physical distance between students and teachers. This psychological and communicative distance or space is called transactional distance. There are three variables that determine the degree of transactional distance: dialogue, structure, and learner's autonomy (Moore, 1997).

Learning community and its size is one of the factors influencing the dialogue. Dialogue increases, as a learning community gets larger. Changes in learning environments can significantly increase the dialogue. We can say that there is also a dialogue in communication with e-mail in distance education applications; however, it is possible to create high-level dialogues with simultaneous online video conferencing applications (Moore & Kearsley, 2011). The relationship between transactional distance and dialogue is expressed as; distance increases if dialogue decreases (Moore, 2016). The second variable; structure is related to the flexibility that course design elements offer in terms of meeting the student's individual needs or expectations. Learning objectives, content themes, information presentation strategies and assessment activities are among these course design elements (Moore, 1997). The structure is also a qualitative variable and the size of the structure in a program largely depends on; the quality of the communication tools used, the personality, educational philosophy and emotional characteristics of teachers and the approach of educational institutions to distance education (Moore, 1997). The distance increases, as the structure gets greater in distance education environments (Moore, 2016). Students' controlling their teaching materials and curricula up to a certain point, in their own ways, along their own purposes is defined as 'student autonomy' (Moore, 1972).

This study differs from other studies in the field by carrying out the entire process online including the processes of identification of the participants and field experts, organizing the training and collecting data. The training content "Online training program about autism spectrum disorder" (OSA) was distributed by transactional distance theory. During the seven-week program, each week an expert met with the participants in an online seminar. The research aims to provide a fully remote, alternative learning platform for the target group and to be a guide for similar prospective researches. The purpose of this study is to bring the field experts, families and teachers of individuals with ASD

together in an online environment to satisfy further training needs of the participants and to evaluate the process of this learning environment. Along with this purpose, the research inquiries of the study are;

- What are the expectations of the participants regarding the OSA process?
- To which extent the expectations of the participants regarding the OSA were met?
- How was the OSA process evaluated by the participants?

METHOD

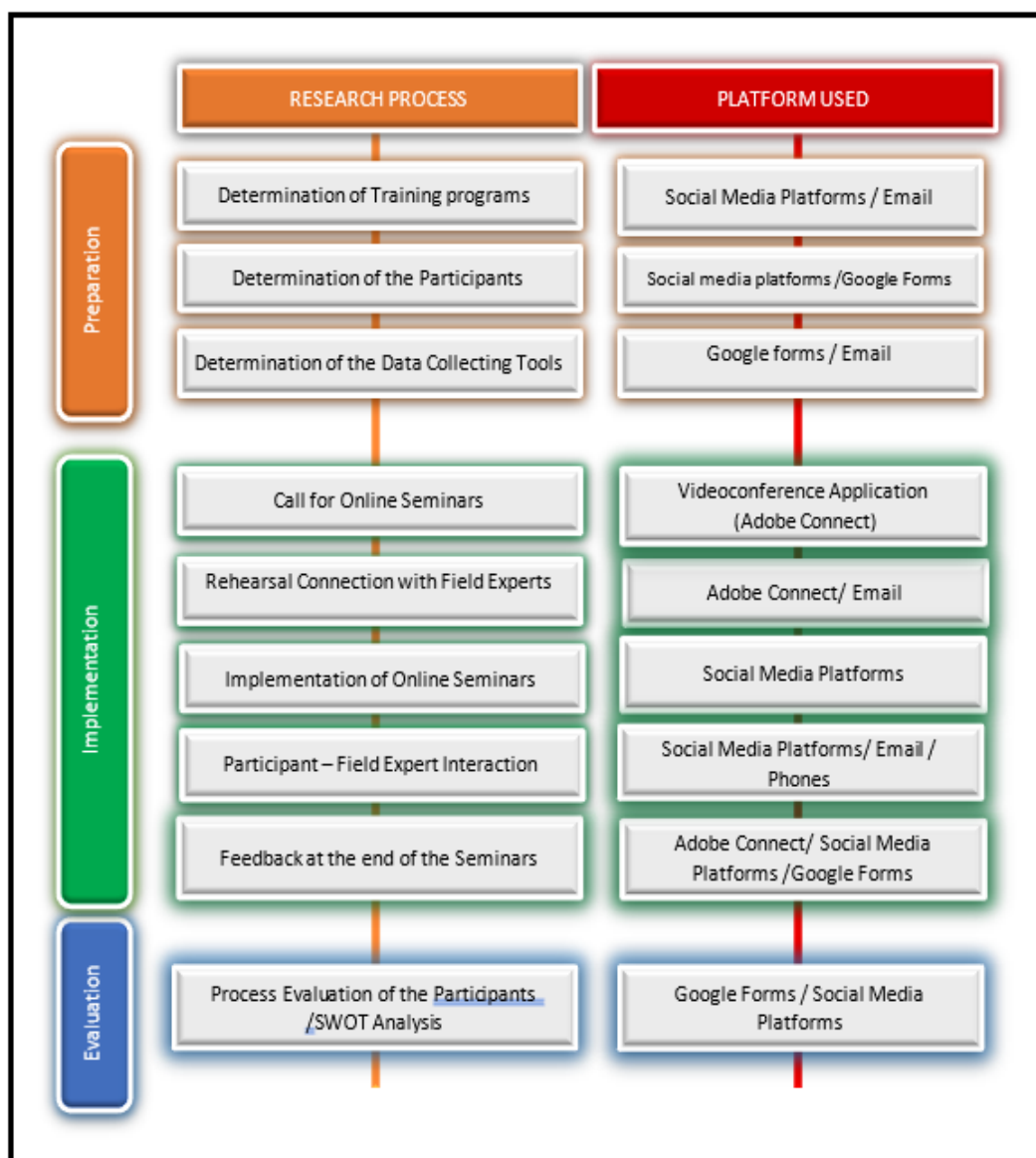
In this research, a mixed method approach in which qualitative and quantitative data were collected together was preferred. This approach involves collecting and analyzing quantitative and qualitative data within the scope of a research study (Creswell, 2006). Mixed methods enable researchers to choose methods and approaches that better fit to their predetermined research questions (Baki & Gökçek, 2012). Concurrent embedded design was used in the research (Creswell, 2013). In this design, quantitative and qualitative data are collected and analyzed at the same time; however, one data type predominates. Combining data is usually done at the data analysis stage. This design is useful when it is intended to gain a broad perspective on the subject being studied and when it is preferred to conduct research with different groups or levels within a study. The dominant part of the current research is case study, one of the qualitative research methods. However, quantitative research approaches were used in the process of collecting data and presenting the findings. Hancock & Algozzine (2006) define case studies as studies that attempt to describe the events occurring in their natural conditions, using various data collection tools under time and space constraints. Case studies are ideal for understanding individual situations in depth and customizing the subject under investigation (Çepni, 2014). Autism spectrum disorder presents different symptoms and needs for each child. For this reason, the situation of each family and child should be evaluated individually (Patton, 2014). In this study to examine the expectations of families with children with ASD and teachers working with these children about online seminars on ASD, to reveal whether their expectations are met, and to collect their opinions and suggestions about the process in depth case study was preferred.

PROCESS

The whole OSA process from the determination of the participants and field experts, planning and realization of online seminars to the collection of data was planned as distance education (Figure 1).

During the process, email and social media messaging interfaces were used to collect opinions, to determine field experts and to collect expert opinions about data collection tools. A video-conferencing application (Adobe Connect) was used for synchronous seminars. Social media groups were used so that the participants could communicate with each other. And finally, Google documents and other form applications were used for data collection.

The OSA process was composed of three stages; preparation, application and evaluation.

Figure 1. Research Process**PREPARATION STAGE**

During this nine-week long phase; the participants who voluntarily participated and the topics to be included, the field experts to facilitate the meetings and the calendar of OSA were determined.

Approximately 20,000 members of a closed social network group composed of family and teachers of individuals with ASD were informed about OSA process and their learning needs were inquired with entries about the event. These announcements were repeated regularly on the social network and the applications for OSA were received for nine weeks. The comments were also collected in order to shape the content of the seminars. Along with these demands, relevant field experts were reached, and a seminar program was created with the experts who agreed to perform seminars. The seminar topics, expertise, titles and the locations of the facilitator experts who contributed to the OSA process are presented in Table 1.

Table 1. OSA Process' Details

| Number | Title of the Seminar | Expert Speakers | Location of Attendance | Themes |
|--------|--|--|------------------------|--|
| 1 | Education of Individuals with Autism | Special Education Expert, instructor, Master's | Ankara (Türkiye) | Characteristics of Individuals with Autism Educational Process Family – School Cooperation Q&A |
| 2 | Behavioral Problems of Individuals with Autism | Special Education Expert, Ph.D. | Samsun (Türkiye) | Behavioral Problems & Suggested Solutions Sample Cases Q&A |
| 3 | Applied Behavior Analysis (ABA) Method in the Education of Individuals with Autism | Special Education Expert ABA Therapist, Master's | Atlanta (USA) | What is/ What is not ABA Critical Points of ABA Sample Cases Q&A |
| 4 | Sexual Development and Adolescence in Individuals with Autism | Special Education Expert, Ph.D. | Eskişehir (Türkiye) | Sexual Education: From Infancy to Puberty Ways to Deal with Sexual Urges How to teach self-care in Puberty? Duties of Families and Educators Q&A |
| 5 | Educational Rights of Individuals with Autism | Lawyer | İstanbul (Türkiye) | What are the Educational Rights of Individuals with Autism? What should Individuals and Their Families Who Cannot Use These Rights Do? NGOs and Their Roles Q&A |
| 6 | Living with an Individual with Autism | Senior Psychologist, Ph.D. | İstanbul (Türkiye) | Psychological states of parents with autistic individuals Ways to deal with life with autism Q&A |
| 7 | State Support for Individuals with Autism | Family& Social Policies (ASP) Provincial Director | Trabzon (Türkiye) | Diagnostic Process Medical Examination and Doctor Visits of Individuals with Autism Q&A |

In the selection of research groups of qualitative studies, the main concern is not whether the sample represents the universe. That research group is suitable for the research topic is more important (Patton, 2014). Purposeful sampling was preferred for this study. The "Seminar Participation Form" was added to the announcement text, which was published on the mentioned social network. As a result of the selection process, the research group was composed of totally 54 volunteer participants. 36 of the participants were the relatives of individuals with ASD (10 housewives, 8 teachers) and 18 of them were professionals working with individuals with special needs. Eight of the participants were men and forty-six of them were women. Approximately half ($f=22$) of the participants were between the ages of 30-39 and eighteen of them were 40-49. The participants were from 22 different cities and from 6 different geographical regions of Turkey. Four of them were located in other countries. Participants who are family members were coded as PF1, PF2, ..., PF36 and teachers were coded as PT37, PT38, ..., PT54. Features of participants are presented in Table 2.

Table 2. Features of Participants

| <i>Features</i> | | <i>(f)</i> | <i>%</i> |
|---------------------------------------|---|------------|----------|
| Gender | Male | 46 | 85.2 |
| | Female | 8 | 14.5 |
| Age | 20-29 | 13 | 24.0 |
| | 30-39 | 22 | 40.7 |
| | 40-49 | 18 | 33.3 |
| | 50-59 | 1 | 1.8 |
| Relationship with the Autistic Person | Parents | 32 | 59.2 |
| | Aunt | 2 | 3.7 |
| | Neighbor | 2 | 3.7 |
| | Teacher | 18 | 33.3 |
| Profession | Teacher (parents) | 9 | 29,6 |
| | Housewife | 10 | 18.5 |
| | Engineer | 3 | 5.55 |
| | Accountant | 2 | 3.7 |
| | Health care worker | 2 | 3.7 |
| | Officer | 2 | 3.7 |
| | Lawyer | 2 | 3.7 |
| | Other | 5 | 9.25 |
| | Manager (1), Beauty expert (1), Biologist (1), Journalist (1), Psychologist (1) | | |
| | Teacher and Psychologist (professional) | 18 | 33.3 |

IMPLEMENTATION STAGE

In the second phase, online seminars were held, and data were collected. Certain precautions were taken to minimize the accuracy, participation and timing problems. Prior to the first seminar, a trial connection was made in order to introduce the stakeholders to each other, inform them about the seminar process and get them acquainted with the Adobe Connect environment. In the OSA group created in the social network, periodical announcements were made regarding the online seminar of the week.

After each session "Session Evaluation Form" was applied for the related session. At the end of the meeting, the link of this form was shared at the chat section of the Adobe Connect software and published as a notification in the OSA group. In addition, the links were sent to all participants as a message. Online seminar sessions were planned and implemented once a week with the duration of 90 minutes between 22:30 and 24:00. Only one seminar was planned as 180 minutes upon the request of the facilitator expert.

EVALUATION STAGE

SWOT analysis (Schooley, 2019) assessing the OSA process was conducted in this one-week-long phase. This analysis method is used to evaluate the studies at the end of the distance education process (Gupta & Sharma, 2020; Hallal et al., 2020).

MEASURES TAKEN to REDUCE the TRANSACTIONAL DISTANCE

Certain precautions were taken to reduce the transactional distance in OSA process. The dialogue variable was reinforced by supporting effective use of the question-and-answer sections. Experts' voluntarily sharing their contact information also contributed to the dialogue. The creation and use of the closed social network group where participants could communicate with both each other and the researchers even out of the seminar times also supported the dialogue variable. The structure variable was supported by using the environment where the field experts and participants can communicate simultaneously during the OSA process. The contents of the online seminars were

shaped along with the participant needs but flexibility was provided so as to give space to let the flow of each individual seminar be diverted when participant questions required. The student autonomy variable was tried to be supported by letting participants participate in online seminars with their own username and password or with the "guest" login, as a feature of the program used. They were provided the opportunity to contribute with audial, visual or text-based interphases. Thanks to the videoconference tool used, the sessions were recorded and the participants could access the seminar content whenever they wanted via the relevant social network where the videos were saved and shared.

DATA COLLECTION PROCESS

Data collection tools that collected qualitative and quantitative data together were used in the research. However, due to the nature of the research, forms suitable for qualitative research were preferred. During this process, each tool was developed along with the determined needs. Then they were applied to two people from the target group (families with children with ASD) but not in the participant group to evaluate the comprehensibility of the tool. In the final stage, three IT field experts evaluated them. Figure 2 shows data collection tools used at respective stages.

Figure 2. *Data Collection Tools*



Participation Request Form was used to determine the participants, and Expectation Form was used to determine the expectations of the participants from the OSA process during the data collection process in the preparation phase. After each completed online seminar session, the opinions of the participants about the relevant seminar were collected with "Session Evaluation Form". In addition, online seminars were recorded to prevent data loss. Session evaluation form: inquires whether the participants have technical problems, participants' opinions about the most beneficial part of the session, their satisfaction level and their further remarks.

After all the sessions were completed, the Seminar Satisfaction Form was used to determine the opinions and satisfaction levels of the participants about the OSA process. The data obtained from these two forms were also used during the SWOT analysis of the study at the evaluation stage.

DATA ANALYSIS

The data collection tools used in the research process included open-ended and scale ranking questions. Open-ended questions were analyzed with content analysis. In this process, the data obtained from the responses were coded, and themes were obtained from codes with similar characteristics. The obtained themes and codes were presented in tables indicating the repetition percentages of the codes. Each individual seminar session was first evaluated within itself and then the overall process was evaluated in percentages. In the analysis, scale ratings in these forms and the frequency of the answers given by the participants were expressed with frequencies and displayed in the tables including the relevant answers.

Based on the data obtained from both the Session Evaluation Forms and the Contention Form applied at the end of the whole process a SWOT analysis of the study was carried out. The respective answers given by the participants at the highest frequency were evaluated as the strengths (S) of the OSA process, the negativities and weaknesses (W) of the process, the opportunities offered by the process for the participants (O) and possible problems as threats (T). The data obtained in that way were grouped and presented as the results of the analysis.

NATURE of the RESEARCH

The criteria that reveal the academic value of the research are the concepts of validity and reliability (Miles & Huberman, 2016). Equivalent concepts better fitting the nature of data are preferred in studies with qualitative segments. Credibility concept is used instead of internal validity, transferability instead of external validity, dependability instead of internal reliability and confirmability instead of external reliability (Patton, 2014). Accordingly, strategies framed by the related literature were followed throughout the study (Miles & Huberman, 2016; Patton, 2014)

Apart from the seminars and their topics, the researcher shared additional notifications with the participant group over the social network during the research. Since the mentioned researcher is a parent with a teenager with ASD herself and has commons with the life of the participant group, she was able to reflect the participants' emotions and thoughts effectively on the research. She is both a field expert in distance education and also has been involved in the autism community in different ways for more than 10 years. She is a board member of the Autism Association in the city he lives in. At the same time, she is the manager of various autism societies on social media. As a matter of fact, the starting point of this study was similar problems shared in social media communities where families of individuals with autism got together. In this direction, research solutions were determined and investigated with appropriate research methods. Moreover, mentioned autism communities were used in determining the sample and reaching the experts. The results of the study were also shared with these communities. The vast majority of the findings of these study was obtained and presented by intended and informed involvement of the communities experiencing autism directly.

The findings were presented with direct quotations from these expressions of the participants. The research method, research process and characteristics of the research group were explained in detail. In addition, other similar training environments where research results can be tested further have been suggested. Data collection and data analysis methods were explained in detail and different data collection tools were used.

In addition, the findings of the study were checked by another distance education expert researcher. The codes that this researcher did not agree with were discussed and reorganized. The individuals who provided the data for the study were clearly defined, the results of the research were expressed extensively by associating to the findings and the data obtained from all data collection tools were stored in electronic media for future references.

RESULTS

PARTICIPANTS' EXPECTATIONS

The answers of the participants to the question "What are your expectations from On-line Seminars on Autism Spectrum Disorders?" were summarized in Table 3.

Table 3. Participant Expectations

| Theme | Code | % * | Participant Expressions |
|------------------------------------|---------------------------------|------|---|
| Getting information %64,8 | ASD | 38.8 | "Learning new information about autism and finding answers on how to ease this burden on my child and myself." (PF7) |
| | Education of children with ASD | 14.8 | "I do not have much knowledge and experience in educating children with autism. I would like to have useful information about it and its application" (PT41) |
| | Legal rights in ASD | 5.0 | "To have more and practical knowledge about our rights." (PF11) |
| | Alternative treatments for ASD | 5.0 | "To learn different education and treatment methods in autism, to have an idea about what is commonly done and how well they work." (PF1) |
| Communication/ sharing %38,8 | With families with ASD children | 22.2 | "To understand autism better and to share information with families with similar problems" (PF6) |
| | With field experts | 16.6 | "To re-examine the subject of autism with the lead of experts in the field. To be able to produce alternative solutions for the problem behaviors that I encounter in the classroom on daily basis." (PT39) |
| Improvement %24,1 | Professional related to ASD | 12.9 | "To update and improve my knowledge and experience." (PT37) |
| | Personal related to ASD | 11.1 | "Finding answers to my questions, improving myself." (PF32) |

*The participants gave more than one answer.

When Table 3 is examined, it is seen that the expectations of the participants were accumulated under the themes of "Getting information" and "Sharing". The main reason that made participants want to attend a seminar is to learn about ASD (%64.8). Other topics that the participants wanted to learn about were "Education of individuals with ASD" (14.8%), "Legal rights of individuals with ASD" (5.0%) and "ASD treatment methods" (5.0%). "Communication/Sharing" theme was shaped as "Sharing issues with other families" (22.2%) and "Sharing issues with experts" (16.6%). Other expectations of the participants regarding the OSA process were expressed as "Obtaining professional development" (12.9%) and "Obtaining personal development" (11.1%).

THE STATE of MEETING the EXPECTATIONS of the PARTICIPANTS from the OSA PROCESS

The answers given to the "Session Evaluation Form" which is directed to the participants at the end of each of the online seminar were analyzed. The results were presented in Table 4.

When Table 4 is examined, it is seen that the participants benefited from the online OSA seminars they attended in terms of "Acquiring Information", "Sharing", "Expert Qualification" and "Distance Education". The most frequently expressed opinion was that the participants were informed about the relevant seminar (53.3%). This opinion was expressed with the highest percentage (87.5%) for the fourth seminar on Sexual Development. This seminar is followed by the seminar on State Support with 71.4% and the seminar on Education Rights with 70%, respectively. The opinions on the theme of "Sharing" were expressed with the highest percentage (45.7%) in the first seminar with the title of Education. That this seminar had a question & answer part was the most frequently mentioned item under the sharing theme.

Table 4. *The State of Meeting the Expectations of the Participants*

| Themes | Online Seminars | | | | | | | | Samples |
|-----------------------|-----------------|---------------------|-------|--------------------|------------------|------------------|----------------------|-------------------|--|
| | Education | Behavioral Problems | ABA | Sexual Development | Education Rights | Life with Autism | Governmental support | Total | |
| Acquiring Information | 22,8% | 47,8% | 60,0% | 87,5% | 70,0% | 46,6% | 71,4% | 53,5% | "I was very pleased that such clear and understandable information about sexual education was shared. I had a better understanding of my mistakes and what I did right." (PT47, Seminar 4) |
| Expert Sharing | 45.7% | 21.7% | 10.0% | 6,25% | 5.0% | - | 7.1% | 18.9% | "Since we are just at the beginning of this journey, it was nice that experienced families shared their problems and expressed their opinions. These were all valuable experiences for us." (PF8, Seminar I). Opportunity to ask questions directly." (PT38, Seminar II). |
| Qualification | 8.5% | 17.3% | 23.3% | 10.5% | 20.0% | 33.3% | 7.1% | 17.6% | "Due to the fact that the seminar facilitator knows the subject both as a family member and as an expert, even the theoretical knowledge she explained was directly applicable." (PF11, Seminar 6). |
| Distance Education | 2.8% | 26.0% | 6.66% | - | 5.0% | - | 7.1% | 7.1% ⁸ | I think the most useful feature of the session was that it was online. It wasn't necessary to allocate extra time for participation or to meet in a certain place. In this way, we were able to participate from different provinces and we were able to reach the experts regardless where they were." (PT45, Seminar 2). |

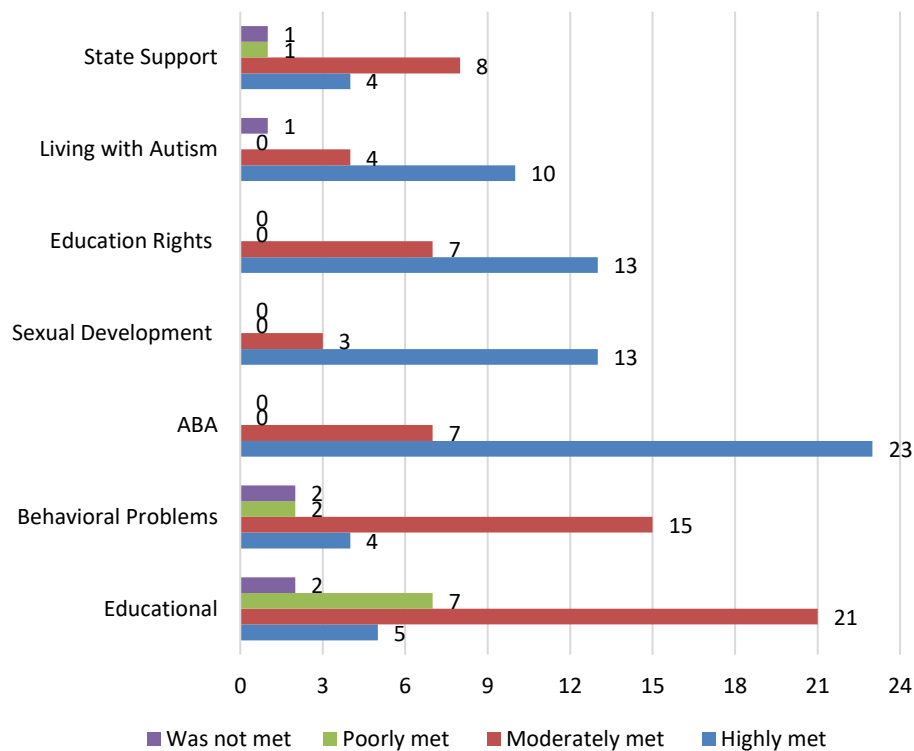
Another effective aspect of the online seminars was reported as the "Qualification of Experts". This situation was most frequently expressed for the sixth seminar on Life with Autism. 33.3% of the participants mentioned expert quality items for this seminar as: reaching a competent expert in the field, the speaker's comprehensible narration and the speaker's sharing of her knowledge and experience as a parent of a child with ASD. In the "Qualification of Experts" theme this seminar was followed by the fifth Seminar (20.0%) titled Education Rights.

"Distance education" was another theme that appeared in the data analysis. Opinions on this theme were that the seminars were online, connecting to the seminars from home and the suitable timings of seminars (late evening). The participants of the second seminar on Behavioral Problems (26.0%) submitted the highest rate of opinion regarding this theme.

At the end of the OSA process, the participants were requested to rank the level of their expectations met for each individual seminar with four levels between "the process reached my expectations at a high level" and "the process did not reach my expectations". Accordingly, the situation showing the level of realization of the expectations of the participants following that seminar is presented in Figure 3.

When Figure 3 is examined, the expectations of the participants from the seminars was highly met in the 3rd, 4th, 5th and 6th Seminars on ABA, Sexual Development, Behavioral Problems and Life with Autism, and at a moderate level in the 1st, 2nd, and 7th seminars on Education, Behavioral Problems and State Support.

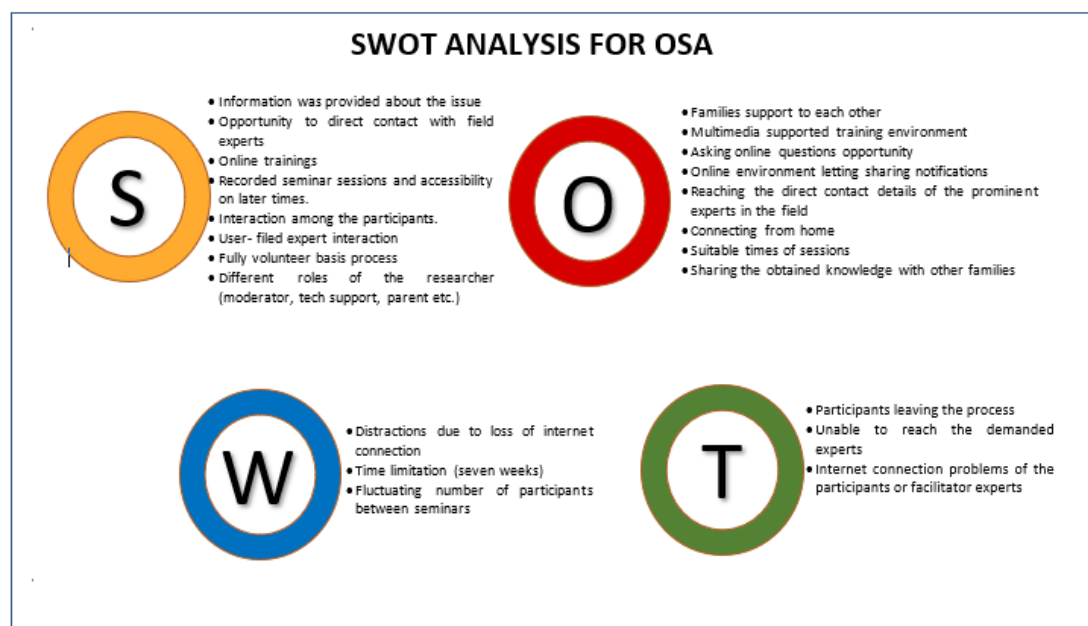
Figure 3. Level of Participants' Expectations Met for Each Seminar



EVALUATION of ONLINE TRAINING PROGRAM

After the implementation period of the research was completed, a SWOT analysis was conducted to determine the strengths and weaknesses of this study and to reveal the benefits and possible threats. For this process, the data obtained from the Session Evaluation Forms and Seminar Contention Form were used. The SWOT analysis carried out with the mentioned data was presented in Figure 4.

Figure 4. SWOT Analysis of the OSA Process



The strongest aspects of the online seminar process were determined as; that it provided participants with versatile information about ASD, the seminars had question and answer sections and they enabled participants to reach experts in the field. Its weaknesses were mainly seen as technical difficulties arising from the internet infrastructure or the use of the video conferencing system. Online seminars on OSB offered opportunities for the families to meet other families with ASD members, to have voice and written communication and interaction with them, to connect at home at suitable hours, to reach contact details of the speakers who are the prominent experts in the field and to receive information from the field experts who have children with ASD. The biggest threats encountered in these seminars were identified as the inconsistency of the number of participants and the availability of the relevant field experts.

DISCUSSION and CONCLUSION

EXPECTATIONS of PARTICIPANTS from the OSA PROCESS

The results based on the research findings showed that families with children with ASD and teachers working with these children expected to learn about ASD, its treatment and education of individuals with ASD. At the end of the research, the first theme related to the participant expectations was "Getting information". Therefore, it can be said that the expectations of the participants about the OSA process were met to a large extent. Similarly, as a result of their studies to determine the needs of families with individuals with special needs, Bailey and Simeonsson (1988) stated that the most fundamental need of families is "knowledge". In the adaptation study of the same scale used by (Bailey & Simeonsson, 1988) into Turkish, it is seen that the primary need of families was also "knowledge" (Cavkaytar et al., 2014). Furthermore, in Turkey, it was argued that families with children with ASD were not informed about autism before the diagnosis (Federation of Autism Associations [ODFED], 2017). Concerning the fact that the participants of the present study were mostly Turkey-resident families, this situation can be the reason for that the biggest expectation of the participants, who had not attended any trainings on ASD before, from the OSA process was to "acquire information" rather than different dimensions handled about ASD.

In family-centered practices, it is very important to determine family needs by including them in the process (Ghanadzade, Waltz & Ragi, 2018). In online applications, it is recommended to determine the needs of the participants and to prepare the content accordingly, particularly when the target community is adults (Bourdeaux & Schoenack, 2016; Sun et al., 2008). It was observed that in an online environment, adults who felt that they were not supported, and their views were not taken into account did not complete the training program (Park & Choi, 2009). For this reason, the expectations from online trainings should be clearly stated for adults. Therefore, the content of OSA was created by determining the expectations of the target group. The content, duration and even the application hours of the seminars were planned accordingly.

MEETING of PARTICIPANTS' EXPECTATIONS REGARDING the OSA PROCESS

The theme mostly lived up to the participants' expectations from the OSA process is "acquiring knowledge". When the source of this satisfaction is considered, several reasons can be speculated: the speakers were prominent experts of their fields, they joined the process voluntarily, presented their knowledge to the participants sincerely, shared their contact details and answered the questions of the participants diligently. These points also led to the emergence of the "expert qualification" theme in the research findings. Although the participants did not have such an expectation at the beginning of OSA, they specifically mention the quality of the experts in their evaluations during the process.

Another important expectation of the participants; mutual sharing experiences with field experts and experienced families also emerged as one of the expectations met at the end of the research. Families with children with ASD may perceive themselves as part of a large autism family and

can learn a lot from each other in this way (Cahapay, 2020). For this reason, the environment of OSA process was planned to maximize the interaction of families with each other. The fact that the OSA process was planned within the framework of the Transactional Distance Theory may also have been effective in the realization of the "sharing" expectation. Comparing to face-to-face environments, the success of online environments providing time and space independence mediated flexible learning opportunities, directly related to interaction (Luo et al., 2017; Wu et al., 2020). Several online implementation studies have emphasized student-teacher, student-student and student-system interactions (Crawford-Ferre & Wiest, 2012; Meyer & McNeal, 2011; Moore, 1997; Parker, 2015). Presence of these interactions affect the intended achievement, satisfaction, and efficiency of online applications (Bolliger & Martindale 2004; Swan, Shea, Fredericksen Pickett & Maher, 2000). The interaction between the participants, field experts and the presented content of this study was tried to be kept at a high level as much as possible. During the implementations, the participants were able to write or verbally ask their questions about the subject, they received instant feedbacks and interacted with each other using the chat option. In addition, the participants went on communication and sharing in the closed social media group. These factors might have affected the participants' satisfaction under the theme of "sharing."

Another situation related to meeting the expectations was the method used. The advantages of the distance education method were not described by the participants at the beginning of the process. However, they gave positive feedback about that during the process. In this synchronous online process, the participants may have experienced the satisfaction of finding answers to their problems by connecting from their homes to seminars of reasonable time (evening) and durations, without having to mind their children while they are asleep. In the study investigating the effectiveness of the online family education program, Kolb (2007) stated that families with children with ASD could not attend the face-to-face training sessions due to their working conditions or not to have someone to take care of their children. The situation of families who cannot benefit from local special education services is defined as a "double barrier" (Dabrowska & Pisula, 2010). Family distance education offers very favorable environments for individuals with such limitations (Hermaszewska & Sin, 2020; Kolb, 2007; Zimmerman, 2013). Similarly, teachers who work with individuals with ASD can have appropriate time management by participating in seminars held through distance education for their professional development (Vismara, Young, Stahmer, McMahon Griffith & Rogers, 2009).

EVALUATION of the OSA PROCESS

In the present study, the evaluation of the OSA process was carried out with SWOT analysis. Meeting the expectations of the participants was considered as one of the strengths of the OSA process. The other strengths of the OSA process can be listed as participants' acquiring information about the ASD, that the seminars were recorded for further inquiries and that the process planned with sound interconnectedness.

The biggest threat to OSA process was the participants' leaving the training process unfinished. This situation had encountered in other online education programs. Knap (2015) started the family education program with five families, but only three of these families completed the program. Similarly, Werba et al. (2006) examined the reasons why the families quit the education program and stated that one third of the participants did not complete the study. They argued that this abortion tendency is related to factors such as time, age of the participant, being a single parent, being on an education waiting list and stress. Pickard et al. (2016) also stated that there were families who could not complete the online family education program and this situation was related to time and technology. In the present study, no in-depth research was conducted on the decreasing number of participants. However, based on the researchers' observations and opinions about the process; this situation can be explained by time shortage and that families feel relaxed about missing the sessions since they had known that the seminars were being recorded and would be available later on.

Periodical family training programs have potential to provide families with accurate and first-hand information about ASD, increase the contribution of families to the development process of their children, and contribute to the reduction of massive stress on families. The global COVID-19 epidemic has caused many trainings to be moved to the online environment. Well-planned online programs exist as effective alternatives for families with ASD individuals and professionals during the pandemic and beyond.

It seems family education programs are quite overt to decreasing number of participants through the process, no matter how well they are planned. As it was observed in the present study, this is also valid for online family education programs. Concrete reasons for this situation can be explored in depth with further studies. The following precautions are thought to have potential to minimize this situation in online family education programs; determining the needs of families before the training programs are chosen, organizing the training hours in such a way that families can easily participate (like 22:00 in the evening). In future research, while a training program on ASD is being designed, a family training program that only families will participate in can be developed and the effectiveness of this program can be investigated by using one of the experimental methods with a control group.

In online applications, the individual competencies and motivations of the participants are among the most important factors affecting their learning and participation. Although an optimum “learner autonomy” was tried to be established within the framework, the number of participants in each session of the seven-week OSA implementation process differed from each other. Similarly, it was observed that there was a decrease in the number of seminar participants through the end of the process. The method of this research was designed with a single group. The absence of a control group is seen as a limitation. The fact that the participants had not participated in such a training before may have affected their views positively. In this study, participants were not asked about their educational background, but they were asked about their profession. This situation can be considered as another limitation of the study.

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All participants, after having received and understood all the research-related information, voluntarily provide his or her willingness to participate implementations.

AUTHOR CONTRIBUTIONS

The first author contributed to data collection of the research data, literature review, data analysis, and presentation of the findings and preparing the discussion and conclusion sections. The second author contributed to determining the theoretical framework of the study, analyzing the data, and preparation of the methodology. Both authors critically reviewed the article and approved the final version.

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