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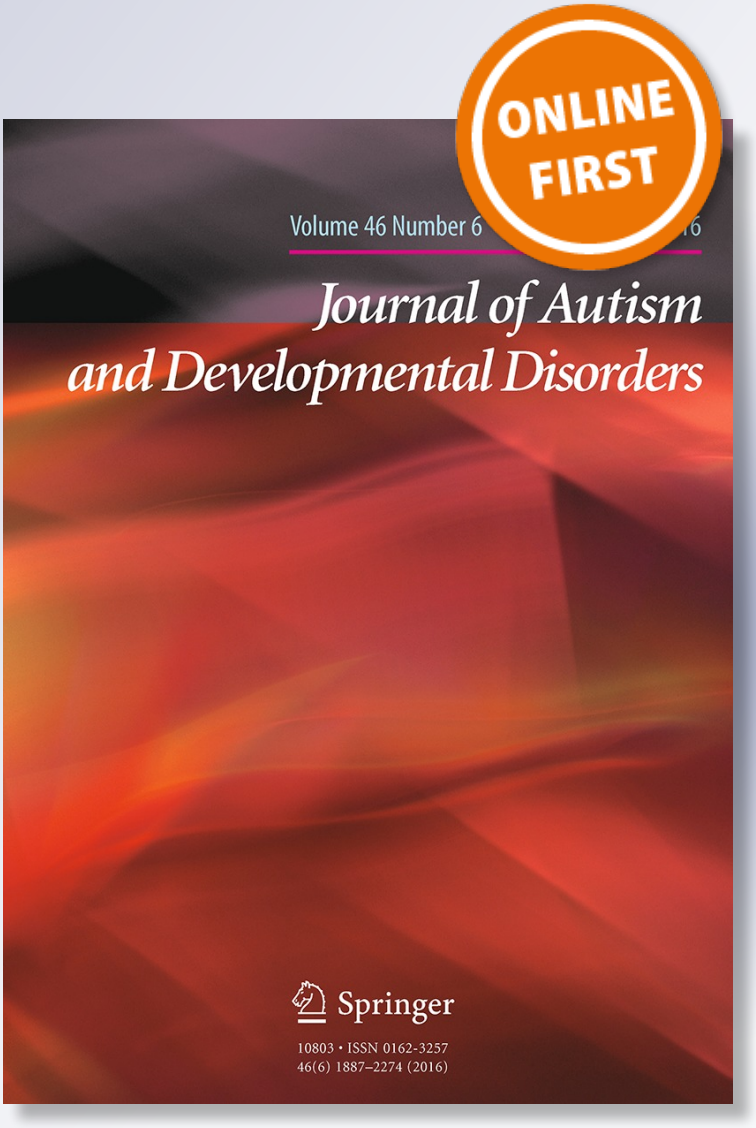
Journal of Autism and Developmental Disorders

ISSN 0162-3257

J Autism Dev Disord
DOI 10.1007/s10803-016-2809-2



Springer

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ORIGINAL PAPER

Opinions of Turkish Parents and Teachers About Safety Skills Instruction to Children with Autism Spectrum Disorders: A Preliminary Investigation

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Abstract Safety skills instruction should be regarded as one of the important teaching areas. A descriptive study was designed to reveal the opinions of Turkish parents and teachers of children with autism spectrum disorders regarding safety skills instruction. Data were collected through interview and analyzed descriptively. Findings showed that (a) both parents and teachers were able to define safety skills, (b) they found safety skills instruction important and necessary, (c) rather than providing systematic instruction they use natural occurrences as teaching opportunities and prevention behaviors, (d) parents have never had a conversation with teachers about safety skills instruction, and (e) neither parents nor teachers have enough knowledge and experience for teaching safety skills. Implications for implementing safety training are discussed.

Keywords Autism spectrum disorders · Safety skills · Opinions of parents · Opinions of teachers

Introduction

"Safety skills" is a term used to describe a wide variety of skills. Research has shown all children are at risk of injury-perhaps even fatal-due to both intentional and unintentional accidents. Although parents take precautions to protect their children from accidents, they may still encounter them at any time (Miltenberger 2008). Many children each year face the risk of injury, lost or death due to unintentional accidents (i.e., crossing the street, abduction, electric shock; Bergstrom et al. 2012; Istre et al. 2002; Phelan et al. 2001; Runyan et al. 2005; Tinsworth and McDonald 2001) as well as intentional accidents (i.e., physical and sexual abuse; Clees and Gast 1994; Dixon et al. 2010; Pereda et al. 2009). Children with autism spectrum disorders (ASD) and other developmental disabilities face two to three times the risk of injury or abuse compared with those of their same age peers in the general population (Agran and Krump 2010; Calavari and Romanczyk 2012; Koller 2000; Lee et al. 2008; McEachern 2012; Strickland et al. 2007; Volkmar and Wiesner 2009; Yildirim-Sari and Girli 2012).

ASD is a complex developmental disability with two core characteristics (a) difficulty with social interactions and communication and (b) repetitive behaviors, interests, and activities (American Psychiatric Association 2013). Because of the explained characteristics, having ASD itself increases the likelihood of life-long safety risks. They may experience difficulties in distinguishing between safe and unsafe situations, knowing how to inform and ask for help to escape dangerous situations. Even if they acquire these skills, they may not be able to generalize them into novel settings (Doyle and Doyle-Iland 2004a, b; Scheuermann and Webber 2002). Additionally, they may not be able to read and anticipate non-verbal cues of others who intend them harm or understand exposure to sexual abuse or abduction (Doyle and Doyle-Iland 2004a, b; Kenny et al. 2013; Mechling 2008; Strickland et al. 2007). Lastly, children with ASD may be more compliant with an adult's requests since compliance training is an integral part of their educational programs (Lumley and Miltenberger

The first author completed this study in partial fulfillment of the requirements of a Master of Science Degree in Applied Behavior Analysis in Autism at Anadolu University, Eskisehir, Turkey.

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Published online: 11 May 2016

1997). They fail to learn many new skills unless they have systematically been taught (Summers et al. 2011).

When considering the above-mentioned issues and the learning patterns of a child with ASD, it is evident they are more vulnerable and at a higher risk of threats to their safety. It has also been documented that these children are often neglected both clinically and experimentally in terms of safety skills instructions (Agran and Krump 2010; Brown-Lavoie et al. 2014; Kenny et al. 2013; Summers et al. 2011). However teaching safety skills should be regarded as important as teaching social, communication, daily living and personal living skills (Collins et al. 1991; Mechling 2008). Exploratory research findings on this topic lay the foundation for teachers to prioritize safety skills instruction usually neglected in practical settings. Therefore, safety goals should be included in the curriculum of students with ASD.

Depending on their functioning level, children with ASD can either go to special school or regular school in Turkey. Special schools offer education from preschool through vocational education. In addition to these special education schools, there are Rehabilitation Centers where students with ASD receive supportive education. Unfortunately, when one takes a closer look at the curriculum offered to students with ASD, it can be noticed current preschool curriculum do not offer safety skills instruction Primary or secondary schools teach a curriculum designed to teach a few skills such as self-protection, personal health, safely navigating roads designed for pedestrians which are covered under the umbrella of independent living skills as opposed to safety skills (MEB 2013). However, there is a need for more age appropriate instruction in schools to enable students with ASD to stay safe against various risks. Parallel to these programs, Rehabilitation Centers' curriculum offer only limited safety goals instruction (MEB 2008). As indicated, safety risks in the home, school, and community take place in an ongoing basis even if parents and teachers take the precautions to protect or teach safety skills to them (Dixon et al. 2010; Miltenberger 2008). Hence, considering the possible risks of injury to children with ASD resulting from accidents/harm by others, safety skills instruction throughout a child's educational experience and beyond is imperative.

There is a paucity of research investigating the opinions of parents and teachers regarding safety skills instruction. The majority was conducted to obtain opinions of parents, teachers and adults with intellectual disabilities regarding safety skills instruction (Agran et al. 2012; Agran and Krump 2010; Collins et al. 1991; Howard-Barr et al. 2005). There are presently only two studies available which investigate the opinions of parents and caregivers regarding safety skills instruction to children with ASD. Ivey (2004) investigated the expectations of 25 parents with regard to the importance and likelihood of future outcome issues. Results showed parents had serious concerns about their child's safety and protection, there were significant differences between the importance and likelihood for issues concerning safety, adult responsibility, and educational success with importance rated more highly than likely. Calavari and Romanczyk (2012) investigated the perspectives of 79 caregivers (both parents and service providers) regarding the risk of unintentional injury in children with ASD. Results showed children with ASD exhibit a higher rate of risk-taking behaviors. Their behavior resulted in a greater likelihood of severe injuries when compared with their peers, as well as a significant correlation with risk taking behavior and frequency of injuries.

Research obtained from literature related to both children and adults with ASD and intellectual disabilities helps us draw the following conclusions: (a) teaching safety skills to individuals with intellectual disabilities and ASD is important to both parents and caregivers regardless of the age of their children, (b) safety skills instruction can change according to the targeted audience and is dependent on the nature of the disability, individual differences, and parent expectations, (c) young children must have instruction in preventive safety skills whereas older children must have instruction in reactionary safety skills, (d) the need of safety skills instruction increases commensurate with age, (e) parents of children with ASD believe it isn't possible for their children to learn the safety skills they need due to a lack of opportunities in instruction and safety skills related goals in their educational program, (f) adults with disabilities value safety skills instruction, (g) goals for safety skills should be addressed and included in a child's Individual Education Program (IEP), and (h) many educational professionals do not know how to provide proper sexual education to all students.

Although parents and teachers value safety skills instruction, they simply ignore or don't provide opportunities for teaching these skills. However, they need to consider that all children face injuries and/or death as a result of the consequences of intentional or unintentional accidents. But what also needs to be taken into consideration is the fact that children with ASD are at a higher risk for dangerous circumstances and situations than those of their peers (Dixon et al. 2010; Dogoe et al. 2011; Lee et al. 2008; Strickland et al. 2007). There are many reasons that safety skills instruction are not being provided and it can be due in part to either the parent and the teacher. We need to understand the opinions they may have regarding safety skills instruction. As was previously noted, research in this area is scarce and quantitative methods were used in these studies. As a result, it may be argued that these studies cannot help us obtain an in-depth understanding of this issue. In addition, there appears to be a minimum number of objectives relative to safety skills instruction that are taught in Turkish schools. Furthermore, the curricula are of

a general core curricula and no one knows whether teachers add or gloss over some objectives based on the needs and functioning levels of their students. Hence, it is important to learn and reveal how teachers shape and present their programs as they relate to safety skills instruction. The purpose of the present study is to obtain the opinions of Turkish parents and teachers of children with ASD regarding safety skills instruction. This study is designed to address the following questions: (a) Do parents and teachers define safety skills in their own words? (b) What do parents and teachers think about teaching safety skills to children with ASD? (c) What do they think and what are their experiences about including goals for teaching safety skills in the IEP's of their children?

Method

Participants

The study was conducted with 11 parents (10 mothers and 1 father) of students with ASD and 16 special education teachers (12 females and 4 males) employed at a university unit and special schools for children with ASD. Demographic information for parents and teachers are presented in Tables 1 and 2 respectively. As seen in Table 1, parents ranged in age from 23 to 40 years of age. The majority of them earned high school diplomas and only 3 of the parents were employed. Parents' ages ranged between 23 and 40 with a mean of 33.81, and children's ages ranged between 4 and 10 with a mean of 6.72. Nine of the eleven children were male. During the study three children were attending to the special education school where the participant teachers were working, the remaining children were attending university unit. Only one father participated in the study. Although both parents wanted to participate he had more time for the participation. Inclusion criterion for the parents was having children attending school on a full time basis.

As can be seen in Table 2, the 12 female and 4 male special education teachers participating in the study held a bachelor's degree in special education, ranged in age from 24 to 47 years of age with a mean of 34.18, and had 1–20 years of teaching experience. During the course of the study, 12 teachers worked at special schools for students with ASD, with the remainder employed at a university unit.

Instruments and Data Collection

The authors formed data collection instruments. Interview questions were prepared based on the literature about the opinions of parents and teachers regarding safety skills content and instruction for children with ASD as well as other developmental disabilities. The following studies were reviewed in detail: Agran and Krump (2010), Agran et al. (2012), Ivey (2004), and Collins et al. (1991). Data collection instruments were sent electronically to five professors holding doctorates in special education who had extensive teaching experience in working with parents and teaching children with ASD, qualitative research methods and/or interview methods. They suggested to add one question, asking about the meaning of the safety skills to both parent and teacher forms. We added safety skill areas (i.e., safety in the home and community) in one question. They also suggested rewording two questions to include "Why?" and revised the grammar for several other questions. Questions were divided into two parts in each data

Table 1 Demographics of the participant parents

Participant	Parents
Gender	Female (n = 10)
	Male (n = 1)
Age	20–30 years old (n = 2: M2, M5)
	31–40 years old (n = 9: F1, M1, M3, M4, M6, M7, M8, M9, M10)
Gender and age of the child	Boy (n = 9: F1, M2, M4, M5, M6, M7, M8, M9, M10, M11)
	Girl (n = 2: M1, M3)
	6–10 years old (n = 8: F1, M1, M3, M6, M7, M8, M9, M10)
	1–5 years old (n = 3: M2, M4, M5)
Education	High school (n = 6: M4, M6, M7, M8, M9, M10)
	Upper secondary (n = 3: F1, M2, M3)
	College (n = 2: M1, M5)
Employment	8 unemployed (n = 7: M4–10)
	3 employed (n = 3: F1, M2, M3)

M mother, *F* father

Table 2 Demographics of participant teachers

Participant	Teachers
Gender	Female (n = 12) (T1, T2, T3, T4, T5, T6, T8, T9, T10, T11, T13, T16)
	Male (n = 4) (T7, T12, T14, T15)
Age	20–30 years old (n = 7) (T1, T3, T4, T5, T8, T11)
	30–40 years old (n = 5) (T2, T7, T12, T13, T16)
	40+ years old (n = 4) (T6, T10, T14, T15)
Experience	1–10 years (n = 10) (T1, T2, T3, T4, T5, T7, T8, T9, T11, T12,
	11–20 years (n = 4) (T10, T13, T14, T16)
	20+ years (n = 2) (T6, T15)
Graduation	Special education (n = 13) (T1, T2, T3, T4, T6, T7, T8, T9, T11, T12, T14, T15, T16)
	Others (n = 3) (T5, T10, T13)

T teacher

collection instrument: (a) Demographic Questions, (b) Safety Skills Questions. There were nine open-ended questions in the forms for parents and teachers. The interview questions for parents and teachers are presented in the Tables 3 and 4 respectively.

Conducting pilot interviews, developing interview guide, adopting interview principles and conducting interviews were the main steps followed for data collection. The first author (NS) conducted pilot interviews. The second author and experts teaching graduate level courses in the field of interview method listened to the tape recordings and provided her coaching to actively listen and raise new questions prompted by the interviewee's responses. Based on their feedback, she conducted three more interviews. The same experts listened to these tape-recorded interviews and did not express, suggest or recommend changes. NS developed an interview guide to determine the order of questions, the extent for which she would give details for each question, her expectations from interviewees, how to record interviews, terminating an interview session, and how to give information about herself to those being interviewed prior to conducting any interviews.

NS contacted the administration from both the special education school and the university site and made an appointment. The researcher introduced herself, explained the purpose of the study, inquired about the number of

Table 3 Interview questions for parents

1. Please tell me what do you understand from "safety skills"?
2. What do you think about teaching safety skills to your children?
3. What do you think about which safety skill has the priority to be taught?
4. What do you think about the age group in which the safety skills should be taught?
   (a) Home safety skills
   (b) Community safety skills
   (c) Emergency skills
   (d) Personal safety skills
5. What do you think about the environments in which the safety skills should be taught?
   (a) What do you think about teaching them in the settings where those skills need to be performed?
6. What do you think about who should teach safety skills to your children? Why
7. What do you think about the having safety skill goals in the IEPs of your children? Why?
8. Do you know whether any safety skill is included in the IEP of your children?
9. What is your experience about suggesting the inclusion of a safety skill in the IEP of your children?

Table 4 Interview questions for teachers

1. Please tell me what do you understand from "safety skills"?
2. What do you think about teaching safety skills to your students with ASD?
3. What do you think about which safety skill has the priority to be taught to your students with ASD?
4. What do you think about the age group in which the safety skills should be taught?
   (a) Home safety skills
   (b) Community safety skills
   (c) Emergency skills
   (d) Personal safety skills
5. What do you think about the environments in which the safety skills should be taught to your students with ASD?
   (a) What do you think about teaching them in the settings where those skills need to be performed?
6. What do you think about who should teach safety skills to you students with ASD? Why?
7. What do you think about safety skill goals in IEPs of your students with ASD?
8. What are your experiences about writing safety skills goals in the IEPs of your students with ASD?
9. What are your experiences with the parents of your students about conducting discussions for adding safety skill goals in the IEPs of your students with ASD?

eligible teachers and parents who were able to participate in this study and expressed her intention in coming to both school locations to select teacher and parent volunteers to participate in this study. After obtaining addresses of both teachers and parents, she scheduled appointments to meet with them. In these meetings she explained the purpose of the study and finalized her decision on which of these would voluntarily participate. Participants were informed about the confidentiality of tape-recorded conversations (with the exception of the reliability coder to which no one would listen). A total of 11 parent interviews were conducted at the university unit's one-on-one teaching class, Rehabilitation Center's Special Education classroom, and parent's waiting room of the special school. A total of 16 teacher interviews were conducted. Four of these interviews were conducted in the same university unit classroom where the parents had been interviewed. Twelve interviews took place in the group-teaching classroom in the special school for children with ASD where the teachers worked. No one was present during the interviews in these settings besides the interviewer and the interviewee. Interviews lasted between 12 and 46 min. The researcher took and kept notes in a diary on a daily basis during data collection.

Design

The study was conducted descriptively by conducting interviews with teachers and parents of children with ASD. Descriptive studies are designed to describe the situation at the time research was conducted (Creswell 2005).

Data Analysis

NS transcribed data verbatim after the interviews were completed. A separate form was used to transcribe each participant's interview. Descriptive analyses were carried out in the study and frequency was taken for descriptive analysis. The following steps were conducted in order to analyze data: (a) data were transcribed verbatim, (b) a graduate student checked interview transcriptions, (c) themes were formed based on the responses of study participants, (d) choices were categorized into themes, (e) interview coding keys were developed based on themes and responses of participants, (f) two independent experts who teach graduate level classes for interview methods separately coded the coding keys, (g) a formula of number of agreement is divided by number of agreement + disagreement $\times$ 100 was used to calculate reliability coefficients of each question [a mean of 97 % (range = 75–100 %) agreement was obtained in parent form and 95 % (range = 80–100 %) agreement in teacher form], (h) reliability analysis was conducted for interview coding keys, (i) themes obtained were analyzed descriptively, and (j) inter-rater reliability analyses were conducted.

Results

Results were presented considering the following questions: (a) Do parents and teachers define safety skills in their own words? (b) What do parents and teachers think about teaching safety skills to children with ASD? (c) What do they think and what are their experiences about including goals for teaching safety skills in the IEP's of their children?

Definition of "Safety Skills" by Their Own Words

This research question was investigated under the first questions of both parent and teacher interview forms. Among the 11 parents, seven parents were able to correctly define safety skills in general. For example Mother 2 defined these skills as "When I think of safety skills it comes to my mind that they are the skills that they can protect themselves from dangerous things. It can be a high rise building, it can be a fire or other dangerous situations needs to take some precautions." Mother 3 defined these skills as "When we say safety skills, to me the first thing is protecting himself. That is to say first of all he needs to protect himself from danger. He needs to understand what a dangerous behavior is. It can be from his side, and from the others he may face in his daily life." After hearing their explanations, NS reflected on these parents' comments and defined them, as "Safety skills are the sets of skills necessary to perform when a person comes across any physical or psychological threats." Parents gave the following examples they considered for safety skills such as paying attention to the cars when crossing a street (f = 7), protecting themselves for others' aggressive behaviors (f = 3), staying away from hot objects and fire (f = 2); electrical power outlets (f = 2); sharp objects such as knives (f = 2), keeping themselves from falling from high places (f = 2). Telling where they are to go, staying away from animals, chemicals, and medicine, using traffic lights, protecting him/herself from possible and/or certain abuse, using the elevator safely were the other examples that parents indicated.

Twelve of the 16 teachers were able to define safety skills as, "The skills that protect the children from harmful situations." Teacher 6 defined safety skills in her own words, as "They are the skills that needs to be taught to our students in order to keep students and the teachers free from danger". Teacher 8 explained it as "I may say, the safety situations of priority in terms of physical safety injuries, accidents, things they should consider at the

traffic…then sexual safety, safety for their own bodies." After their explanations, NS defined safety skills as she had to the parents. Teachers gave examples of safety skills as staying away from an oven (f = 6), positioning oneself safely in front of the windows of a high building or balcony (f = 5), using traffic lights when crossing a street (f = 5), staying away from knives and other sharp objects (f = 4), going safely up and down stairs (f = 3), staying away from electrical power outlets (f = 2), protecting him or herself from sexual abuse (f = 2), using sharp objects appropriately (f = 2). Other examples and areas of concern teachers provided included preventing accidents caused by electricity and/or gas, using electrical devices appropriately, going from one place to another independently, discriminating danger, refusing any offer from or talking to strangers appropriately, and playground safety. Teacher 11 indicated the risk of coming across a dangerous situation for her students was low and stated "It is different when considering students with ASD. Since you can't leave them alone. You need to leave someone along with them always."

Opinions of Parents and Teachers About Teaching Safety Skills to Their Children/Students with ASD

Parent and teacher opinions regarding safety skills instruction were analyzed under Questions 2–6 in both interview forms. The main parameters that we investigated are as follows: (a) Opinions about teaching safety skills, (b) Priorities among safety skills, (c) Which safety skills should be taught in which age group? (d) Where to teach safety skills? (e) Who should teach safety skills?

Opinions on Safety Skills Instruction

Parents indicated the need for safety skills instruction for their children as "important" (f = 2) and "necessary" (f = 11). Eight parents felt it necessary for their children to distinguish situations as "safe or unsafe" and "dangerous or not dangerous". These same parents indicated a need for instruction of safety precautions in their daily life, integrating self-defense and self-awareness for potentially dangerous situations in their future and/or continuing education, health and wellbeing of their children and family. Mother 1 stated her concern for her child to differentiate between safe and unsafe situations "My child has to live alone in the future. He needs to discriminate…safe and unsafe, and where the dangers come from. He should also be taught that danger might come from people. Not only physical harm from dangerous objects/accidents but also harm from human beings. He needs to understand good touching and bad touching." Mother 6 indicated teaching safety skills is necessary and added "Now…he lives with us in a protective environment. Once he gets older and will be accepted by an inclusive school he will need to protect himself. We won't be with him all the time. He needs to protect himself." Five parents regarded safety skills instruction as important since their children are unable or unaware of the dangers around them, often faced with danger, unable to learn from observing others, overly dependent on their parents, and fail to perform safety skills when they are needed. In addition, two parents reported safety skills instruction was vital to their children's survival and have a positive effect on their children's social development and awareness.

When asked whether or not safety skills had been provided to their children it was noted as "never been taught" (f = 1), "we teach at home," (f = 1) and "would like them to be taught" (f = 1). Mother 1 stated she had taught her child safety skills: "When I say 'don't do that' he quits doing it. Before he was not like this. When I tell him 'do not rush', he does not rush, when I say 'wait' he waits. Mother 3 expressed her concern regarding safety skills instruction for her child with the following words" Well, we are trying our best at home to teach him but it is because of his age or his disability we are having troubles. I think their teachers don't focus on teaching safety skills either. That is to say, there are things of higher priority, they [safety skills instruction] may be neglected. When…we try to teach at home we are not very successful." Mother 8 indicated they don't provide any opportunities for teaching safety skills at home by saying "If they had practiced they might have succeeded…but never had practiced. We also did not provide opportunities. I do not know, maybe the biggest mistake…is us families being over protective. If we had provided…"

Teachers indicated safety skills instruction is necessary for students with ASD but it is difficult for them to do so. Eight teachers found safety skills instruction necessary as it would prevent them from harming themselves or others, contribute to their independence, and provide them with self-protection while maintaining their overall safety, health, and survival. Teacher 4 indicated it is necessary, but also said, "Even if they learn these skills…I think one would not leave them alone." Four teachers said these skills should definitely be taught because ASD students should learn to live as independently as possible. They lack the understanding of cause and effect and would find themselves in dangerous situations on a daily basis. Three teachers indicated they have never taught safety skills and doing so is even more difficult when working with nonverbal children. Teacher 11 said "To be honest…it is not easy to teach them these skills. Since we work with children with severe autism and it is more difficult to teach them. Teaching these skills would be much easier with children who are affected mildly." In regards to knowing

the value of acquiring prerequisite skills, this teacher also stated "In fact, it is necessary to teach them but at the same time students should be ready to learn these skills. If they do not meet other prerequisite skills, teaching safety skills would be rather difficult. He/she must acquire prerequisite…skills prior to learning safety skills." Teacher 15 indicated "Children…who have…mild disability may learn these skills simply by observing their peers but…it is necessary to teach these skills to children who are moderate to severely disordered." Teacher 7 deemed safety skills instruction as necessary for all children, but at the same time, stated she does not believe children with ASD are able to acquire these skills with the following words "…each human beings deserve to live independently…as a human being they need to learn these skills, however, they are complex skills. Other than that, even children with intellectual disabilities would not be able to learn these skills."

Priorities Among Safety Skills

Parents reported that teaching "safety skills needed at home" and "personal safety skills" should have the priority. Then teaching "safety skills needed in the community settings" and "safety skills needed during emergency" should follow. Five parents indicated their preference for personal safety skills instruction as their highest priority since their children were not aware of possible dangers to themselves personally and physically. These skills would prove to be of the greatest benefit and contribute to their children learning other skills easier. Mother 3 said, "…as a first thing…my child need to protect himself and then will be ready to learn different things from the environment." Father 1 stated, "When she is alone, she will come across some situations in which she needs to protect herself." Mother 8 explained that "Being in a physical contact is so important and…I do not think that my child will discriminate it. Especially when my child gets older, oh, he might be in danger of sexual abuse therefore I want my child to learn personal safety skills first." Five parents stated they wanted their children to learn home safety skills instruction as their children spent most of their time at home. Chemicals such as detergents, bleach, and other cleaning supplies might be easily accessible to them and cause them harm. Mother 1 said, "Being exposed to chemicals at home creates serious consequences and sometimes do not have any reversibility."

Fifteen teachers stated home safety skills as their top priority because younger children were at a higher risk of having home accidents, their students stay at home longer because it is their primary living environment and learning these skills were crucial to their survival. Moreover, they felt learning these skills were easier than others and would have a positive affect on family's quality of life and other safety skills were more easily learned once they had mastered home safety skills instruction. Teacher 8 indicated, "During…my career life…I had students who had home accidents…for example I had a student exposed to…bleach and was hospitalized for this reason. So, I know it could happen."

Which Safety Skills Should be Taught in Which Age Group?

Parents stated "safety skills needed at home" and "community safety skills" should be taught either at the preschool or early intervention ages while personal and emergency safety skills could be taught at anytime including primary school age. Only one parent indicated a child's functioning level would determine when to teach him/her, another parent said she found it difficult to decide, and another parent reported safety skills instruction would depend on the child's learning pace. However, teachers' opinions varied greatly as to which age safety skills should be taught. They indicated safety skills instruction was dependent on functioning levels ($f = 6$), severity of disabilities ($f = 3$), and level of readiness ($f = 1$) should be considered. Teacher 1 indicated prerequisite skills instruction should be considered prior to safety skills instruction by saying, "understanding, communicating, development of receptive and expressive language, which is already problematic for autistic children … this should be done as soon as you think it can be done. When the prerequisite skills are acquired…I mean no need to wait for a certain age…I mean according to the performance of the child…the level of disability is important…also there are other skills which should be taught prior to this skill." Teacher 11 expressed the need to consider the performance level and the prerequisite skills by saying, "A child at the age of 14 may not be ready, whereas another at the age of 5, may be ready. I mean her prerequisite skills or intelligence level may be adequate." Teacher 13 expressed the severity of the disability should be taken into consideration by saying, "…teaching these skills to severely affected children would be much different…maybe these skills should be taught at the later years." Teacher 12 said, "these skills should be right after diagnosis."

Where to Teach Safety Skills?

Parents indicated their preferences for teaching safety skills to their children in a familiar settings in order to address their children's specific needs ($f = 6$), at home and school ($f = 4$), at home only ($f = 1$), at school only ($f = 1$), in a place where their child felt most comfortable ($f = 1$). Advocates of safety skills instruction recommend teaching

these skills in familiar settings while practicing and performing these skills as it reinforces the safety skills being taught to the ASD child. Since these skills are not academic in nature, a familiar setting such as the home or other location that the ASD child is accustomed to being in promotes generalization and maintenance of the skills that are taught and learned. Parents who were interviewed felt providing safety skills instruction at home to their children would allow for their children's teachers to reinforce what they had learned at home and provide them additional instruction in the schools (f = 4).

Teachers reported three possible settings for safety skills instruction as (a) natural settings, (b) home and school, and (c) structured settings. Teachers indicated safety skills would be more meaningful to children with ASD if they were taught in familiar environments such as the home, school, or park in order for them to have the opportunity to maintain and generalize them across novel settings (f = 5). Teacher 6 stressed "…in order to keep him/her…secure yes to use structured settings but at the same [time] we need to start to teach them in natural [familiar] settings. Their learning is difficult and slow. It is difficult for them to transfer the acquired skills into their natural environment. Sometimes it requires extra training. Therefore…teaching them in their natural environment if more acceptable." They also felt safety skills should be taught in the settings where the specific safety skills would be performed (f = 3) at home with the assistance of the mother (f = 2) since children stay at home longer, with teachers providing and reinforcing instruction in the schools. Teacher 5 said "We need to teach these skills in the natural settings. But our school system and school administrators do not encourage us. Transportation to these settings and leaving from school during school hours to practice these skills are the main problems." It is interesting to note only one teacher stated simulated settings were preferable for initial instruction followed by the practice of safety skills children learned in a familiar setting. When asked about safety skills instruction in community-based environments, they felt it was appropriate for children with ASD (f = 6), inappropriate for safety reasons (f = 2), appropriate when necessary precautions were taken (f = 1), dependent upon the functioning level of the individual student (f = 1).

Who Should Teach Safety Skills?

Parents revealed that parents, teachers, and close relatives might deliver instruction. They said that parents, siblings, relatives, teachers and caregivers or anyone the child had a close and comfortable relationship could be suitable to the task of safety skills instruction (f = 4), parents and teachers only (f = 2), and teachers only (f = 2). Father 1 said, "As a parent we don't know how to teach them. At least I do not know. There is another…thing that the children accept only teachers as their authority. My child follows his teachers, not me." Teachers indicated the importance of the collaboration between parents and teachers during safety skills instruction. They revealed that parents and teachers collaborating to deliver safety skills instruction, as it proved more effective when instruction was provided by both family members and teachers because parents know their children best and teachers know how to control them (f = 5). They also reported that beginning safety skills instruction in the home and teachers continuing reinforcement of their learning at school (f = 3), only teachers should teach these skills (f = 3). Only one teacher stated parents should be responsible for teaching these skills to their children with ASD by saying "The courses are different. Our curriculum is not only consisted of safety skills. If I worked teaching these skills all year, there would be no progress. But they spend less time with me and they are together with their parents for the remaining time. Therefore, it is better if they [parents] learn how to teach these skills and teach their children as needed."

Parents and Teacher's Opinions and Experiences Regarding Safety Skills Instruction as Goals in Their Children's IEP's

Parents and teachers expressed their opinions and experiences regarding the inclusion of safety skills instruction as goals in their children's IEP under Questions 7–9 of the interview forms. The main parameters we investigated included: (a) Should safety skills instruction be included as goals in their children's IEP's? (b) Were parents aware of an IEP goal addressing safety skills instruction for their children's IEP and was their child's teacher experienced about including safety skills as IEP goals? (c) Has a discussion ever arisen between parents and their child's teacher about setting and including safety goals in the child's IEP?

Should Safety Skills Instruction be Included as Goals in Their Children's IEP's?

All parents reported the need for some safety skills goals and objectives to be included in their child's IEP. When asked why their children's IEP's should include goals for safety skills, they stated the following as to why this was necessary: these skills were important enough to be included (f = 3), their children do not know how to keep themselves away from danger (f = 3), these skills were important in regards to their daily life skills (f = 2), acquiring these skills would contribute to them living independently (f = 2), as parents, they would not be with

them throughout their lives (f = 2). Teachers mirrored parents responses and explained safety skills and objectives should be included in the IEP's of their students because they regarded these skills as important to a student's instruction (f = 2) and they would have a positive impact on and contribute to a student's independence in life (f = 3).

Were Parents Aware of an IEP Goal Addressing Safety Skills Instruction for Their Child's IEP and was Their Child's Teacher Experienced About Including Safety Skills as IEP Goals?

Parents reported they were unaware whether or not their child's IEP included any safety skills goals (f = 8). In regard to teachers' knowledge and experience of including safety skills as an IEP goal they indicated safety skills goals were not included in the IEP's of their ASD students they had written previously (f = 6), they did not include any safety skills instruction as goals, but they did provide instruction in various safety skills (f = 5), had at least one objective in the IEP for safety skills instruction (f = 4), and had included at least one safety skills objective in the past (f = 1). Teacher 4 was among those teachers who did not have safety skills as objectives on a student's IEP and explained, "Our students are severely affected…by autism. We have to take some precautions by arranging [the] environment. For example, we keep sharp objects…out of their reach. We inform parents but do not provide instruction to…teach safety skills." Teacher 5 was among the teachers who reported having taught safety skills goals to her ASD students by saying that "I thought safe crossing on a street…identifying common vehicles. But did not go further such as road signs, etc. Teaching road signs is one of the goals in the IEP's of my students…we could not go further since my students have severe autism."

Has a Discussion Ever Arisen Between Parents and Their Child's Teacher About Setting and Including Safety Goals in the Child's IEP?

Parents reported they had never asked their teachers to have safety skills instruction for their children (f = 10). Only one parent indicated having asked their child's teachers for some help in teaching her child safety skills at home by herself. Teachers reported they had never engaged in a conversation with their parents of ASD students (f = 10). Six of the teachers indicated speaking to their parents about safety skills instruction and gave their parents suggestions about their children's safety. Teacher 4 stated, "We worked out on safety issues when we have any suggestions from parents, doctors…or other teachers. But it is not an official program." Teacher 1 stated, "Parents are overprotective. They keep their children in limited and safe areas such as the living room, their bedroom, etc."

Discussion

The purpose of this study was to find out the opinions of Turkish parents and teachers regarding the provision of safety skills instruction for their children with ASD. Similarities were discovered in their definition of safety skills instruction. Both groups indicated safety skills as "protecting and defending himself/herself from dangers and harmful situations." They gave same safety skills as examples. Safety skills can be interpreted to mean the skills necessary for protecting and removing oneself from dangers and harm (Dixon et al. 2010; Istre et al. 2002; Runyan et al. 2005). Parents' and teachers' definitions were consistent with those found in literature surrounding this topic, indicating parents and teachers are aware of the meaning of safety skills.

Parents and teachers felt children with ASD must be provided safety skills instruction as these skills contribute to their children's independence, good health, self-defense, and distinguishing between situations as safe or unsafe. The literature available on this topic shows children with ASD at a higher risk of encountering danger, injury, and accidents making safety skills instruction all the more important and critical to their independence and survival (Dixon et al. 2010; Kim 2010; Strickland et al. 2007). As children with ASD become more independent, less assistance is made available to them. With this independence comes a greater possibility of danger, injury, and/or accidents (Bergstrom et al. 2012). Concurrent with this line of thinking, teachers indicate safety skills instruction for children with ASD is difficult when considering the students they teach in their schools. These teachers indicated safety skills instruction for children whit mild autism is appropriate and easy, whereas the same type of instruction becomes more difficult for children with severe ASD. Calavari and Romanczyk (2012) indicated the risk of injury in the home is lower in children with ASD who have receptive and expressive language skills while there is a higher risk for those children with moderate to severe autism. On the other hand it is quite interesting that none of the teachers mentioned about the possibility of teaching safety skills using evidence-based practices.

Parents and teachers expressed their preferences as to priorities among safety skills areas. While parents prefer their children with ASD learn both personal and safety skills needed for the home at school, teachers prefer to have their students learn safety skills at home prior to safety skills instruction in their classroom. The rationale behind safety skills instruction beginning in the home

includes it is the child's primary living environment, the child may occasionally need to stay at home alone, everyone in the family enjoys a better quality of life. The idea behind a parent's preference to teach personal safety skills to their children with ASD is rooted in their belief of their children's inability to distinguish between "safe" and "unsafe" "bad and "good touching" in order to protect themselves from physical harm. Because children with ASD spend a greater majority of their time in the home environment, parents believe they are often exposed to danger while teachers believe independence comes more easily to the child when they are at home which contributes to the difference of opinion in the group. Children with ASD are generally dependent on their mothers and primary caregivers. As a result, parents believe if they are present, their children are less likely to experience harm in an environment outside of the home. With this in mind, the need for parents to provide safety skills instruction to their children is even more important.

There was also a difference in opinion between parents and teachers regarding age-appropriate safety skills instruction as well. In general, parents prefer their children with ASD to learn safety skills during an early intervention period and indicated children should continue learning these skills throughout their lives; whereas teachers felt safety skills instruction should be provided in both the preschool and early school age years. The differences between their opinions reflect an expected outcome. When parents begin to experience difficulty within their daily lives, they may feel anxious and want their children to learn safety skills as early as possible. Teachers felt differently and felt characteristics and performances should be taken into consideration a little later for safety skills instruction should begin. Collins et al. (1991) indicated the number of safety skills to be taught to children with disabilities might change with the child's age. Experimental research proves these changes exist. For example, Summers et al. (2011) taught three 4–8 year-old children with ASD to respond to a doorbell by communicating to their parents someone was at the front door and Dogoe et al. (2011) taught a 23 year-old adult and a 24 year-old adult female with ASD to read product labels and explained to them how to identify key words. To sum up, applied research proves safety skills should and can be taught to children with disabilities and the type of skill taught to these children changes with respect to their age.

Parents and teachers opinions as to the settings of safety skills instruction to children with ASD had striking similarities as well. In general, parents reported a familiar settings (such as the home and school), should be considered the main settings for teaching safety skills to their children. Teachers who suggested the use of a familiar setting complained about the lack of legal arrangements in the educational system, which prevented them from studying safety skills in an environment where their students felt most comfortable. As a result, they were unable to test the students' generalization and mastery of their acquired safety skills; which caused reluctance on the part of the teachers to provide safety skills instruction. Applied research literature researchers noted they mainly teach these skills to children with ASD in schools and tested generalization effects in familiar settings (Bergstrom et al. 2012; Hoch et al. 2009).

Parents and teachers had similar opinions regarding where and with whom the responsibility of safety skills instruction lies for children with ASD. Both groups of participants believed parents and teachers could work together collaboratively and teach these skills to their children and students. Literature provided evidence that parents, siblings, or peers taught various skills to children with ASD (Acar et al. 2015; Besler 2015; Olcay-Gul and Tekin-Iftar 2016; Tekin-Iftar 2008). When taking into consideration safety skills instruction parents inevitably must be included. Both teachers and researchers should collaborate to see the significant clinical effects of an intervention for the purposes of testing and promotion of generalization. Suzer (2015) provides an example of parents as partners while testing the effects of generalization. It is important to note parents who participate in the educational process of their children will make a difference as their impact can bridge the gap between the home and the school as it relates to the generalization of safety skills. It is our recommendation, based on this particular finding of the study, for both parents and teachers to collaborate for a more informed and qualified educational experience for children with ASD.

Parents and teachers both indicated safety skills instruction should be included as a goal on an IEP for their children. There were similarities in the opinions of both parents and teachers as to including objectives for and justification of safety skills instruction for children with ASD. These included the concern for self-protection to enable their child's independence. It is well documented in the literature that children with ASD have a higher incidence of coming across accidents, dangerous situations, and injuries when compared to their same age peers (Dixon et al. 2010; Kim 2010; Strickland et al. 2007; Yildirim-Sari and Girli 2012). Programs developed for children with ASD should include safety skills instruction because these children have significant deficiencies in their social and communication skills (Kenny et al. 2013). The curricula currently in use for children with ASD in Turkey includes some objectives also considered to be safety skills (MEB 2008, 2013). Among these are choosing clothes appropriate to the season and setting, locking and unlocking doors, identifying phone numbers, asking for assistance/help

when needed. However including these skills in the curriculum is not enough. The evidence shows teachers who teach safety skills need to have the resources and support from the administrations. Both parents and teachers responded favorably to safety skills instruction. However, schools only allow safety skills instruction under certain circumstances and do not provide materials or the logistics needed for instruction in a natural setting or familiar environment. Schools should consider responding to the need voiced by parents and teachers and encourage the study of safety skills.

There are also similarities between the opinions of parents and teachers to include goals and objectives for teaching safety skills in children's IEP's. Both parents and teachers reported there were no goals/objectives related to safety skills instruction in their child's IEP. These findings are consistent with the research on this topic. As was stated earlier, safety skills instruction is often neglected (Agran and Krump 2010; Brown-Lavoie et al. 2014; Kenny et al. 2013; Summers et al. 2011). Since teaching safety skills has life saving effects, both parents and teachers should consider addressing and including systematic instruction of these skills in the IEP's of their children.

There were similarities among parents and teachers regarding their experiences in asking one another regarding the addition of objectives and goals about safety skills instruction in the IEP's of their children with ASD. All parents and the majority of teachers in this study reported they had not recommended the addition of safety skills instruction on their children's IEP's. It is staggering to think that although parents reported their children had encountered some dangers and/or threatening situations throughout their life, they had never had a conversation with their child's teacher(s) about adding safety skills objectives/goals. This particular finding is consistent with the findings of Agran and Krump (2010). In their study, they discovered parents valued safety skills instruction but had never had a conversation about it. It may well be parents considered safety threats an unsuitable topic and it was their responsibility to provide this type of instruction in the home. However, teachers have the responsibility of teaching them along with cognitive, social and personal care skills. This controversy could be due in part to the parents of children with ASD overemphasizing the instruction of social or academic skills. In addition, there appears to be a communication breakdown between teachers and parents. On one hand, there is a desire on the part of the parents to allow the teacher to make these types of decisions for their children; while on the other, the teacher fails to communicate the need for safety skills instruction to them due to their perception of the child lacking readiness needed to begin safety skills instruction at school.

Conclusion

Parents and teachers of children with ASD think their children/students are deficient in performing safety skills when needed and are frequently faced with various types of dangerous and sometimes life-threatening situations. Parents indicated having safety skills instruction is vital and should be taught to their children as early as possible to have a positive and lasting effect on their children's lives. However, rather than providing systematic instruction in the area of safety skills, parents and teachers find themselves using events as they occur as teaching opportunities, take precautions to protect their children and deliver a verbal prompt or reminder as a form of prevention when the need arises. The most significant finding of this study was the participating teachers' lack of knowledge, training, and experience in teaching safety skills. Also of note in this study was the breakdown in communication between parents and their child's teachers with whom they had never had a conversation regarding safety skills instruction.

Implications of Findings and Future Directions for this Research

Parents and teachers of children with ASD should be better equipped with the resources and materials in order to provide effective safety skills instruction. It is evident teachers should include some safety skills goals and/or objectives specifically outlined in their students' IEP's in order for them to provide systematic instruction to their students. Teachers can keep parents informed of their child's progress through parent conferences and include seminars for parents of children with ASD on the topic of safety skills so parents will collaborate with them and become more actively involved in safety skills instruction of their children. This would empower parents to work on teaching safety skills while promoting maintenance and generalization of skills. Finally, the curricula for teaching children with ASD in Turkey should be revised, and goals and objectives added for instruction in the classroom.

In regards to the needs of future research it should be noted this is a descriptive study, the data was obtained through the semi-structured interview format, and the findings are limited to the opinions of parents and teachers who voluntarily served as participants in this study. Different research methods can be used to learn more about the findings on this topic. Experimental research (either as an experimental group or a single subject) could be designed to determine the most effective ways of providing professional development to teachers of students with ASD.

Acknowledgments This study was supported by a Grant from the Anadolu University Research Fund (Project No: 1304E070). Authors would like to Miss Dulce Castillo for her insightful proofreading and Dr. Gonul Kircaali-Iftar for her comments.

Authors' Contributions NS conceived of the study, participated in the design, collected data and helped to draft manuscript; ETI conceived of the study, participated in its design and coordination, analysis and interpretation of the data and write the manuscript. Both authors read and approved the final manuscript.

Compliance with Ethical Standards

Conflict of interest The authors declare that there are no conflicts of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in this study.

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